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THESIS

BY ARCHD, FAIRLIE, M.A., M.B., C.M. (GLASG)

“CLINICAL OBSERVATIONS ON ENTERIC FEVER,  
WITH NOTES AND IMPRESSIONS OF A PERSONAL ATTACK.”

OCTR 1900.

FAIRLIE

GLASGOW  
UNIVERSITY  
12 1900  
LIBRARY.

[Faint, illegible text]



General Plan of the District  
(Each dot within the pink out-  
lined spaces represents an  
Interio foss case)  
Period. 1877-1900 A.F.

THESIS FOR M.D.(GLAS.)

by Archd.Fairlie. M.A.,M.B., C.M., (Glasg.)

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CLINICAL OBSERVATIONS ON ENTERIC FEVER:

with notes and impressions of a personal attack.

-:-:-:-

Oct.1.1900.

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1.

INTRODUCTORY.

In presenting this Thesis, dealing with ~~our-80~~ over 80 cases of Enteric Fever which have come under observation during three and a half successive years (1897-1900), I am painfully aware of its many defects.

In addition to ~~the~~ obvious need for condensation of subject matter, and the unsatisfactory nature of statistical information based on a limited number of cases, it must be admitted that observations have been scrappy and irregular in most cases, owing to pressure of work and the absence of skilled nursing assistance. Home help alone was available, and not always of an intelligent type, and accordingly it is more than doubtful whether the ordinary details of hygienic, medicinal, and dietary treatment were in most cases carried out in a judicious and trustworthy manner.

Further a few cases, which occurred in my practice, and which have been included in this series, either did not come at any period under my personal observation, (on account of absence on holiday or through illness), or only did so during the early stage of the attack before removal to Hospital.

One fact which in part determined the preparation of a Thesis on Enteric Fever was a personal attack of a protracted nature of which I was the victim during the latter end of 1897. It does not fall to the lot of every candidate for the Degree of M.D. to have an experience in persona sua of the disease which he selects as his subject; and accordingly, however hazy one's own recollections of the illness may have been, a record of such a case, with personal impressions of the various phases of the disease, is sure to add a special interest to observations on Enteric Fever cases in general.

Detailed notes of my own case were kept by my wife (formerly a

nurse in Glasgow Western Infirmary, and also with some experience of Fever nursing obtained in Middlesboro' Fever Hospital). To her untiring devotion and skilful nursing I fully believe I owe the preservation of my life through a critical and protracted illness, at one period of which I was seized with a most vivid premonition ~~impending~~ of impending death.

I have considered it convenient to divide this contribution into three parts.-

I.- Hygienic and other conditions having reference to Etiology (illustrated by photographs.)

II.- An analysis of 83 cases.

III.- Notes of selected cases.

PART I.

HYGIENIC AND OTHER CONDITIONS HAVING  
REFERENCE TO ETIOLOGY (ILLUSTRATED BY PHOTOGRAPHS).

PART I.

The district in which this series of cases of Enteric Fever occurred is situated in the South-east coal-mining region of Northumberland: it extends in length to 1½ miles, and in breadth ~~to~~ at its widest part to about ½ a mile .

The population is estimated at rather over 3000, and is practically wholly connected with the coal-mining industry,

The inhabitants are aggregated into a chain of five small villages at about ¼ mile apart, (1) Cowpen New Town. pop.425. (2) Cowpen Village. pop.660. (3) Kitty Brewster. pop.370. (4) Bebside Colliery. pop.1035. (5) Bebside Furnace. pop.565.

Broadly speaking it may be stated that at a very little depth there is, over the whole district, a bed of dense clay, which favors the retention of moisture in the soil and the lateral spread of soil-polluting agents in the ground-water. (I have observed a statement that in Dublin, residents on a clay soil suffered less than those living over gravel.)

Brick factories are found in the neighbourhood, but of course coal pits, with their smoking chimney-stacks, heap-steads, and unsightly pit-heaps, form the most prominent features in the landscape.

The thriving port of Blyth is 2 miles to the East: & the open sea itself is easily visible at 2½ miles distance.

It will not be a difficult task for me to show (with the aid of photographic illustrations), that the Sanitary condition of the District - as regards air & water supply, ash-pit & privy systems, & scavenging arrangements - predisposes strongly to the outbreak of Zymotic diseases, with the inevitable annual recurrence of Enteric Fever. Indeed, during my six years' acquaintance with the district, I have had a considerable

experience of all the common infectious diseases.- Scarlet fever, measles, whooping-cough, chicken-pox, mumps, follicular tonsillitis, ~~diph~~ diphtheria, and croup, epidemic influenza, erysipelas, and Typhoid Fever.

In my own person, during that period, I have suffered from Scarlet Fever (1895): Enteric fever (1897:) and Influenza (1900): so that I can speak with undoubted authority.

Prior to 1897 I kept no notes of Enteric fever cases, but those that did occur affected Bebside Colliery chiefly.

(A) COWPEN NEW TOWN. pop 425.

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This village consists of about 75 workmen's dwellings of three or four apartments in 2-storey brick houses, and a few villas, erected 6 to 7 years ago.

I.- Water-supply.- This is obtained from a main service pipe as it passes from Bebside Reservoir to Blyth. With some exceptions, where the tap is over the yard sink, each dwelling has its water tap and sink in a small scullery behind the kitchen, which is also the living room. The branch lead water pipe usually for convenience follows the line of the house-drain.

II.- Drainage-System. - The discharge pipes from the sinks are untrapped and empty themselves outside over yard-sinks, or into the drain-pipes in the back-yards. The yard-sinks are of an ordinary gully-trap pattern, and are ~~oft~~ often neglected and foul, and so become sources of stench and air-pollution. The house-drains discharge into sewers composed of sanitary pipes, which convey the slops & storm water to a short distance, & thence by an open channel to the river Blyth (below tidal limits).

III.- Ash-pit & Privy System.- The back-yards are moderately large, cemented & walled-in; they contain coal houses, a covered brick ash-pit with cemented bottom, & privies in connection. A few houses have no ash-

Cowpen



Sewage-polluted stream.



The old Village-Pump (disused 1897). Water-Tap.



View of a Back-yard: (Tap over sink; ash-pit & privy; dog-kennel, &c).



View of a Back-yard: (water-tap over sink; ash-pit & closet).



Sewer ventilator & man-hole in a frequent lane.



Tap over slop-sink.



The river Blyth (tide in) which receives the sewage of the district. A.7.

Part 1.

pits, only privies with cesspits. The ashpits & privies are supposed to be emp<sup>ti</sup>ed by yearly contract, at least every fortnight, but this period is often exceeded, and the work is carelessly & untidily performed: disinfectants are rarely used.

Soil-pollution is not likely to occur unless there is percolation through cemented bottoms of ashpits & privies, or through the joints of badly laid drain-pipes.

In some houses, mould & rot are observed in the wooden floors under the linoleum, showing dampness and want of ventilation.

Air-pollution is certain from offensive sinks, foul ashpits & privies & also from pigeon-cots, rabbit-hutches, & hen-pens in the back yards.

Back doors open from the kitchens towards the yards & admit air laden with effluvia.

In one case I believe the origin<sup>of</sup> a case of Enteric Fever was a pick-hole in a <sup>lead water-pipe in</sup> close proximity <sup>to a drain.</sup> Previous Enteric cases had occurred higher up the street.

(B). Cowpen Village. pop. 660.

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The larger portion is of ~~moderate~~ modern date: some of the older houses are hardly fit for human habitation. But the ~~greater extent~~ older buildings were not the seat of Enteric Fever to any greater extent than the newer 2-story brick buildings erected within the last 7 or 8 years, each dwelling comprising 2, 3, or 4 apartments.

I. Water-Supply.

(A) Prior to Sept 4, 1897, the whole population of the village (with a very few exceptions), depended for their supply of water on a pump-well

which was fed by means of a stone channel running under the public road from a spring in the freestone bed about 5 or 6 feet deep some little distance away. That this water was liable to dangerous pollution there is no doubt: the spring itself from the drainage of a stable on a higher level in close proximity; the channel from the street drains; & the well from a polluted stream, a few yards away; from public sewers passing near on a higher level, & from an old disused drain actually entering its walls, which were in a state of great disrepair. Human ~~experiences~~ excrement was often seen on the cement cover of the well. The water was drawn by an ordinary hand-pump.

The supply in dry weather was most inadequate; people even went by night to secure a scanty supply. The water was obviously polluted; - of a yellow color, not free from smell; on standing, a rusty slimy flocculent sediment settled down, and the finger could trace a track on <sup>the</sup> deposit left inside the vessel in which it had been contained. A rough test with Permanganate of Potash showed organic impurity, & analyses made by the District & County M.O's. H., confirmed by the County Analysts, showed that this supply contained "abundant indications of sewage pollution, and was utterly unfit for drinking purposes?"

Yet some of the villagers resented the final tardy closing of the well on Sept 4. 1897, after a severe outbreak of Enteric Fever, with 5 deaths, in the village. No doubt the supply provided from the main service pipe as it passed through the village was not of an inviting character, being described by the County Medical officer of Health as "not eminently satisfactory, containing living organisms visible to the naked eye, and giving evidence of insufficient filtration" Yet after the closure of the well, only about 5 more cases of Enteric Fever were notified during 1897 in Cowpen Village, the last being my own case beginning on Oct. 28th; whereas from July 21st till Sept 3, 31 cases of Enteric Fever were notified from Cowpen Village alone.

## PART I.

Since the serious outbreak in 1897, attributed, and in my opinion correctly so, to grave pollution of the village pump water, the cases of Enteric in Cowpen Village have numbered 6 in 1898: 2 in 1899: and 2, (<sup>ONE</sup> ~~one~~ <sup>in</sup> reported) in 1900 (up to Sept. 15).

(B). The water-supply since Sept 4. 1897, has been entirely derived from the district Council's main service pipes to Blyth. A few public stand-pipes have been erected; but in most cases taps have been introduced into back-yards, the lead pipe closely following the drain-pipe in connection with the yard-sink, which is itself directly under the water tap.

II.- Ashpit & Privies.- The cemented back-yards are small and badly designed; & the yard-sinks, privies, & ashpits are insufficiently cleansed & are offensive, causing undoubted air pollution of the adjacent dwellings.

The Ashpits & privies have brick or cemented bottoms, & the former are mostly covered; some old ashpits have a previous bottom & are not covered. Cleansing is irregularly & badly carried out. Disinfectants are also ~~mostly~~ rarely used.

III.- Drainage.- In 1897, coincidently with the discovery that the well-water had become dangerously polluted, it was found by the District Surveyor that the sewers were faulty in construction, rendering sub-soil pollution & air-pollution a certainty. "The principal defects in these sewers were - irregular lines & gradients; the pipes were generally of too large diameter: holes were broken in pipes to effect the junction of private drains; joints leaking; and there was an entire absence of means of ventilation, flushing, & inspection. . . . Not only were the sewers themselves defective, but much of the private drainage was bad, both in design & execution" (Surveyor's Report on Cowpen Village Sept. 1897).

A good deal of expense was incurred at that time in relaying sewers & drains & making proper connections, & in placing ventilation & ~~inpe~~ inspection gratings. In many cases these gratings are situated where

they prove <sup>an</sup> offensive nuisance & source of air pollution during hot & dry weather; & some of them are at this time (1900) silted up with mud so as no longer to serve for the purpose of ventilating the sewers. Automatic flushing tanks were suggested but were never provided: flushing is very seldom carried out, & then very imperfectly, & not when most needed, by means of a large horse tank.

The Cowpen Village branch-sewers join the main sewer, from Bebside & Kitty Brewster, as it passes the North side of the village on its way to its outlet, into a gut in connection with the river Blyth, below tidal limits.

Some of the new houses even, have rotting floors, evidence of dampness & want of ventilation underneath. In some cases I have seen 8 inches of clear water standing underneath the floors. The older houses have frequently brick or stone floors, laid on the soil, with no ventilation whatever below.

### COWPEN WATER SUPPLY.

#### A Shocking State of Things.

The workmen engaged in cleaning out the well at Cowpen Village, which has been temporarily condemned on account of the fever epidemic, on Wednesday came across an enormous growth of curious black slimy fibres which weighed several stones, and completely filled up the well. Parts of the curious growth were exhibited at the special meeting last night (Thursday). The workmen further discovered an open sewer leading right into the well through which sewer gas came.

Blyth News Sep 17  
1897.

#### The Cowpen Village Water.

Cowpen people are anxious to know what the Urban Council intend doing in respect to the water supply of the village, which has been temporarily, at least, condemned by the medical officer. For the past half century the community has been supplied from this spring, which the medical officer certifies to be yet pure and good, and it is only from the subsoil that the alleged pollution comes. I am glad to note that the local representatives of the district, Councillors Bell and Dunigan, are strongly opposed to the old supply being done away with, until there is absolute proof that such a course is necessary. Personally, my idea is that the water has got nothing to do with the fever epidemic, and I shall continue in my scepticism until an analysis is made of the water. Typhoid is rampant throughout the whole of East Northumberland, Pegswood, Choppington, Cramlington, Cambois, Delaval, and several other centres over an area of a score of miles, and in none of these cases, with the exception of Cowpen, has the water been blamed for the malady. The more likely cause, to my mind, is the neglect pointed out by Mr Grieves, and Dr Laing, also, in connection with the sewers. The Council will act very foolishly if they, in view of the scarcity of their water supply, deprive the district of the use of such a valuable spring as that at Cowpen Village has so long been reputed to be.

## THE SANITATION OF COWPEN VILLAGE.

The following is the full report that the County Medical Officer (Dr. Hembrough) presented to the Northumberland County Council last week in regard to the outbreak of typhoid at Cowpen Village. A summary of the same was printed in the *Herald's* last issue. The Medical Officer, dating his report October 11th, said—

On September 13th I brought before the committee verbally the existence of enteric fever to some considerable extent in Cowpen Village, and stated some of the insanitary conditions at this place. I now propose to enter more fully into the course and present condition of this epidemic.

Between the 21st day of July and the 3rd day of September, both inclusive, 31 cases of enteric fever were notified to the Medical Officer of Health as having come under observation in Cowpen Village. On the 21st July one case occurred in Richardson Terrace. On July 23rd two cases (both in the same house) occurred in Richardson Terrace. On July 25th one case in Post Office Buildings. On August 2nd one case in Tweedy Street. On August 8th one case in Richardson Terrace and one in Price's Buildings. On August 9th one case in Richardson Terrace. On August 11th one case in Richardson Terrace, being in the same house as that notified on July 23rd. On August 18th one case in Post Office Buildings. On August 22nd one case in Richardson Terrace, being in the same house as that notified on July 23rd. On August 23rd one case in Price's Buildings and one case at Huntley's Farm. This patient having been taken ill three days after her arrival, had evidently contracted the infection before coming. On August 25th one case in the cottage adjoining Chase House. On August 26th one case in Price's Buildings and one in Post Office Buildings. On August 27th one case in White Row and one in Maxwell's Buildings. Between this date and August 31st 11 cases were notified—one in Post Office Buildings, two in White Row, four in Richardson Terrace, two in Dunn's Buildings, and a second case at Huntley's Farm. Between September 1st and 3rd four cases were notified—one in Richardson Terrace, one in Post Office Buildings, one in White Row, and one in Dunn's Buildings.

From September 3rd to October 5th three fresh cases were notified at Cowpen Village, and four others for which Cowpen appears to be responsible, viz., two at Cowpen Colliery and two at Bebside.

The total number of cases of enteric fever for the whole urban district during the month of September was 26.

The sewage of Cowpen Village is as follows:—Two main 18 inch sewers are laid for the greater part of the distance along the side of the high road leading from Cowpen Village to Bebside; one commences opposite the Windmill Inn, Cowpen Village, and the other comes from Bebside. These, after making a curve to the north near the Sidney Arms, join almost at right angles, and in the angle so formed is the village pump well, of which I shall have more to say subsequently. The combined sewer passes down Hodgson's Lane, and after running past, but not through, some settling tanks close to the river, empties into the Blyth below high water mark.

In walking along the course of these sewers one is immediately struck by the almost total absence of ventilation provided, there being, on the occasion of my first visit, no exit for sewer gas except at the following points:—One near J. Butter's at Bebside, one about 320 yards to the east of this, the next after an interval of 520 yards, and opposite to Cowpen High House. Another near the Cowpen Village pump, about 500 yards to the east of Cowpen High House. One about 130 yards to the east of the last-named, and one at the end opposite to the Windmill Inn. There is also one in the combined sewer in Hodgson's Lane in the direction of the settling tanks. At least two additional outlets were originally provided, but these were entirely blocked and covered up by road metal. The same absence of any provision for ventilation is noticeable as regards the sewers by which the several roads and streets are drained into the main sewers, and in no case, either in the course of the main or smaller sewers, is any provision made either for inspection or flushing. As before stated, the junction of the main sewers is nearly at right angles, and is effected by merely cutting a hole in the side of one sanitary pipe into which the contents of the other sewer may flow, no attempt whatever being made in the direction of a properly constructed joint. The sewage is plainly visible in its course from one sanitary pipe to the other. These conditions would undoubtedly facilitate a complete block at this point, with the double result of the sewage and sewer gas becoming pent up in the drains leading from the different rows of houses to this point, and to the pollution of the ground in the immediate vicinity of the village pump well. From the very marked

frequency of cases of inflamed or ulcerated sore throat in some of these rows, one is led to suspect that the drains from many of the houses to the main sewer are in an unsatisfactory condition, thus causing leakage of the sewage into the adjacent soil, or the forcing of the traps near to the houses by sewer gas, or easily permitting of both conditions.

The water supply for Cowpen Village, where the population is about 600, is, in part, from the Bebside water works, but in the past it has been almost entirely from the pump well before mentioned, which is a receiver only, the water flowing into it from a spring at some distance, through a channel in the freestone. The water is manifestly liable to pollution in its course along this channel, and also after entering the well. The latter is situated in the lowest part of the village, close to the public footpath, in the angle previously described, formed by the junction of the two main sewers. It is practically on a level with the sewer, and also with a small burn, which is constantly liable to pollution; foecal matter has, on several occasions, been found deposited in the iron trough under the pump or on the well cover. The quantity of water procurable from this well is totally inadequate to the requirements of 600 people, and frequently persons have been obliged to wait for some time until a pailful of water has accumulated in the well.

I made enquiries in a great many different houses as to the quality of this well water. One or two individuals were quite satisfied, and had never noticed anything peculiar or disagreeable about the water, but the rest all agreed in describing it as nearly always bad, especially at night, sometimes turbid, frequently having a disagreeable taste and smell, a slimy scum on the surface, and a deposit after standing, and that it stained vessels, whether of metal or earthenware. Soon after the outbreak Dr. Laing, the Medical Officer of Health for the Cowpen Urban District, analyzed a portion of this water in his own laboratory, and finding it unfit for drinking purposes, strongly advised the Urban District Council to close the well, which advice was acted upon on Saturday, the 4th day of September.

I myself analyzed a portion of this water, when the well had not been closed, upon for nearly a week. Under these circumstances the water would be standing tolerably high in the well, and any impurities derived from the latter would be greatly diluted. I, however, thoroughly endorse Dr. Laing's opinion as to the water being unfit for drinking purposes. It was neither bright, clear, nor odourless; it showed a yellowish brown deposit after standing, and chemically gave abundant indications of sewage contamination.

The water drawn from the standpipe in connection with the Bebside water supply was also not eminently satisfactory. It contained living organisms visible to the unaided eye, and gave evidence of insufficient filtration.

In looking for the cause of this outbreak of enteric fever we are met by a combination of insanitary conditions—badly laid and ill-ventilated sewers and drains, without inspection chambers or any provision for flushing, old and badly constructed privy ashpits, into which the evacuations from enteric patients were, in many cases, thrown, and a totally inadequate water supply, subject to pollution by sewage, and, therefore, at any hour liable to receive the germs of enteric fever, which is, unhappily, rarely entirely absent from those districts in this county where the population is closely aggregated.

The milk supply, so frequently the means of spreading this and other infectious diseases, does not appear to merit any blame in this outbreak. Milk was procured from at least twelve cowkeepers, and, while no one milkman supplied a large proportion of infected houses, each had many customers among whom there were no cases of infectious disease; and from the two cowkeepers who had cases of enteric fever on the premises, only three or four infected households were supplied, and about 24 families in which there was no illness of an infectious nature. The patient in the first case at Huntley's Farm evidently caught the infection ten days before she came to Cowpen Village, and was, no doubt, the cause of the second case in the same house seven days subsequently. At this farm no milk whatever is stored; all is given out from a good, light, and airy uninhabited cottage, and the byres are in a very fairly satisfactory condition. In some of the families attacked, no cow's milk whatever had been used prior to the illness being manifested. In some cases there was direct and daily intercourse between the families living under the same roof, or next door to one another, and in many instances the evacuations were, for the first two or three days, before medical advice was sought, thrown into the privy or ashpit common to two or more families.

Some of the men attacked worked at New Delaval and Bebside, in both of which places there have been cases of enteric fever recently, but in

no case did they drink the pit water, or any water, except that which they took with them from Cowpen.

The one factor common to all the persons is that they daily drank water procured from the village pump at Cowpen, and the five persons notified during the period from the 8th day of August to the 7th day of September, at Kitty Brewster, as suffering from enteric fever, also frequently drank the water from the same source.

From what has been said in the earlier part of this report as to the situation and surroundings of this well and the results of chemical analysis of the water, it is not surprising that it could not be drank with impunity. That a greater number of persons were not attacked is due in part to the fact that this particular water supply never accumulated in any great quantity, and was probably only subject to intermittent pollution, and in part to the energetic action of the Medical Officer of Health in analyzing the water, and on finding that it contained sewage, advising the Urban District Council to close the well.

If water of this nature had been provided in sufficient quantity to be stored in a reservoir, probably nine-tenths of the families in Cowpen village would have been attacked.

The urgent needs of this locality as regards this outbreak of enteric fever appear to be, first and foremost, a copious supply of pure water, with standpipes easily accessible to every household; secondly, a thorough overhauling, and, where necessary, reconstruction of the sewers; and thirdly, the rebuilding of the older ashpits, most of which at the present time are saturating the ground with putrefying matter.

I understand that a full report upon the sewerage of Cowpen has been presented to the District Council by the Surveyor, and is under consideration.

Printed and verbal instructions are given in every house by the Medical Officer of Health, with a view of preventing the spread of the infection, and fumigation is carried out by the District Council.

## THE ALARMING OUTBREAK OF TYPHOID FEVER AT COWPEN VILLAGE.

### REPORTS OF THE COWPEN COUNCIL'S MEDICAL OFFICER AND SURVEYOR.

A meeting of the Cowpen Urban District Council was held on Thursday night, the Chairman (Councillor C. Barron, J.P.), presiding. The other members present were:—Messrs. J. S. Dunningan, H. W. Willis, D. Kelly, T. C. Heatley, J. Nixon, J. Bell, J. Thompson, T. Mackintosh, and W. Thompson; Dr. R. Laing (Medical Officer), Messrs. R. T. Guthrie (Clerk), R. Grieves (Surveyor), J. Dodds (Rate Collector), and G. Rutherford (Inspector of Nuisances) were also in attendance.

The most important business discussed was the serious outbreak of typhoid fever in Cowpen Village, and a good portion of the time of the meeting was occupied in discussing this matter.

#### MEDICAL OFFICER'S REPORT.

The Medical Officer presented the following report on the matter:—The epidemic of typhoid fever mentioned in my last report has since then extended from the sewers of Richardson Terrace, probably by percolation and suction into the drainage area of the pump which, for many years, has been the source of supply of drinking water for the whole village. This pump is the centre of the village, and is supplied by a spring of water from a joint in the freestone bed about 5 or 6 feet from the surface. This is conducted by a stone channel to the well of the pump and drawn for drinking and other purposes by the villagers. The population supplied by it amounts to over 600 persons who, for ordinary sanitary purposes, require about 1200 gallons a day—an amount which could not possibly be supplied by so small a spring. The result is that the subsoil water is drawn into the pump, and the spring water which, in itself, is good, becomes adulterated by it, and when there is an overdraw upon the pump, is rendered so dirty that it has to be thrown away, but after the lapse of an hour or two, it cleans itself to some extent and is then used. In every one of the houses, without exception, in which I made inquiry, I was informed that after standing, there was always a sediment in the water, a scum upon its surface, and also upon the sides of the vessel, which persisted, even after being made into tea. Worms were also found in it. There are several sources by which this pollution may become dangerous. In

11.  
first place, the bottom of the well of the pump is on a level with a small stream which flows within a few yards of it, and received the drainage of the locality as well as a portion of its sewage. The bulk of the drains of the village are housed in the main sewer which runs beneath the main road, and, passing between the end of Richardson Terrace and the pump above the level of the well of the pump, is conducted beneath the stream, receives the drainage of Kitty Brewster, and has its outfall into the River Blyth. There is also the drainage from a three-stalled stable, and human excrement is sometimes deposited upon the pump cover. The sewer from Richardson Terrace empties itself into the main sewer, and at its beginning is above the level of the pump. There have been 7 cases of fever in this street, and the excreta has been buried in gardens in front of the houses, with the exception of Kinghorn's and Yellowbo's, where the first cases occurred in the middle of July, the first of which was put into the asphalt and the latter into the sewer. After an interval corresponding with the incubation period of the fever, an extensive and almost simultaneous outbreak took place, extending from the 11th to the 22nd August, in various parts of the village—in all 21 cases having occurred. An outbreak of this character is always indicative of pollution of drinking water or milk. The milk has been supplied to the infected cases by nine different dealers. In two of the dairies there has been fever—at Todbury's two cases, and at Ferguson's 1 case. The first case at the former place was imported from Boldon, and as well as the case at Ferguson's, was posterior to the first outbreak and simultaneously with the second. Only three cases of fever were supplied by these two dairies during the incubation period. The drinking water is thus left to bear the blame of the recent outbreak, pollution having taken place from the sewer. The two first cases were supposed to contract the disease through bathing in the sewage-laden water at the margin of the River Blyth. Three deaths have occurred and three cases have been taken from Cowpen to the Port Sanitary Hospital. The remainder are isolated at their own houses, being supplied with printed and verbal instruction and a liberal supply of disinfectants. Structural alterations necessary in the sewers and ashpits will be reported upon by Mr. Grieves, the Surveyor. I have made several analyses of the pump water, and the results bear out the facts previously stated. I believe the water, as it rises from the rock, to be quite suitable for drinking purposes provided it can be supplied free from the before-mentioned sources of pollution. This, the pump is quite incapable of doing, situated as it is at the lowest level of the general drainage of a village with a population of 600 inhabitants. If it is considered desirable to use the spring for drinking purposes, a shaft with suitable stone steps might be sunk down to it, and the water drawn as it issues from the stone. For domestic and public purposes, an additional supply would be necessary. At the same time, it is as well to point out that a spring of water may become polluted if fissures should exist in the stone strata above it. The pump handle was taken up on Saturday evening after a consultation with Messrs. Barron, Bell, Dunningan, and Grieves, of your Council, and a stand pipe attached to the water main from Bebside Reservoir by the side of the main road in Cowpen.

#### SURVEYOR'S REPORT ON THE COWPEN VILLAGE SEWERS.

The Surveyor presented the following special report:—Agreeably to your instructions I now beg to report upon these sewers as follows: Cowpen Village is drained into a system which consists of two tributary sewers, one of which is composed of sanitary pipes 18 inches diameter, about 950 yards in length, and commences at, or near, the Railway Crossing at Bebside, and running eastward, follows the course of the stream past the north end of Kitty Brewster, taking in the drainage of the same, then on to the main road between Blyth and Morpeth, at a point opposite Cowpen House, along the said main road to a point opposite the Sydney Arms where it is joined by the second tributary sewer, 18 inches in diameter and 260 yards in length, which commences at a point opposite the Windmill Inn and passes along the main road in a westerly direction past, and taking in the sewage of, the White Row, Dixon's Buildings, Post Office Buildings, and Richardson's Terrace. These sewers deliver into a main outfall sewer, 18 inches in diameter and 470 yards in length, which again takes the course of the burn flowing past the north side of the village, and takes in the drainage of the row adjoining the Sidney Arms, Tweedy Street, and Maxwell Street, on to a point where it originally delivered into a large cesspool, but now flows past it into the tidal water of the River Blyth. These two tributary and outfall sewers for the most part seem to be

well laid, and fairly free from deposit, but are deficient in means of ventilation and inspection, and the ventilation shafts, where constructed on the main road, are so close to the footpath as to almost constitute a nuisance to foot passengers. It is, however, in the smaller tributary sewers such as those behind Richardson's Terrace, Tweedy Street, Maxwell Street, and the Sidney Arms Row, where, in my opinion, the greatest danger to health is likely to arise. In my report upon the whole of the sewerage of the district, dated July 13th, 1894, and from time to time since then, I have drawn the attention of your Council to the faulty condition of such sewers as those above mentioned, the principal defects in which are:—Irregular lines and gradients; the pipes are generally of too large diameter; holes broken in the pipes to effect the junction of private drains; leaky joints, and an entire absence of means of ventilation, flushing and inspection. The only satisfactory remedy is to relay the sewers on proper scientific principles, providing ventilation by means of manholes or lampholes, placed at all changes of line or gradient, and at distances of not less than 100 yards apart, and Automatic Flushing Chambers built at the heads of all sewers. While reporting upon the subject of defective sewers, I would again remind you that many of the sewers in Waterloo, Cowpen Quay, Newsham, and particularly the Bedside, are in much worse condition than those in Cowpen Village. Not only are the sewers themselves defective, but much of the private drainage is bad, both in design and execution, and this is a strong argument for the carrying out of most complete measures for rendering the air of the public sewers as pure as possible, and for relieving them of the tension which now certainly exists in them. There will thus be less probability of foul air forcing an entry into houses, which is more especially to be dreaded in the closely packed property and confined yard areas which exist in many parts of your district.

On the motion of Councillor Bell, seconded by Councillor J. Thompson, it was agreed that the village pump should be taken out and thoroughly cleaned, and all necessary steps taken with a view to ascertaining whether any pollution exists.

Councillor Heatley moved that the reports should be printed and a special meeting be called to further discuss the whole of the question.—Councillor Bell seconded.—The resolution was carried.

**COWPEN VILLAGE PUMPS AND TYPHOID FEVER.**

**The Creation of Epidemics.**

At a special meeting of the Cowpen Council, held on Thursday evening, Mr T. C. Heatley stated that on the previous day he made an inspection of Cowpen Village. The surveyor happened to be present, and there were two or three matters which it appeared to him they ought to deal with at once. In his report presented to the previous meeting Dr Laing pointed out that the source of that epidemic was undoubtedly the water in the pump. The workmen of the Council were engaged in the well on the previous day. He saw the well, and the water coming in, and saw the undoubtedly polluted surroundings of the well, but the difficulty which arose in his mind was how the doctor accounted for the fact that this source of pollution seemed to have been there for some considerable time. The water had been used by the villagers for some years now, but there had not been any serious epidemic at all previously, and he did not see how they could charge the water with being the cause of that epidemic. He would like the doctor to explain how, in his opinion, the epidemic came at this particular time.

Dr Laing stated, in reply, that the pollution of the water had gone on for some considerable time, but people could drink dirty water for a long time without taking any infectious disease, or any particular harm. It was essential that the typhoid germ should obtain access to the drinking water before the water could be regarded as causing the epidemic. And there had been no probability of this until a case occurred in Richardson Terrace. Then he supposed the germs found their way from the sewer, which was at a higher level than the pump, and were drawn into the well. At the same time, as he pointed out in his annual report, the death rate at Cowpen Village was higher than in any other part of the district; so that it was quite possible that the dirty water, although it had not caused fever previously, had very seriously affected the health of the people of the village. There

undoubtedly was some agency, causing the high death rate there, and he thought that agency was the pump water. The spring well was good provided that they could draw the water pure, but the force of the suction was so great that it was bound to draw some of the subsoil water into it, and if that subsoil was polluted with typhoid germs there was every danger of an epidemic. It was necessary, of course, for the typhoid germ to gain access to the water before they had an epidemic of typhoid.

Mr Bell said that the wall of the well was made up of rubble, and when the water got to a certain height it forced its way through the sides of the well, and as the water was drawn off instead of one source there would be dozen. It was found at one time that in the rainy weather this water—the pump water—was very dirty. It was of the same colour as the water running on the roads. Some of the people living in the village put a sod on top of the drain, and the result was that the next rain did not affect the water of the pump, which remained quite clear. When they saw that they staved the pipe full of soil and sods, so that no water could get into it. Now that particular drain went right across the rubble bed the water was coming from, and it showed that there was a connection between the pump and this drain. This drain was connected to the main sewer about ten or twelve yards below the pump. During the dry weather, when the gases had been getting into the drain in this sewer for want of flushing, and from the fact that there was no water going in, gases may have been working their way back through this drain into the bed from which the pump obtained its water. It was, as a matter of fact, that this drain crossed the bed from which the pump draw its water.

The Chairman (Mr W. Thompson): And what is this spring capable of supplying?

Mr Heatley: It is about capable of filling a one inch pipe.

Mr Bell: It will run about 10,000 gallons a day.

Mr Heatley: It was trickling very slowly yesterday. For the information of the members I may say that on the freestone there is built a stone wall with open seams, and there is no doubt that with suction from the well anything dangerous outside will be drawn in. It appears to me the first thing to be done is to have this channel laid up and examined.

The Surveyor: It has been taken up.

Mr Heatley: The wall of the well, I think, should be properly cemented right down to the freestone, so that nothing can be sucked in from the sub soil. And there is another very serious matter that I am surprised has not been reported to this Council by the inspector of nuisances. There is a stable behind the Church of England at the village, and in the yard there is a pigstye, a hen-coop, a quantity of diseased fruit, and a variety of other objectionable matter. In the yard there is not a bit of cement down, but it is apparently allowed to drain into the earth, and being on a hill, in close proximity to the spring which supplies the village, it appears to me to be a very serious source of pollution.

The Chairman: How far is it from the spring?

Mr Heatley: About 15 or 20 feet.

Dr Laing: It is considerably more than that.

Mr Heatley: Well, I think it should be attended to at once. I am surprised it has not been reported to the Council before, and if the stable is to be allowed to remain I consider it should be cemented, and drawn under the inspection of our surveyor. I move that a notice be served upon the proprietor to have this attended to forthwith. The doctor refers also to the supposition that in the two first cases of typhoid, the disease was contracted through bathing in the sewage-laden mounds at the margin of the river Blyth. Would it not be wise to warn the people against this danger? We also know the danger of the Port Sanitary Hospital. I have seen people bathing within 10 feet of the outlet of that sewer, and I most decidedly am of the opinion that a notice warning the people of these dangers should be issued.

The Surveyor reported on the alterations and improvement which were being effected in the construction of the well. The drain had been entirely cut off, and the junction cemented up. The well was being cleaned out, and the inside of the wall was being cemented.

Mr Nixon: A most important matter is to have the pollution removed at once.

Mr Bell: There should be a proper drainage system, I think, in connection with all cesspools in the district, and I think that either the surveyor or the sanitary inspector should go round the district and report those states—there are a large number of them—which have no drainage whatever.

Mr Willis: I would like to ask if there is no drainage from the stable mentioned by Mr Heatley.

The Sanitary Inspector: This has only recently been converted into a stable. It used to be Richardson's joinershop. It had only been used as a stable for a short time.

Mr Heatley: But all these things exist that have been mentioned?

The Sanitary Inspector: Oh, yes; quite so.

Dr Laing: Will it be possible to place the pump in a safer situation? It does not seem to be very safe where it is.

It was agreed, after further discussion, that the inspector, surveyor, and medical officer carry out the necessary alterations and improvements in connection with the drainage and the well of the pump.

### COWPEN SEWERS AGAIN.

#### £110 to be Spent.

At the meeting of the Cowpen Council on Thursday evening, some discussion took place on the recommendation of the surveyor to carry out works of sewerage at Cowpen Village, behind Tweedy Street, on the east and west side of Richardson Terrace and the Sidney Arms public house, at a cost of £110. Mr Nixon asked where the money was to come from. Mr J. Thompson: Oh we will get the money somewhere. The Chairman (Mr W. Thompson): It is immaterial where the money comes from, because this work must be done. We cannot have houses without sewers. Mr Nixon: I am quite aware of the importance of the work, but it is an ordinary business method of doing things to ascertain how you are going to pay for it before you undertake to do it. Mr Willis: It will come out of the surplus from the amount set aside for contingencies. The Clerk: But the surplus will soon disappear at this rate. Mr Willis: Oh, there is always a surplus. Mr Nixon: I move the surveyor advertise for tenders and have the work done. This was agreed to.

### Cowpen Water Condemned.

The report of the county analyst in respect to the water at Cowpen Village simply confirms the opinion expressed by Dr Laing at the outset of the outbreak of typhoid, namely that there was sewage contamination going into the well from which the bulk of the people of that locality is supplied. This means that the temporary closing of the old well will become a permanent arrangement. So that all the recent work done in cementing the interior of the well will have been so much work actually thrown away, as the water which has upon the most reliable authority been declared to contain sewage to a degree detrimental to public health, has been drawn from the well since it has been cleaned and cemented. It is a rather regrettable matter that such a fine spring of water should be lost to the public on account of surface pollution, which one would imagine could be avoided if proper measures were taken in the matter. Dr Hembrough, the county medical officer, has been interesting himself in the matter, and an investigation has brought him to the conclusion that the best course to pursue would be to sink a new well on to the spring at the opposite side of the road, which will be in the garden owned and occupied by Mr Air. Here, Dr Hembrough considers that the spring may be tapped and a sufficient standage of water procured without the danger from sewage contamination, which now exists in connection with the present well. This suggestion, coming from the County Council, will be considered in due course.

### COWPEN WELL TO REMAIN CLOSED.

#### Interesting Discussion.

The Medical Officer of the Cowpen Council, Dr R. Laing, at the meeting on Thursday evening, stated in his report that 31 deaths were registered during September, representing a death rate of 23.6 per thousand, birth rate, 65 per thousand. The typhoid epidemic had abated, only five additional cases of typhoid and continued fever having occurred since the pump was closed on September 4th, and one of these cases was in a house where there had been several previous cases. The well of the pump had been cleaned out and renovated and the water analysed by the county analyst Messrs Pattinson, but the result was unsatisfactory, and a recommendation for the re-opening of the pump could not be given. The water was of a dangerous character, owing to the percolation of household matter and sewage into it, and a very small portion of this kind of pollution might give rise to an epidemic such as they had lately experienced. There had been scattered cases of typhoid at the various colliery districts, besides two cases at Waterloo, two at Cowpen Quay, and one at Crofton. Suitable cases had been sent to the Port Sanitary Hospital. The water supplied at the Lastella Pit had been analysed, and the analysis was in every respect satisfactory. There had been four deaths from the disease during the month, three of them at Cowpen, and one at Waterloo.

The Chairman: (Mr W. Thompson) The village pump water, according to the analyst's report is unfit for drinking purposes. It is pregnant with sewage, and the pump is still closed. I understand.

Mr J. S. Dunigan: Yes, and there is great indignation at the village on that account.

Mr J. Nixon: Well, I think the report could not be much worse; and if the analysis is correct, we need not wonder at an outbreak of fever.

Mr J. Bell: It seems rather strange that the pump water should have been used for so many years, and this should never have been discovered before. It seems unlikely that the pump water should go all at once. I know the people from Delaval, Ebeaside, and Blyth, have for many years made it a practice to stop and have a drink at the pump on account of its good properties. It is my opinion that if there is contamination it is pretty near where the well is—where the water is crossing the road. It is crossed by a drain connected with the main sewer, and when that was still on the opposite side of the road, to stop the surface water from percolating into the pipes—when that was stopped the sewer gas from the main sewer, has been making its way back and contaminating the whole of the well. I am not surprised under those circumstances, that there should be evidence of sewage in the well. It has scarcely ever been pumped dry except on one occasion. Now if the water from the road way could get through that drain into the well, it is quite evident that the gas from the main sewer could also get into it, and with the gas going into it, it is bound to have caused a good deal of contamination. But the whole of that evidence of sewage must now have disappeared from the water. The drain which did the damage cannot do any further damage now—it is now thoroughly cut off. And I think the first thing to do in order to test it would be to pump the water out every morning for a week, not allow anyone to use it, and see if in the course of time, the water having washed away the effects of the sewage in the pipes, does not become pure.

Mr J. Thompson: Is there not a possibility of connecting the pump with the well in such a manner as to prevent the sewage from gaining access to the well?

Mr Nixon: Would it not be advisable to defer doing anything with the pump until we get the recommendation from the County Council? At present we certainly cannot use the pump.

Mr Bell: No, but for myself, I would restore the handle to the pump directly.

Mr Nixon: But if there is a recommendation, coming from the County Council, we may as well allow the matter to lie over and then debate it.

The Chairman: I move the matter lie over until we hear from the County Council. Mr Bell seconded and the Council agreed to it.



Ash-pit used by 18 families.



Two Ash-pits used by 25 families.



Water-tap: grating used as a slop-sink.



Make-shift ash-pit: used by the families in this row, who have no privies whatever.



(C) KITTY BREWSTER. pop. 370.

The houses at this hamlet are mostly old & frequently so insanitary as to merit condemnation from the District M.O.H. Yet at present not a single habitation is unoccupied, Part of the population is apt to be migratory & many are unthrifty, untidy, & consequently poor.

I.- Water Supply.- This is furnished from the District main service pipe, & is obtained from three public stand-pipes discharging over gratings in connection with the branch sewers. These gratings are sometimes also used as slop-sinks. During 1897 when water was scarce, Cowpen pump was oftener drawn on for a supply, & 6 Enteric cases occurred at Kitty Brewster at that time, (one fatal). Indeed probably the first case of the season occurred at Kitty Brewster, followed by three others, in a family recently arrived in the District; this family moreover was said to consume a large quantity of shell-fish (mussels etc.) gathered in the sewage-polluted river Blyth, below the sewer outlet from the Fever Hospital.

II.- Drainage - The sinks are usually close to the house-doors, & though they are provided with gulley-traps, are often most offensive both to sight & smell. The branch sewers join the main sewer at the north & lower side of the village, whither its course is deflected on its way from Bebside to Cowpen.

III.- Ash-pits & Privies.- The ashpits & privies are few & in numbers, and the former are necessarily capacious, are uncovered & have no proper bottom. In one part there is only one ashpit & 2 privies for some 18 families! In another there are 2 large ashpits and 8 filthy privies for 21 families!! while a whole row of 19 houses has a make-shift ashpit formed of old railway sleepers & no privies whatever!!!

Altogether, the sanitation is most disgraceful, & yet receives almost no attention from the authorities.

Scavenging is irregularly & badly performed by contract: while disinfectants are conspicuous by their absence.

Soil-pollution is certain to be extensive where soakage from privies

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& ashpits, & leakage from badly laid sewage pipes, have been going on for very many years. Air-pollution also is chronic.

The death rate of Kitty Brewster, Cowpen Village, & Cowpen New Town, is generally stated together by the M.O.H., & has distinctly indicated the terrible effects of <sup>in</sup>sanitation on the public health by attaining ~~even~~ to 40 per 1000 per annum, even in seasons when Enteric Fever was not appreciably present, nor yet responsible for any deaths (1899).

(D) BEESIDE COLLIERY. pop. 1035.

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The Colliery houses are of the usual type seen in old mining villages. They are often damp in walls, & floors, which are bricked, with no drainage or ventilation. Nevertheless they are invariably fully occupied. In front the rain pipes discharge at the base of the walls, so that water is certain to soak underneath the foundations. At the back, water barrels are placed to collect rain-water for washing purposes.

The dwellings include 2, 3, or 4 apartments with low ceilings, & open small enclosed ash-or bricked-yard-spaces behind. In many cases the floors are below the level of the outside soil.

1.- Water supply.- (A) Prior to 1898 the considerable population of the village depended for its supply of drinking water on the services of "Old Matt" with his water-barrel drawn by a horse, the charge being 1/2d per pailful. Each "row" was ~~supplied~~ supposed to be visited thrice a week, but as the old gentleman had a distinct preference for stronger liquor than water, a week sometimes elapsed between visits, & water had to be carried from some other source, such as a shallow surface well or farm-yard pump (both suspicious), or from the public taps at Kitty Brewster, 1/2 mile away.

The water supplied by "Old Matt" was generally considered to be

*Bebside.*



*Back of a "Row".*



*Back of a "Row".*



*Broken-down Ash-pit, 9c.*



*Broken-down Ash-pit, 9c.*



*Water-tap: Grating used as a Slop-sink.*



*"Old Matt's" water-tank: till 1898.*



*"Old Matt's" Water-barrel: till 1898.*

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of good quality, but very hard; (a few alleged that they often detected an unpleasant smell on boiling. It was obtained from a source in a field near Bebside Furnace, & never failed in very dry seasons. Cattle grazed in the field & had access to the stream, & a sewer pipe also passed down the field not far away. It was suggested by the <sup>late</sup> Colliery Engineer that the pit pond, containing the polluted water pumped from the shaft-bottom, contributed to the origin of this spring.

A <sup>pro</sup>posal to utilize the water for a public supply for the neighbouring villages of Bebside & Bebside Furnace, by establishing a pumping station & distributing tanks, was rejected for 2 reasons:—(1). The

supply might suddenly cease through escape into under-ground workings:

(2). The chemical analysis was not satisfactory.

Occupants of houses near this supply still continue to use the water, which indeed is missed by the bulk of the population, formerly accustomed to it.

B.—Since the beginning of 1898, Bebside & Bebside Furnace generally have been supplied by means of a petroleum pumping engine, & distributing tanks, from

the Bebside Reservoir, the property of the Urban District Council (so that now the whole Cowpen Urban District obtain its water-supply from the above reservoir.)

Throughout Bebside & Bebside Furnace, public water taps are placed at intervals, & nearly always the ~~water~~ waste-water gratings, which are trapped & in connection with public sewers, are also used as slop-sinks.

The branch lead water-pipes, & even the mains, are often in dangerous proximity to the drains & sewers. Indeed, wherever a main water-pipe crosses the line of a drain or sewer, it inevitably passes through it,

THE inhabitants of Bebside village supplied with water by the Cowpen Council in such a hurry after all. The latest project, viz. that of obtaining a supply from the neighbouring springs, has had to be abandoned on account of the analyst's unfavourable report, and the scheme which was originally proposed—and which entails the pumping of water from the reservoir—is to be reverted to. One of the Bebside representatives declared that he would continue to use the spring water in face of the analyst's report, for the water had been used by the villagers for 40 years, and they were as healthy as any people. The conclusion of the analyst is as follows:—“We hereby certify that we have analysed the undermentioned sample of water, and that we find the following results per gallon:—Total matters in solution dried at 212°—97,000 grains; chlorine, consisting as chlorides, 4·642 grains; ammonia, 0·001; albumenoid ammonia, 0·005; nitrogen, existing as nitrates, 0·032; oxygen, 0·099; lead, and other poisonous metals, none. Appearance in two-foot tubes, faint yellow colour and clear; smell, when heated to 100° Fahr, none; microscopical examination of sediment, satisfactory. The water contains a very large amount of mineral matter in solution, and it is an excessively “hard” water. On this account it is not a good water for a domestic supply. It is fairly free from objectional organic matter, but it is not a very satisfactory water even in this respect.”

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not over or under. In one instance I saw a junction (sealed with manilla rope & molten lead) actually laid across & in the channel of a stone drain, thus <sup>being</sup> continually bathed in dirty water.

How long that joint ~~was~~ will remain impervious is a question; but though the danger was pointed out, the mode of procedure was considered practically devoid of risk.

The M.O.H. & Surveyor declare there is no danger yet the former mentioned to me a previous epidemic, the source of which he himself traced to faecal contamination from a drain through a faulty junction on the main feeding the reservoir. The over-flow pipe from the Distributing tanks discharges directly into a public drain, & appears to have no means of preventing gaseous pollution *of the water in the tanks.*

II.- Drainage. - With the exception of about 30 houses, (which have sinks with gully-traps & probably badly laid sanitary-pipe drains & sewer,) the whole drainage of Bebside is conveyed in old stone drains, with un<sup>t</sup>trapped sinks of many varieties. The drains are constructed as a rule a few yards ~~yards~~ from the backs of the houses, & the sinks are placed immediately over or very near the channel of the drain. The short connections are made of stone or brick, & have no trapping arrangement whatever, the sink is usually formed of stone with a perforated flag or iron plate, but in some cases a hole in the ground represents ~~the~~ the slop-sink, & through this the contents of the drain can be seen. In some parts the drains have not sufficient gradient, & are frequently choked, & generally remain so for a time until a District Council's workman finds it convenient to attend to it.

The sinks & connecting drains are supposed to be kept in order by the occupant of the house, but are often neglected & foul.

During rains, some of the drains are flushed through their connections with field-drains. Flushing is very imperfectly carried out by the Council horse tank, & is generally resorted to in wet weather when water is plentiful. The course of the drains & sewers is not known with certainty even to the Surveyor. Probably four separate branch sewers carry off the drainage & storm water, - two discharging 2/3 of the drainage

Beaside Furnace



*Broken-down Ash-pit.  
The slops are thrown on the  
ground, as there are no sinks.*



*Slop-sink! and Water-tap.*



*Broken-down Ash-pit, in very  
close connection with a dwelling.*



*Filthy Ash-pit & Privy.*



*Broken-down Ash-pit & Privies.*



*Broken-down Ash-pit, &c.*



*This hole in the fine-coal-heap does  
duty for an Ash-pit.*

A.F.

into a stream which issues from the pit pond: & two <sup>others</sup>, the remaining 3rd into the beginning of the main sewer, which afterwards carries the drainage of Kitty Brewster & Cowpen Village to the river below tidal limits. This main sewer is occasionally flushed by a pipe laid from the pit-pond. It is not likely that these branch sewers are well made, as it is believed they are of old date & constructed of stone.

The drainage is undoubtedly very bad the construction being the worst possible; gradients irregular & insufficient; sharp-angled junctions favoring the choking of drains; sinks primitive or broken & allowing solid refuse to enter; etc. In a report on Cowpen Sewerage, the Surveyor reminded the Council that many sewers elsewhere, & particularly at Bebside and Bebside Furnace, were in a much worse condition (1897). No action whatever has yet been taken, & probably nothing but a severe epidemic, with loss of life, will render a radical re-construction of the drains & sewers imperative.

III.- Ashpits & Privies.- The Ashpits are made of stone, uncovered, & with no proper bottom: with each ashpit, two stinking privies are connected.

Both ashpits & privies are often broken down & filthy. As usual, contract scavenging is irregularly & badly done. Air pollution is chronic. Sub-soil pollution from pervious ashpits, privies, & drains, is sure to be extensive in a colliery village 50 years old.

(E). BEBSIDE FURNACE. pop 565.

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The houses are all old, constructed of stone or brick, & some partly wood; they were originally built in connection with Iron-works, which formerly existed & gave the name to this rather straggling collection of houses.

Underneath a row of 20 houses made of brick, is a continuous deep cavity containing damp soil or even mud, unventilated & foul-smelling: the floors are affected with rot & constantly require repairs. Most of the cases of Enteric Fever here have occurred in this Row. ~~The was reported that the drain was incorrect in the center, but nothing was~~

M.O.H. reported that the drain was lowest in the centre, but nothing was done to remedy this. Broken-down ashpits & privies were repaired.

Some houses in this quarter are undoubtedly unfit for human habitation, but all are constantly occupied by Bebside Colliery employees.

I.- Water Supply.- A. Before 1898 the water supply was obtained from "Old Matt's" water barrel, or was carried by hand from the same source of supply.

B. Since 1898 the larger portion of the inhabitants are supplied from public stand-pipes, the source of supply being the district water-works.

II.- Drainage.- Here, as at Bebside, the drains are stone channels, some with insufficient & irregular gradients. Sinks are untrapped & made of stone or brick with perforated stone or iron covers, & sometimes none at all. As a rule, the sinks & drains are a few yards removed from the house-doors, but in the case of one row the drains run on both sides close to the foundations, & the foul-smelling sinks are close under the living-room windows: fall is also insufficient & flushing is not practicable for the horse tank. In some cases also the sinks are just ugly holes in the surface, in connection with the drains, In other cases the drains have been choked & disused for an indefinite period; while in others no proper drainage whatever is provided.

III.- Ashpits & Privies.- The ashpits are all uncovered & with no proper bottom: as a rule, two or more privies exist in connection. Some houses are not provided with privies or built ashpits. Many are in ruins & horribly offensive. In two instances, the filthy ashpit, stinking privies, coal-houses & pantries, form one combined structure.

Sub-soil pollution is unavoidable ~~to a dangerous extent~~ is unavoidable to a dangerous extent is unavoidable, from ashpits, Privies, & Drains.

Air pollution is chronic.

Two main sewers convey the contents of the drains to the river below tidal limits by separate outlets: in one case the stone sewer becomes an open gutter about 40 yards from the river, having evidently become choked & burst its way through the earth. Even the district Surveyor is hazy as to the exact line of these sewers.

Views of Cowpen District Water-works.



The "feeder" of Hazelton Reservoir, used as a crossing for horses, cattle, &c.



Upper end of Hazelton Reservoir.



Hazelton Reservoir.



Two filter-beds.



Open & covered Reservoirs.



Beside water-tanks.

PART I.

To sum up the above detailed consideration of water supply, & of removal systems for solid & liquid refuse:—

- (1) The water supply of the whole district is now almost altogether obtained from the same source, (viz. the District Council's Water works,) & is neither sufficient nor satisfactory.
- (2) The ashpits, privies, drains & sewers, in Cowpen Village & Cowpen New Town are such as to minimize sub-soil pollution, but favor air-pollution of dwellings.
- (3) The ashpits, privies, drains & sewers, of Kitty Brewster, <sup>Bebside, &</sup> Bebside Furnace, are of old & faulty construction, & favor extensive sub-soil & air-pollution.
- (4) Generally speaking, the wonder is, not that Infectious diseases prevail, (with more especial references to Enteric Fever,) but that they are not even more wide-spread & virulent.
- (5) The sanitary authorities of the district are distinctly inactive or helpless, in their efforts to improve matters, & will probably only be roused to a sense of their responsibilities by a dangerous outbreak of Enteric Fever, or Diphtheria, with loss of life. Follicular tonsillitis is very prevalent in damp & cold weather.

GENERAL WATER-SUPPLY.

As the whole district under consideration now obtains its supply of water, (with few exceptions), from the Cowpen Urban District Council's Water Works, it will be well to examine this supply as to quality & quantity. (Previous to 1897, Cowpen resorted to its pump-well: & up till 1898, Bebside & Furnace depended on "Old Matt's" barrel).

About 6 or 7 miles off, in the <sup>direction</sup> ~~district~~ of Morpeth, water is collected from two sources into 2 collecting Reservoirs. From these, two branches pipes unite & send down the water by a 7 inch iron pipe to Bebside filter-beds & Reservoirs. This pipe lies in the bed of the river Blyth below tidal limits; it is conceivable that in-currents from the muddy river-

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bed may occur through leaky joints. This year (1900) a 9 inch pipe is being laid with a view to obtaining a larger & better supply from another source.

"The supply from Hazelton, which is surface water gathered from grass fields not entirely free from manurial pollution ~~has been experienced~~" flows into a storage reservoir. Some difficulty has been experienced "at this point owing to a leak in the reservoir, & it is evident that "an appreciable quantity of water still runs to waste,

"The other supply (from Healey Wood Bog), is surface water also gathered "from grass land. - - - Open sanitary pipes are laid across "the land in this situation at least 3 feet below the surface, (the "sub-soil being sand & gravel), & delivered into a covered cemented tank "properly fenced off. From ~~thence~~ these two sources the water is con- "veyed in iron pipes, with yarn & molten lead joints, to the filter-beds "a service reservoir near Bebside Station, from which point it is pumped "to Bebside village tanks (supplying Bebside & Bebside Furnace), & also "flows by gravitation to Kitty Brewster, Cowpen Village, Cowpen New Town, "Cowpen Square, Cowpen Quay, Waterloo, Crofton, & Newsham etc."

I have myself examined the source of water collection at Hazelton, & feel astonished that it should ever have been even suggested for drinking purposes. The stream entering the Reservoir has an unpleasant look suggestive of sewage-pollution: the bed of the stream & stones therein being covered with a deposit of slimy mud. Grazing cattle & sheep also have free access to it. The water as seen in bulk in the Hazelton reservoir, (where considerable leakage occurs), & in the filter beds at Bebside, is decidedly dirty. At Hazelton reservoir, a decided bad smell arises from the water in two small covered chambers containing the valves.

The sources of the Hazelton feeder are in the water-shed of grass fields apparently used as pastureland, but probably occasionally receiving a dressing of ashpit & privy manure. The stream is ~~is~~ really a kind of muddy ditch, which passes under the public highway between Morpeth & Newcastle at a small collection of houses called Clifton; in all pro-

bability here polluted <sup>by</sup> surface water during rains, (in spite of cesspools being provided); & undoubtedly receiving the washings of the main road.

Further a loop bye-road passes through the stream itself to enable horses & droves of cattle, sheep etc. to be driven in to quench their thirsts.

The other source <sup>of</sup> supply, (boggy land known as Healey Wood Bog) provides a moderate supply of surface water, open to manurial & cattle pollution but said to be considerably purified by filtration through the sand & gravel soil.

Iron pipes carry the water from these two collecting reservoirs, conveying to a 7 inch iron main pipe, through which it reaches Bebside filter-beds & service Reservoirs. ~~It~~ As I have stated, this line of piping is visible in the bed of the river Blyth, below the outlets of one large & two small sewers, ~~at the same level as the~~ and also within tidal limits.

At Bebside Station there was formerly only one filter <sup>-bed</sup> of no great area, but now there are two on the sand & gravel system, approved by the Local Government Board. But when renewing the filter beds, or during floods, the water distributed has a brown or yellow color, & contains many living organisms. Indeed even after filtration under ordinary circumstances it is not satisfactory, & usually contains insects. The water in the filter beds is certainly unclean, & in the open service reservoir after filtration it is covered with a layer of floating green slimy vegetable matter. I am unable to state how often, or when this water has been chemically analyzed, but it must be remembered that chemical analysis will not detect typhoid pollution, though it may discover the presence of organic matter; also as regards bacteriological examination, Dr. Klein has stated that no value can be attached to negative evidence, or to the apparent absence of typhoid bacilli from a given sample of water or milk.

Further, though capable of removing suspended impurities, filtration through sand & gravel beds is not always trustworthy to remove minute organisms, such as bacteria, & sewage protozoa. It is said that these filters act best after they are in use for some time, through the multi-

plication of minute forms of animal life. It has been found by experiment that germ-disinfection of typhoid-polluted water is possible.

While only a 7 inch pipe conveys water into the filter-beds, it is said that 21 inches of piping (9 in. 7 in. & 5 in. pipes) convey water from the reservoirs. So utterly inadequate is the supply for the population depending on it, that after spell of dry weather, a supplemental supply has to be purchased from the Bedlington Council.

COWPEN WATER SUPPLY.

THE TYPHOID OUTBREAK IN EAST NORTH-UMBERLAND.

Last night a specially convened meeting of the Cowpen Council was held to take into consideration a report by Dr. Hemburgh, the county medical officer, relating to local sanitation and the water supply. Mr. Charles Barron, J.P., presided.

Mr. R. T. Guthrie (Clerk to the Council) read Dr. Hemburgh's report, which said:

With reference to the outbreak of enteric fever at Cowpen Village, it is satisfactory to know that the surveyor's report to the district council, setting out what alterations were necessary in order to make the sewerage of this district efficient has been adopted. All defective sewers will be taken up and relaid, and adequate provision made for efficient ventilation, and flushing tanks will be placed at the head of each sewer. Applications have been made for tenders and the work will be carried out forthwith. The pump well is still disused, and the county analyst has confirmed the chemical analyses of this water, previously and at different times made by Dr. Laing and myself, by stating that it contains abundant indications of sewage pollution, and that it is utterly unfit for drinking purposes. In a former report I referred to the unsatisfactory condition of the water supply for this neighbourhood. I have recently, accompanied by the medical officer of health, inspected the two sources of water supply for Bedside Water Works. The supply from Hazelton Wood, which is surface water gathered from grass fields not entirely free from manurial pollution, flows into a storage reservoir to the west of Coal Burn Farm and near to Hazelton Wood. Some difficulty has been experienced at this point owing to a leak in the reservoir, and it is evident that an appreciable quantity of water still runs to waste. The supply is surface water, also gathered from grass land at Healy Bog, near Hespocott Station. Open sanitary pipes are laid across the land in this situation at least three feet below the surface of the soil (being sand and gravel), and deliver into a covered cemented tank properly fenced off. From these two sources the water is conveyed in iron pipes, with yarn and molten lead joints, to the filter bed and service reservoir near Bedside Station, from which point it is pumped to Bedside Village, and flows by gravitation to Kitty Browster, Cowpen Village, Cowpen New Town, Cowpen Row, Cowpen Square, Cowpen Quay, Waterloo, Crofton, and Newsham. As regards the first-mentioned source, there can be no doubt that every precaution should be taken to exclude the possibility of pollution from manures, as the water here flows into the reservoir in an unfiltered condition. At Healy Bog the supply is apparently efficiently filtered through three feet of sand and gravel in its course to the cement tank, and all possibility of sewage contamination from Hespocott Station and the neighbouring farm has been guarded against. The condition of the Bedside Water Works is anything but satisfactory. They consist of open reservoirs, with a capacity of about 262,000 gallons; one filter bed, 76 by 30 feet; and a covered reservoir capable of holding 252,000 gallons. There is no gauge, so that there are no reliable means of ascertaining the quantity of water flowing into the Bedside Water Works during 24 hours, either in wet or in moderately wet or in very dry weather; nor can the amount distributed during each day be estimated with any degree of accuracy. But judging from the known capacity of the filter bed, a conclusion may be arrived at as to the maximum amount of efficient filtration possible, provided that sufficient water were available to keep the filter going at its full working capacity. The maximum filtering capacity of the filter (without making any provision for repairs, renewal of sand, or deficient water supply) is about 150,000 gallons per 24 hours. If, therefore, this amount could be uninterruptedly supplied to the water works from the gathering grounds, which is more than doubtful, it would suffice for a population of about 8,000. The number of persons, however, dependent upon these works for their supply of water is about 12,000. The water is very inefficiently filtered, and in case of any repairs being required to the filter bed, the water would, under these circumstances be passed on in an unfiltered condition. In a few days the difficulty which has all along been experienced in getting an adequate water supply to the top of the well, will be removed, through the laying of a 9 in. pipe, now nearly completed. A larger quantity of water will, therefore, be available and used in this neighbourhood. Water is required for the flushing tanks to be erected at Cowpen Village, and more is needed than is

obtainable for flushing the sewers in other parts of the district. If the estimate be correct, that only 100,000 gallons pass through the Bedside Water Works in 24 hours, there would only be a deficiency for about 5,000 persons. Consequently, under efficient sanitation, the amount of water available is totally inadequate for the needs of the population supplied, and when the necessary quantity is provided the filtration area will also need to be increased. The dangers other than insufficiency of an intermittent water supply are probably too well known for it to be necessary to emphasize them. I may, however, mention in passing, that one very important means of excluding impurities from water mains and branch pipes, is a constant service water supply with sufficient pressure to keep the pipes always full. The slightest fall in a pipe or joint, or the falling of the ball where ball hydrants or ball air valves are used, will admit gaseous or liquid pollution, and convert the water pipe into a drainage pipe, whenever the pressure from within is removed. Several epidemics of enteric fever have been attributed to the falling of these valves. That this danger is a very real and not an imaginary one may be easily demonstrated by an examination of the more ancient privy shafts all over the county, constructed and maintained in such a manner as to ensure the greatest possible amount of pollution. In addition to the improvements in the sewerage system which are to be forthwith carried out at Cowpen Village, and which are also most urgently needed in Bedside, Newsham, Waterloo, and Cowpen Quay, perhaps the most pressing need of the urban district of Cowpen is a much more abundant supply of water, carefully gathered, sufficiently filtered, and so distributed as to be easily accessible by every inhabitant. The present insanitary conditions have been repeatedly brought to the knowledge of the district council both by the medical officer of health and by the surveyor. I may add that 73 cases of enteric fever have been notified in this district during the past seven months.

The Clerk also read two letters from Mr. Charles D. Forster, the Deputy Clerk to the County Council, who at the direction of the Property and Sanitation Committee, suggested that the Council sink a new well at the Spring Head, and pointed out that the water from the standpipes at Bedside was not entirely satisfactory, and that there was an absolute necessity for an increased water supply generally.

Mr. James Bell said the water from Bedside standpipe could scarcely be satisfactory when the water was being sent down the pipes in an unfiltered condition.

Mr. John Dixon suggested that the desirability of providing tank steps to consider the desirability of providing another filter bed and another reservoir at Bedside in order to secure greater filtration and storage.

The Chairman considered that the Medical Officer's report was exceedingly moderate under the circumstances existing.

Mr. T. C. Heatley thought the present was a most inopportune time to come to any decision. The Council had just completed a scheme, at a cost of £28,000, by had just completed a scheme, at a cost of £28,000, by laying down a new system of pipes, and £2,000 had been expended to supply Newsham and Blyth more adequately. But the Council had absolutely no idea as to what amount of water was really being distributed.

He suggested that the Surveyor collect data showing exactly what quantity of water was being obtained.

After a long discussion, in which Mr. T. Macintosh, Mr. J. Bell, and the Chairman, took part, the latter moved: "That the Sanitary Committee and the Surveyor be instructed to make a report and advise the Council upon the desirability of laying a supplemental main from the Bedside reservoirs to the Clerk's Bog scheme; to prepare a practicality of the present system as to the quantity of water collected and distributed; and to consider the necessity of additional filtration and storage."

Mr. T. C. Heatley seconded the motion.

The motion, after further discussion was carried unanimously.

The Chairman moved that the Council acknowledge the receipt of Dr. Hemburgh's report, and that the Clerk be instructed to say that all the items mentioned were under consideration, and that many of the matters alluded to had already been carried out.

This was also seconded and adopted.

The Bedlington water-works obtain their supply from the river Blyth; which is a plentiful, but by no means ideal

BEDLINGTON WATER.

THERE has been a discussion amongst the Bedlington Councilors in regard to the filtering of the water. As is well known,

this Council, after a deputation had visited Crews, decided to give up the old system of sand and gravel filters, and put down machinery to filter the water by forcing it through tubes charged with charcoal. The Local Government Board, however, requested the Council to revert to the old system as the best. This the Board refused to do, acting largely at the instigation of Mr. Weeks, who was wroth at the Local Government Board condemning a system which had cost so many thousands of pounds to Bedlington rate-payers, and which the Local Government Board had themselves sanctioned. Consequently, when the Council required a loan for a water main, the Local Government Board flatly refused it until the old system of filtration was restored. Then Mr. Weeks and his colleagues set their backs up, and got the money for their work without troubling the angry assembly at Whitehall. This little quarrel has gone on since, but in the absence of Mr. Weeks I think at a recent meeting a motion was carried to have the old filters made as a supplementary means of filtration, but this motion, I am told, is likely to be fought by Mr. Weeks when it comes up for confirmation at the next meeting.

TO CATCH THE MICROBES.

WHILST on the subject of Bedlington water, I would just like to draw attention to the fact that there has recently

been introduced by the County Council certain facilities in the matter of the analysis of water which may be of service to such places as Bedlington. It will be remembered that Dr. Carmichael, the medical officer of the Council, urged that whilst Mr. Pattison, the County analyst, might certify that the water was good so far as his examination went, yet it would require a bacteriological examination to detect the presence of the typhoid and other undesirable microbes which wage ceaseless war against poor humanity. The reason why a bacteriological examination was not made was ostensibly for the reason of the cost. The same was the case in regard to Cambois School. Dr. Carmichael contended that pollution was coming from below into the Cambois Schools, and this was discounted by Mr. Locke and Mr. Preacher. The question got no further. Now, however, thanks to the motion of Dr. Cromie, the Northumberland County Council has decided to provide, free of cost, an expert to make a bacteriological investigation in any case where a medical officer may decide it is necessary. The County Council have taken this step in the belief that investigations will conduce to the prevention of zymotic disease. So that we may look out for interesting accounts of those fearful and wonderful microbes which, like the spirit, as St. Paul tells us, wars against the flesh.

source. The river Blyth & its tributaries are certain to receive sewage-pollution at many points, as well as surface washings during heavy rains. From a pumping-station, the river water is forced to the highest part of the town of Bedlington, where charcoal filters & a distributing reservoir are situated. The water is forced through these filters under pressure, but the Local Government Board has condemned this method & insisted on a return to the old sand & gravel filters; which work, I believe is now under way.

The Local Government Board even warned Cowpen District Council against Bedlington water, on account of their disapproval of the method of filtration. But if this water is also filtered at Bebside water-works through sand & gravel, the Local Government Board's objection is removed.

Besides, Cowpen Urban District would suffer from water-famine, but for the assistance of Bedlington Council, & cannot choose.

It is to be hoped that the proposed new scheme will soon take definite shape, & that a plentiful & good supply of water will before long be secured. The present polluted supply will then, I believe, be diverted from the collecting Reservoir at Hazelton.

Not only is the water-supply of the District unsatisfactory on account

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of the character of the collecting grounds, but pollution is possible, & very probable, during distribution, on account of the juxtaposition of main pipes & branch pipes to sewers & drains, & of water-taps to foul sinks.

MILK SUPPLY.

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In addition to the dangers from the use of polluted water for drinking purposes, & from sources of soil & air-pollution, we must consider also the milk-supply. In no instance has it been shown that any Enteric cases originated from the premises of the 11 or 12 milk-dealers trading in this district. Enteric fever did occur in the families of two cow-keepers in Cowpen in 1897; & in 1898 at another Dairy farm; but the milk supply was carefully guarded from possible infection, & no cases could be traced to it.

SHELL-FISH.

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Another possible source of infection must be mentioned, viz. the existence of mussel-beds in the river Blyth below the outlet sewer from the Infectious Diseases Hospital, & also below the outlets of sewers from Bedlington, Bebside, Cowpen, etc. People gather these mussels, but usually boil them & eat them with the addition of vinegar or salt & pepper. I was unable to trace to this cause with certainty any cases of Enteric Fever; but almost the first case in the district appeared in a poor family who were in the habit of gathering & eating mussels & other shell-fish, evidently after boiling: other three cases occurred in the same family, & 2 cases in the house below. -- all children (six cases)

**THE BLYTH MUSSEL BEDS AND TYPHOID.**

A correspondent informs us that a case of typhoid, which has occurred at Cambois during the past few days, is alleged to be directly traceable to the eating of mussels from the beds in the river Blyth.

The M.O.H. of Bedlingtonshire informed me that he once traced cases of Enteric in Cambois to the eating of uncooked mussels, while those who ate after boiling were not attacked.

FLIES.

I strongly believe that flies & other insects which so frequently become a plague in hot weather, are capable of readily carrying foecal matter containing typhoid bacilli to articles of food.- milk, sugar, jam, butter etc. & thus becoming factors in the spread of Enteric Fever.

This would be difficult to prove, no doubt, but yet it is not only a possible but a very probable mode of infection. Experimentally, it has been shown that flies can carry infectious particles to exposed articles of food (Hoffmann: Burgess.) Dr Arnold H. Watkins (Kimberley, So. Africa), (B.M.J. Sept. 15th, 1900), suggests that in considering the epidemic of typhoid amongst our troops in South Africa, the fly as a factor in its spread has not received the attention it deserves. He thinks Enteric is rarely water-borne in So. Africa: flies swim on foeces, & on all articles of food exposed, & certainly carry foecal matter, & therefore typhoid bacilli, on their legs; there is here a distinct relation of cause & effect between fly & typhoid.

Also after the Spanish-American war, it was notorious in American camps that fly-infection had been much more disastrous in spreading typhoid than water-infection. But it is asserted by competent authorities that Enteric fever is probably water-borne in 99 cases out of ~~1000~~ 100.

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Specific infectious diseases are often termed "preventable", because it is believed that with the existence of perfection in personal & ~~domestic~~ domestic hygiene, & in general sanitary arrangements, such diseases would in time be to <sup>a</sup> great extent stamped out. A specific virus, which "breeds true", is believed to cause each specific infectious disease, & to find favorable conditions for growth & propagation in insanitary surroundings. Hence "prevention" of Zymotic diseases is one of the chief ~~branches~~ branches of Sanitary work.

I regret that in this district no active steps are taken in connection with epidemic diseases, until the authorities are startled out

of their slumbers by a particularly sharp outbreak, involving fatal consequences. The Sanitary Inspector takes no pains to report or remedy the insanitary conditions which abound: the M.O.H. seldom inspects affected districts or houses; & consequently sporadic cases are not traced to their origin. In fact the M. O. H. usually reports notified cases of Enteric fever as being "continued fever of a mild type" until he hears of a fatal issue. Thus the eyes of the District Council are blinded to the fact that Enteric Fever crops up year after year, by the erroneous impression that it is a mild form of "continued" fever which exists here & there. Consequently a disgraceful condition of insanitation is allowed to prevail in many colliery villages; an insufficient & suspicious water supply is <sup>provided:</sup> ~~provided~~, scavenging of ashpits & privies is irregularly & inefficiently performed by contract; flushing of sewers is neglected; disinfectants are not freely used in hot & dry weather; & in fact it would appear as if it were intended to encourage the invasion of epidemics instead of to prevent them.

It will be necessary as briefly as possible to consider a few of the predisposing causes of Enteric Fever with reference particularly to the cases which have come under my own observation.

1. Sex has apparently no particular influence; but it is usually found that males are rather oftener attacked than females. Of my cases, I find that 55.42 % were males, and <sup>44.57</sup> ~~44.57~~ % were females.

2. Age.— Enteric fever is a disease particularly of childhood, youth, & adolescence. (From my figures I find that in 80.72% the <sup>cases</sup> ~~cases~~ were under 30; & in 19.27% over 30.)

It is sometimes stated that it is most frequent between 15 & 30, but in my experience almost half of the cases occurred in children under the age of 15, viz. 49.4%; & that 36.14% indeed occurred in children under the age of 10. Of 83 cases the mean age was 19.4 years.

3.- Defective Sanitation.— abundant proof of this has been furnished in the foregoing pages & will be still more clear on reference to the accompanying photographic views.

4. Season.— Enteric fever prevails most in the latter half of the

## PART I.

year, just as Diarrhoea does, especially after the protracted heat of summer & autumn: (only 13 of my cases commenced in the first half of the year, & 70 cases in the latter half.) The maximum prevalence in England is said by Dreschfeld to occur in October; but most of my cases began in August, & next comes September. 41 cases occurred in "Summer" (June, July & August): 32 cases occurred in "Autumn" (Sept, Oct. Nov.): 7 cases in "Winter" (Dec. Jan. Feb.): & 3 cases in "Spring" (Mar. Apr. May.):

5. Temperature & Moisture.— In 1897, it was very apparent that Enteric fever followed a continued period of heat & drought.

6. Soil & underground water.— In 1897, as a consequence of continued dry weather, water supply was irregular & scarce. In Cowpen Village water never was allowed to accumulate in the pump-well on account of the incessant demand; consequently the surrounding area, manifestly open to pollution, was thoroughly drained off its ground-water. Pettenkofer's theory is not by any means accepted, & Buchanan has pointed out that when the ground water has been high & has receded to a low level, wells are very likely to be polluted from a filthy soil.

7. Idiosyncrasy. Murchison says "peculiarities of constitution may favor or resist an attack". Thus individuals may possess natural or acquired immunity; it would appear that a previous attack protects to a great extent; & it is hoped that the inoculation of anti-typhoid serum will confer immunity by reason of its containing "defensive proteids".

8. Recent arrival in an infected district is said to strongly predispose to attack. Almost the first family attacked in 1897 had only shortly come into a most insanitary locality, & 4 out of six were attacked. On the other hand of a family of eight which was long resident, 7 were attacked.

9. Occupation has no special bearing.

10. Neither has Station in Life.

11. Overcrowding & Defective<sup>ive</sup> ventilation will act to the prejudice of the general health of the individual.

12. Previous illness, causing debility, appeared to lay some open to attack.

13. Over-work, irregular meals & worry, certainly acted as predisposing

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causes in my own case.

The Bacillus Typhoides (Eberth) is of long vitality, of wide distribution, rapid in multiplication, potent in great dilution, & more virulent <sup>when</sup> aided by influences favoring its development, or depressing the individual.

The following are the usual paths of infection by which the Bacillus Typhoides gains entrance to the body. (Moore).

- I. Currents of air.- 'exhalations from drains, sewers, foul ashpits & privies (Dreschfeld says this is a rare mode of infection).
- II. Drinking water.- 'In all likelihood this is the most common source of infection, & it is said to be so in 99 cases out of 100 (Brouardel: Yeo:) The great Maidstone epidemic was clearly traced to polluted water, & probably the water supply of this district affords the specific poison of Enteric fever a means of entrance into the system.
- III. Milk.- 'Epidemics have often been traced to infection of milk directly or through the water supply.
- IV. Meat.- 'People are said to have become infected through eating the flesh of animals which had died of Enteric fever (Switzerland).

It is also very likely that articles of food are infected, by

The heavy death-rate from typhoid fever amongst our troops in South Africa confers upon this disease a peculiar interest at the present time. It has been taught in the standard medical text-books for many years that but slight risk attaches to the nursing of cases of typhoid fever. The matter has quite recently been before the Epidemiological Society of London, the discussion having been opened by Dr. Goodall, of the Metropolitan Asylums Board. Dr. Goodall thinks that a considerable change of opinion is coming over the medical profession as to the infectiousness of the disease. The old view is by no means supported by modern experience, and it seems that in the fever hospitals of the Metropolitan Asylums Board, during the years from 1882 to 1890, nearly 100 members of the staff, chiefly nurses, developed typhoid fever under conditions which raised grave suspicion that they contracted the disease from their patients, and this in spite of the most stringent precautions. Dr. Goodall's view was shared by almost all the speakers at the debate. If these views are well founded, it is clear that endeavours will have to be made to provide isolation accommodation for typhoid fever to a greater degree than is the case at present.

flies to a greater extent than is credible: & also by the unwashed hands of a careless fever attendant, when preparing or taking food (said to be rare)

- V. Some interesting cases of infection per rectum by means of an enema tube have been recorded by Anderson.

"The man who avoids breathing the exhalations of privies & sewers, who does not <sup>handle</sup> have linen foul with typhoid <sup>de</sup>jections, who does not drink unboiled water from infected springs, is as safe ~~in~~ a place where a typhoid epidemic is raging, as is one when not a case of the disease exists."

(Liebermeister in Von Ziemssen's Cyclop.)

The De novo origin of Enteric Fever from non-enteric decomposing <sup>filth</sup> alone (polluting air, water, etc.) as held by Murchison, is now generally considered to be impossible. The specific microbe causing Enteric Fever (Eberth's Bacillus, discovered 1880) must be admitted within the organism & find a suitable nidus. As Moore says, "Enteric fever arises only when the spores of the specific microbe enter the body, & especially the intestinal canal, of a susceptible individual".

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PART II.

AN ANALYSIS OF 83 CASES.

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In examining a series of cases of Enteric fever, while the great majority as more or less typical & "text-book like", there are sure to be a few cases so mild or brief on the one hand, or <sup>so</sup> ~~as~~ complicated & "mixed" on the other hand, as to warrant doubts being advanced as to their true nature.

Fortunately, in Widal's test we now possess a reliable corroborative means of diagnosis, & I regret that until recently I was unable to resort to it. In fatal cases also, a post-mortem examination would solve the difficulty, where complications have obscured the true diagnosis, but I am unable to include records of a single necropsy.

The 83 cases which I shall now proceed to examine analytically & statistically, embrace mild & severe cases, typical cases & atypical cases, abortive & protracted cases, complicated & fatal cases. With the benefit of Widal's test, & post-mortem examinations, possibly a few cases would be rejected from the category of Enteric Fever. But as the cases on which most doubt can be thrown mostly proved fatal, & on that account militate against a favorable Death-rate, I wish to shew perfect honesty of purpose by including them.

I prefer to use the name "Enteric Fever", as used in the Registrar-General's returns, although it would appear to imply that the fever is the result of characteristic intestinal lesions, & therefore symptomatic, as held in the now exploded Broussais' doctrine. As Osler says "Typhoid fever is no more primarily intestinal than is small-pox primarily a cutaneous disease." "The pathological lesions are not necessarily the disease" but may be "proximate symptoms of the disease" (Gairdner's Lectures).

Still, the other names, "Typhoid Fever" or "Pythogenic fever" are no more correctly descriptive than the popular terms, "slow fever", "low fever", "autumnal or fall fever" or the more technical terms "gastroic fever", "remittent fever"; or the expression "continued fever" so often employed as a cloak for uncertainty & want of specific knowledge.

The clinical definition of Enteric Fever given in Gairdner's lectures on Practice of Medicine is as follows - "A fever most common in Autumn ~~early winter especially after dry, hot weather~~

" & early winter, especially after dry, hot, summers; apt to prevail in particular houses & districts, but only in a limited sense epidemic, & often occurring without distinct evidence of contagious propagation. Course from 2 to 6 weeks. Invasion often insidious, sometimes abrupt, occasionally with epistaxis. Febrile symptoms irregular, often remarkably remittent, & in second or third week "typhoid"

"Leading complications - diarrhoea with ochrey-colored stools, (often popularly called the "pea-soup stools" of typhoid fever); followed in some cases by tympanites, gurgling, & tenderness on pressure in the right iliac fossa: more or less profuse intestinal haemorrhage: or symptoms of peritonitis from perforation.

" A characteristic eruption of rose-spots from the 7th or 8th day onwards, occurring in successive crops until convalescence is begun.

" Crisis indistinct, often lingering, and accompanied by sudamina or slight partial sweats.

" Convalescence uncertain; (relapses not infrequent; sequelae dangerous; often with indefinite prolongation of fever, & organic complications in the abdominal viscera or in the lungs.)"

In 1887 Gairdner said "It is doubtful whether we have a specific parasite in Typhoid" but I believe it is now definitely proved that Eberth's bacillus is the specific microbe causing the disease. Osler says "The bacillus of Eberth is constantly present in the lesions" (Koch & Coats corroborated Eberth's investigations.)

To illustrate the difficulty of arriving at a definite diagnosis in atypical cases, I give two quotations from Murchison. The picture (viz. a clinical picture of a typical case) is susceptible of numerous modifications. There is no disease in fact which exhibits a more protean character from the predominance of certain symptoms, & from the presence of complications; some cases run a very mild course, so that the patient is scarcely confined to bed; some are at first severe & afterwards put on a mild character; others at first mild, undergo a sudden aggravation; while others are severe from first to last. Occasionally acute delirium is observed almost from the commencement; while in many cases there are no cerebral symptoms throughout the attack. Vomiting may

"be a distressing symptom, & diarrhoea may be profuse & constant; (or on the other hand there may be no symptom of Gastric derangement, & the bowels may be constipated from the beginning to the end" (p. 503)"

"No acute disease presents itself under a greater variety of forms than enteric fever. ~~It~~ As in many other diseases of the same class the poison of Enteric fever produces symptoms of a two-fold nature: viz.

"(1) General pyrexia, with derangement of all the bodily functions; (2) local disease in one particular part of the body, which in this case is the ileum.

"In some cases the fever & general symptoms predominate; in others those of the local disease; (in a third class, both are prominently developed; (in a fourth, both occur in the mildest forms; or there may be no symptoms of the local lesion; while in a fifth, the primary disease is obscured by complications," (p. 591).

No.	Name	Age	Sex	1897	Residence	
1	Mrs O'Donnell	28	F	July	Cowpen	Died
2	<del>Wm.</del> Whitton	11	F	,,	Kitty Brewster	,,
3	Geo. Whitton	9	M	,,	,, ,,	
4	Mrs Miller	26	F	,,	Cowpen	Died
5	Wm. Ferguson	20	M	Aug.	,,	
6	Ed. Brewis	17	M	,,	,,	
7	Isaiah Whitton	5	M	,,	Kitty Brewster	
8	John Geo. Whitton	3	M	,,	,, ,,	
9	Winifred Weldon	5	F	,,	,, ,,	
10	Ed. Turner	26	M	,,	Cowpen	
11	Mrs Tudberry	30	F	,,	,,	
12	Mrs Jones	41	F	,,	,,	
13	Jos. Dickinson	26	M	,,	,,	
14	Jas. Tanny	29	M	,,	,,	died
15	Mrs Richardson	25	F	,,	,,	
16	Wm. Ramsay	29	M	,,	,,	
17	Ethel Tudberry	7	F	,,	,,	
18	Richard Weldon	10	M	,,	Kitty Brewster.	
19	Matt. Beecroft	23	M	,,	Beside	
20	Sarah Routledge	5	F	Sept.	,,	
21	Henry Beecroft	7	M	Aug.	Furnace	
22	Jane Beecroft	12	F	Sep.	,,	
23	Ethel Haggarty	11	F	,,	Cowpen	
24	Edith Dickinson	5	F	,,	,,	Died
25	Geo. Ramsay	47	M	,,	Furnace	
26	John Crosby	54	M	Oct.	,,	Died
27	Clarence Peggs	4	M	,,	Cowpen	
28	<u>(self)</u>	31	M	22	,,	
29	Ramsay Routledge	2	M	Nov.	Beside	

No	Name	Age	Sex	1898	Residence
30	Robt. Routledge	8	M	Jan.	Bebside
31	Ed. Summers	33	M	Mar	,,
32	Richard Lee	5	M	June	,,
33	Henry Sharp	12	M	,,	Furnace
34	Jane Hetherington	21	F	July	Cowpen
35	Thos Robson	4	M	,,	Kitty Brewster
36	Sarah Riley	14	F	Aug.	,, ,,
37	Mrs Sharp	38	F	,,	Furnace
38	Bella Jacobson	12	F	,,	Bebside
39	Thos Sharp	47	M	Sep.	Furnace
40	Thos W. Sharp	14	M	,,	,,
41	Isabella Sharp	9	F	,,	,,
42	Geo. Hutchison	42	M	,,	,,
43	Geo Brewis	42	M	,,	Cowpen
44	And. Hutchison	12	M	,,	Furnace
45	Frank O'melia	5	M	,,	New <del>Ham</del> Town
46	Mrs Robson	38	F	,,	Kitty Brewster
47	Ed. Aisbitt	21	M	,,	Furnace
48	Alison McNiven	21	F	Oct	,,
49	Ada Robson	12	F	,,	<del>Ham</del> New Town
50	John Tapson	32	M	,,	Cowpen
51	Henrietta Robson	10	F	,,	New Town
52	Jas Scouler	29	M	,,	Furnace
53	Jas Gray	29	M	,,	Kitty Brewster
54	Mrs Ferguson	36	F	Nov.	Furnace
55	Robt Pattison	23	M	,,	Ky. Brewster farm
56	Geo Campbell	4	M	,,	Cowpen
57	Mabel Green	3	F	,,	,,
58	Mrs Green	20	F	Dec.	,,
59	Isabella Aisbitt	18	F	,,	Furnace

Died

No	Name	Age	Sex	1899	Residence	
60	Lina Green	6	F	Jan.	Cowpen	
61	Mrs Tweddle	58	F	,,	Furnace	sudden death
62	Annie Pattison	28	F	Feb.	Ky Brewster farm	
63	Wm Scott	64	M	Mar	Cowpen	
64	Jane Buckham	2	F	,,	Bebside	Died
65	Ethel Bell	7	F	June	Furnace	
66	Jenny Robinson	2	F	July	,,	
67	Sarah H Dobson	2	F	Aug	,,	
68	Wm Ferguson	35	M	,,	,,	
69	Alice Waite	3	F	,,	,,	
70	Robt E Rutherford	26	M	,,	Kitty Brewster	
71	Robt Agnew	19	M	Sept	Furnace	
72	Arthur Daykin	27	M	,,	Kitty Brewster	
73	David Cheyne	28	M	,,	Bebside	
74	John Geo Walker	3	M	Oct.	,,	sudden death
75	Mary Snow	4	F	Dec.	New Town	Death

No	Name	Age	Sex	1900	Residence	
76	Geo Tungate	14	M	June	New Town	Died
77	Barbara White	3	F	,,	,,	
78	Mary E Forrest	5	F	,,	Cowpen	
78	Edith M Gray	12	F	July	<del>Furnace</del> Kitty Brewster	
80	Geo Tweddle	30	M	,,	Furnace	
81	Thos C Summers	7mos	M	Aug	,,	Died
82	Jas Morton	40	M	,,	Bebside	
83	John Kirkup	18	M	,,	Furnace	

84	Arthur Tungate	5	M	Aug	New Town	cases in
85	Isabella Hogg	16	F	Sep	,, ,,	progress at
86	Mary Baker	2	F	,,	Cowpen	Sep. 15. 1900.
87	Geo. Nichol.	26	M	"	"	Sep. 22.

By Sep. 29, the only case in active progress  
was No 87, the others having got "the turn".

No.	Name	Age	Sex	1903	Residence
50	Lina Green	8	F	Jan.	Cowpen
51	Mrs Tweedle	58	F	Jan.	Furnace
52	Annie Pattison	28	F	Feb.	Ky Bewster Lane
53	Wm Scott	64	M	Mar.	Cowpen
54	Jane Buckham	2	F	..	Bedeale
55	Ethel Bell	7	F	..	Furnace
56	Jenny Robinson	2	F	July	..
57	Sarah H Robinson	2	F	..	..
58	Wm Peterson	35	M	..	..
59	Alice White	3	F	..	..
60	Robt E Rutherford	28	M	..	..
61	Robt Agnew	18	M	..	..
62	Arthur Davkin	27	M	..	..
63	David Gaynes	28	M	..	..
64	John Geo Walker	3	M	..	..
65	Mary Snow	4	F	..	..

No. **44.**

NAME *Andrew Hutchinson*

ADDRESS *Bedeale Furnace.*

OCCUPATION \_\_\_\_\_

AGE 12 SEX \_\_\_\_\_

DISEASE \_\_\_\_\_

RESULT \_\_\_\_\_

No. 191

POCKET CHART  
FOR BEDSIDE CASE TAKING.  
Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
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66	Geo Tunstale	14	M	..	..
67	Barbara White	2	F	..	..
68	Mary E Forrest	8	F	..	..
69	Edith M Gray	10	F	..	..
70	Geo Tweedle	30	M	..	..
71	Thos C Summers	40	M	..	..
72	Jas Horton	40	M	..	..
73	John Kitrup	18	M	..	..
74	Arthur Tunstale	84	M	..	..
75	Isabella Hore	88	F	..	..
76	Mary Ektor	8	F	..	..
77	Geo Walker	28	M	..	..

No. **3.**

NAME *George Whilton.*

ADDRESS *Nitty Binwa.*

OCCUPATION \_\_\_\_\_

AGE 9 yrs. SEX \_\_\_\_\_

DISEASE *Typhoid fever*

HISTORY OF CASE.

WARD BOOK

No. **21.**

NAME *Henry Beccoff.*

ADDRESS *Bedeale Furnace.*

OCCUPATION \_\_\_\_\_

AGE 7 SEX \_\_\_\_\_

DISEASE *At first supposed Tubercular broncho-pneumonia. Really Typhoid fever*

RESULT *Recovery in 4 weeks*

No. 191

POCKET CHART  
FOR BEDSIDE CASE TAKING.  
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TREATMENT.

*Slyc. ac. carbolic.*

*m.V. every 4 hours*

*Salol. 5pa twice daily.*

*Salol. 5pa. t. i. d.*

*Stop Salol.*

re by multiplying

fication, with mod-

ates in two, or three

estinal lesion never

imited extent. Such

f absence of typical

r under such names

h" or "gastric fever,"

inued fever," "slow

etc. The occurrence

ttention to their

l) was seized with

oum tenens certified

is having been made.

the District, though

apidly developed. The true nature of the

es No 3, 7, & 8, shortly developed in the same

house below. No doubt the excreta from

ed in the common privy & filthy leaking ash-

disinfection.

from the beginning marked pulmonary symptoms

ptoms, was not relegated to its proper place

o other occupants of the same house (No's 22

fever, undoubtedly of a typhoid character.

not notified by my locum tenens, although

true nature, seeing that it was preceded by

(No 20) & followed by a fatal haemorrhagic

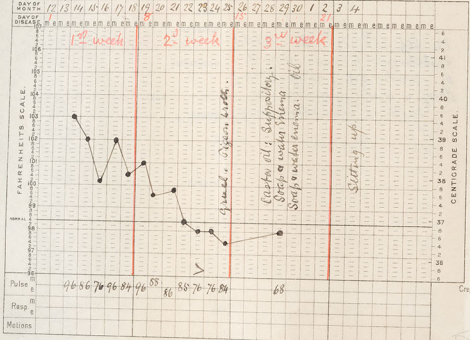
house. The nature of case No 35 though sus-

until his mother (No 48) developed true Enteric

"slow fever" (a popular term which always

No.	Name	Age	Sex	1898	Residence
80	Lina Green	6	F		Cowpen
81	Mrs Tebbie	68	F		Turnage
82	Annie Pattison	58	F		W. Brewster lane
83	Wm Scott	54	M		Cowpen
84	Jane Buckham	2	F		Epelade
85	Ethel Bell	7	F		Turnage
86	Lena Robinson	2	F		"

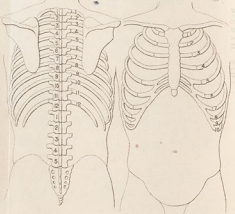
244 W.P. 1898 Andrew Hutchinson, age 12. Betelide Furnace.



REMARKS  
 Ill since Monday, 12<sup>th</sup> Sep. - tired, no appetite, headache, & lay  
 around the house.

NURSES INSTRUCTIONS, DIETARY &...

METHOD OF INDICATING PHYSICAL SIGNS.  
 Chestnut C. Rules R. Friction - Cardiac C. Consolidation H. Fluid W.  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible M.



George Whilton, No. 3.  
 ADDRESS: Betty Brewster.  
 OCCUPATION:  
 AGE: 9 yrs. SEX:  
 DISEASE: Typhoid Fever

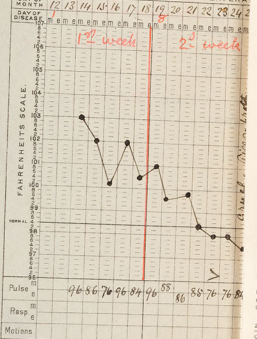
TREATMENT:  
 - Slop. ac. barbitic.  
 - M.I. every 4 hours  
 - Salol. 5 po. twice daily.  
 - Salol. 5 po. t.i.d.  
 - Stop Salol.

HISTORY OF CASE.

Henry Baccroft, No. 21.  
 ADDRESS: Betelide Furnace  
 OCCUPATION:  
 AGE: 7. SEX:  
 DISEASE: At father supposed tubercular broncho pneumonia.  
 Health Typhoid Fever.  
 RESULT: Recovery in 4<sup>th</sup> week.

...fication, with mod-  
 ...ates in two, or three  
 ...estinal lesion never  
 ...lited extent. Such  
 ...f absence of typical  
 ...r under such names  
 ...h" or "gastric fever,"  
 ...lued fever," "slow  
 ...etc. The occurrence  
 ...ttention to their  
 ...was seized with  
 ...um tenens certified  
 ...is having been made.  
 ...the District, though  
 ...apidly developed. The true nature of the  
 ...es No 3, 7, & 8, shortly developed in the same  
 ...house below. No doubt the excreta from  
 ...ed in the common privy & filthy leaking ash-  
 ...disinfection.  
 ...from the beginning marked pulmonary symptoms,  
 ...ptoms, was not relegated to its proper place  
 ...o other occupants of the same house (No's 22  
 ...fever, undoubtedly of a typhoid character.  
 ...not notified by my locum tenens, although  
 ...true nature, seeing that it was preceded by  
 ... (No 20) & followed by a fatal haemorrhagic  
 ...house. The nature of case No 35 though sus-  
 ...until his mother (No 48) developed true Enteric  
 ..."slow fever" (a popular term which always

1898 Andrew Frith



Rel. aemia Monday 12<sup>th</sup> Sep. when the house.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

HISTORY OF CASE  
 No. 21. mella gave after  
 with medicine on 12<sup>th</sup> Sep.  
 Sep. 14 - Tenderness of abdomen.  
 Sep. 21 - Demanding food.

No.	Name	Age	Sex	1898	Residence
80	John Green	6	F	Jan	Cooper
81	Mrs Tweddle	58	F	Feb	Turnace
82	Angie Pattison	58	F	Feb	Ly Weaver Lane
83	Mr Scott	84	M	Mar	Cooper
84	Jane Bucknam	8	F	Mar	Cooper
85	Edna Bell	7	F	Mar	Cooper
86	Jenny Robinson	3	F	Mar	Cooper
87	Grace H. Hobson	3	F	Mar	Cooper
88	Wm Ferguson	38	M	Mar	Cooper
89	Alice White	3	F	Mar	Cooper
90	Robt E. Rutherford	38	M	Mar	Cooper
91	Robt Agnew	19	M	Mar	Cooper
92	Arthur Daykin	27	M	Mar	Cooper
93	David Grayson	28	M	Mar	Cooper
94	John Geo Walker	8	M	Mar	Cooper
95	Mary Snow	4	F	Mar	Cooper

No.	Name	Age	Sex	1898	Residence
96	Geo Tongate	14	M	Mar	Cooper
97	Garbair White	3	F	Mar	Cooper
98	Mary E. Forster	3	F	Mar	Cooper
99	Edith M. Gray	12	F	Mar	Cooper
80	Geo Tweddle	58	F	Feb	Turnace
81	Thos C. Somers	40	M	Mar	Cooper
82	Jas Norton	40	M	Mar	Cooper
83	John Kirkup	18	M	Mar	Cooper

No. 3.  
 NAME George Whetton.  
 ADDRESS Kitty Brewster.  
 OCCUPATION  
 AGE 9 yrs. SEX  
 DISEASE Typhoid Fever

HISTORY OF CASE.

No. 21.  
 NAME Henry Beatty.  
 ADDRESS Bebridge Furnace.  
 OCCUPATION  
 AGE 7. SEX  
 DISEASE  
 RESULT Recovery in 4<sup>th</sup> week.

TREATMENT.  
 - Slys. ac. carbolic.  
 - m. l. every 4 hours  
 =  
 - Salol. 5-gr. twice daily.  
 - Salol. 5-gr. t. i. d.  
 - Stop Salol.

... by multiplying  
 ... floatation, with mod-  
 ... (Case 6)  
 ... nates in two or three  
 ...estinal lesion never  
 ... limited extent. Such  
 ... of absence of typical  
 ... r under such names  
 ... h" or "gastric fever"  
 ... ined fever," "slow  
 ... etc. The occurrence  
 ... attention to their  
 ... was seized with  
 ... sum tenens certified  
 ... s having been made.  
 ... the District, though  
 ... rapidly developed. The true nature of the  
 ... es No 3, 7, & 8, shortly developed in the same  
 ... house below. No doubt the excreta from  
 ... ed in the common privy & filthy leaking ash-  
 ... disinfection.  
 ... from the beginning marked pulmonary symptoms  
 ... ptoms, was not relegated to its proper place  
 ... to other occupants of the same house (No's 22  
 ... fever, undoubtedly of a typhoid character.  
 ... s not notified by my locum tenens, although  
 ... true nature, seeing that it was preceded by  
 ... e (No 20) & followed by a fatal haemorrhagic  
 ... house. The nature of case No 35 though sus-  
 ... until his mother (No 48) developed true Enteric  
 ... "slow fever" (a popular term which always



No. 44.  
 NAME Andrew Hutchinson  
 ADDRESS Rebaisde Furnace.  
 OCCUPATION \_\_\_\_\_  
 AGE 12 SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_

HISTORY OF CASE.

From first attendance on Aug. 23 - the symptoms were continuous fever, with Bronchitis & Broncho-pneumonic signs in the lungs, especially right. Pulse very faint. Constipation. No abdominal pain. No epistaxis. Weak. Anorexia. Tubercular mischief suspected. On a sister taking in on Sep. 6, a diagnosis of Typhoid was made.  
 Sep. 10 - Several rose spots. One still visible.  
 Sep. 23 - Conv. gone. Sitting up. Costive.  
 Sep. 26 - Improving steadily.  
 Slow pulse. Good appetite.  
 Oct. 15 - Well.

TREATMENT.

Ferripyre a expectorant. Minutens had been given previous to diagnosis of Typhoid. - e.g. Speccac, Nitre Spittle, or Carbolic.  
 Sep. 11 - Salol 3 gr. t.i.d.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

Form Compiled by John W.

No. 3.  
 NAME George Whitten.  
 ADDRESS 1117 1/2 Biwata.  
 OCCUPATION \_\_\_\_\_  
 AGE 9 yrs. SEX \_\_\_\_\_  
 DISEASE Typhoid Fever

HISTORY OF CASE.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

TREATMENT.

Slyc. ac. carbolic.  
m.V. every 4 hours  
 =  
Salol. 5 gr. t.i.d.  
Salol. 5 gr. t.i.d.  
Stop Salol.

37.

re by multiplying

fication, with mod-

Case 46  
 nates in two or three  
 estinal lesion never  
 limited extent. Such  
 of absence of typical  
 or under such names  
 "h", or "gastric fever",  
 "inued fever," "slow  
 etc. The occurrence  
 attention to their  
 l) was seized with  
 cum tenens certified  
 is having been made.  
 the District, though

rapidly developed. The true nature of the  
 es No 3, 7, & 8, shortly developed in the same  
 house below. No doubt the excreta from  
 ed in the common privy & filthy leaking ash-  
 disinfection.

from the beginning marked pulmonary symptoms  
 ptoms, was not relegated to its proper place  
 o other occupants of the same house (No's 22  
 fever, undoubtedly of a typhoid character.)

Likewise case No 29 was not notified by my locum tenens, although  
 there was no doubt of its true nature, seeing that it was preceded by  
 a protracted & severe case (No 20) & followed by a fatal haemorrhagic  
 case (No 30) in the same house. The nature of case No 35 though sus-  
 picious, was not confirmed until his mother (No 46) developed true Enteric  
 fever.

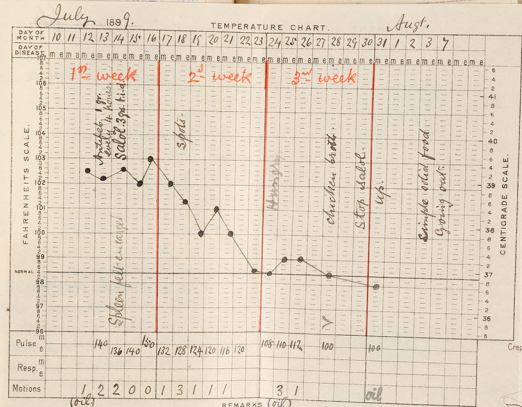
Case No 57 was classed as "slow fever" (a popular term which always

NAME *George Whiston* No. *3.*  
 ADDRESS *St. V. every 4 hours*  
 OCCUPATION  
 AGE *9 yrs.* SEX  
 DISEASE *Typhoid fever*

TREATMENT.  
*Slyc. ac. Carbolic.*  
*m.V. every 4 hours*  
 =  
*Salol. Sp. twice daily.*  
*Salol. Sp. t.i.d.*  
 - *Stop Salol.*

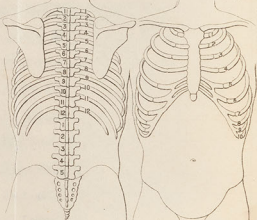
No. *44.*  
 NAME *Andrew Hutchinson*  
 ADDRESS *Bebaide Furnace.*  
 OCCUPATION  
 AGE *12* SEX  
 DISEASE  
 RESULT

POCKET CHART  
 FOR BEDSIDE CASE TAKING  
 Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
 John Wright & Co. Publishers, Bristol.  
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First eruption from loosened & faint in bowels on July 10<sup>th</sup>,  
 malaise for a few days previously.

METHOD OF INDICATING PHYSICAL SIGNS:  
 Cerebrus C. Rates R. Friction: Cavitus C. Cavities M. Fluid M.  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible (M)



Likewise case No 29 was not notified by my locum tenens, although there was no doubt of its true nature, seeing that it was preceded by a protracted & severe case (No 20) & followed by a fatal haemorrhagic case (No 30) in the same house. The nature of case No 35 though suspicious, was not confirmed until his mother (No 46) developed true Enteric fever.

Case No 57 was classed as "slow fever" (a popular term which always

(66) or three on never mt. Such of typical ch names tric fever, r, "slow occurrence to their zed with s certified been made. ric, though ure of the in the same reta from eaking ash- ry symptoms roper place use (No's 22 character.)

re by multiplying  
 fication, with mod-

No	Name	Age	Sex	1892	Residence
80	Lina Green	6	F	Jan.	Cowpen
81	Mrs Tweddie	58	F	..	Furzees
82	Annie Pattison	28	F	Feb.	Ky Brewster lane
83	Wm Scott	84	M	Mar	Cowpen
84	Jane Buckham	7	F	..	Boardside
85	Ethel Bell	7	F	June	Furzees
86		8	F	July	..

George Whittton, No. 3.  
 NAME  
 ADDRESS *King Brewery.*  
 OCCUPATION  
 AGE *9 yrs.* SEX  
 DISEASE *Typhoid Fever*  
 RESULT *Recovery.*

TREATMENT.  
 - *Slyc. ac. carbolic*  
*m.V. every 4 hours*  
 =  
 - *Salol. 3. po twice daily.*  
 - *Salol. 3. po. t. i. d.*  
 - *Stop Salol.*

HISTORY OF CASE.

TREATMENT.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

FOR & Compiled by R.O.I. John Wright

Case 66  
 dates in two or three  
 estinal lesion never  
 limited extent. Such  
 of absence of typical  
 or under such names  
 h" or "gastric fever,"  
 inued fever" "slow  
 etc. The occurrence  
 tention to their  
 l) was seized with  
 cum tenens certified  
 is having been made.  
 the District, though

very soon after new cases rapidly developed. The true nature of the case was revealed when cases No 37 & 8, shortly developed in the same house, & cases 9 & 18 in the house below. No doubt the excreta from the first case were deposited in the common privy & filthy leaking ash-pit without any thought of disinfection.

Again, case No 21, showed from the beginning marked pulmonary symptoms & absence of abdominal symptoms, was not relegated to its proper place as a Typhoid case until two other occupants of the same house (No's 22 & 25) developed continued fever, undoubtedly of a typhoid character.

Likewise case No 29 was not notified by my locum tenens, although there was no doubt of its true nature, seeing that it was preceded by a protracted & severe case (No 20) & followed by a fatal haemorrhagic case (No 30) in the same house. The nature of case No 35 though suspicious, was not confirmed until his mother (No 46) developed true Enteric fever.

Case No 57 was classed as "slow fever" (a popular term which always



HISTORY OF CASE.

Wentwell since 22<sup>nd</sup> July, 1917.  
 Took to bed on 24<sup>th</sup> -  
 July 25. - Abdominal pain, tongue  
 white coated, moist; bed at 10  
 o'clock.  
 Aug. 2. - Some abdom. distension.  
 Spleen & liver tender & swollen.  
 Aug. 4. - Slight typhoidosis. Abdom.  
 vital distension.  
 Aug. 6. - In faecis. Wants food.  
 Aug. 10. - In fear of removal to  
 Hospital. No rise of Temp. P.  
 Aug. 18. - No pulmonary cause  
 for rise of Temp. Slight cough. Tongue  
 clean.  
 Aug. 22. - Pulse markedly feeble.  
 Clean tongue. Brand's ordered.  
 Aug. 23. - Slight typhoidosis.  
 Aug. 24. - Much better.  
 Sep. 4. - Continues well.  
 Sep. 16. - Has been out,  
 dressed.  
 Sep. 23. - Running about  
 freely.

TREATMENT.

Aug. 2. - Slight ac. bacilli  
 m.l. every 4 hours  
 =  
 Aug. 17. - Salol. S'po tonic Salol.  
 - 16. - Salol. S'po. l. i. d.  
 Sep. 4. - Slight Salol.

TREATMENT.

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE \_\_\_\_\_ SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_

POCKET CHART  
 FOR MEDICAL CASE TAKING  
 Compiled by ROBERT SIMPSON, L.R.C.P.  
 John Wright & Co. Publishers, 2  
 CROWN COURT, LONDON, E.C. 4.  
 COPYRIGHT.

PART II.

VARIETIES OF ENTERIC FEVER.

-1-1-1-1-

It is possible to introduce confused nomenclature by multiplying unnecessarily the varieties of the disease.

Authors generally approve of Murchison's classification, with modifications.

1. THE MILD AND ABORTIVE FORMS. - The fever terminates in two or three weeks (rarely one to two weeks), and probably the intestinal lesion never reaches the stage of ulceration, or only to a very limited extent. Such cases are apt to escape true diagnosis, on account of absence of typical symptoms & of early defervescence, being passed over under such names as "feverish cold", "mild influenza", "gastric catarrh", or "gastric fever", "feverish diarrhoea", "simple febricula", "simple continued fever", "slow fever", "remittent fever", "feverish bilious attack" etc. The occurrence of one or more cases in the same house would draw attention to their true nature. For example Case No. two (a girl aged 1) was seized with rather abrupt illness & died in 6 days; & yet my locum tenens certified death as due to acute pneumonia, no definite diagnosis having been made.

Enteric fever was not at this time prevalent in the District, though very soon after new cases rapidly developed. The true nature of the case was revealed when cases No. 7, & 8, shortly developed in the same house, & cases 9 & 18 in the house below. No doubt the excreta from the first case were deposited in the common privy & filthy leaking ash-pit without any thought of disinfection.

Again, case No. 21, showed from the beginning marked pulmonary symptoms & absence of abdominal symptoms, was not relegated to its proper place as a Typhoid case until two other occupants of the same house (No's 22 & 25) developed continued fever, undoubtedly of a typhoid character.

Likewise case No. 29 was not notified by my locum tenens, although there was no doubt of its true nature, seeing that it was preceded by a protracted & severe case (No 20) & followed by a fatal haemorrhagic case (No 30) in the same house. The nature of case No. 35 though suspicious, was not confirmed until his mother (No 46) developed true Enteric fever.

Case No. 57 was classed as "slow fever" (a popular term which always

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 Compiled by ROBERT  
 John Wright

VARIETIES OF ENTERIC FEVER.

-1-1-1-1-1-

It is possible to introduce confused nomenclature by multiplying unnecessarily the varieties of the disease.

Authors generally approve of Murchison's classification, with modifications.

1. THE MILD AND ABORTIVE FORMS. The fever terminates in two <sup>Case 66</sup> or three weeks (rarely one to two weeks <sup>Case 44</sup>), & probably the intestinal lesion never reaches the stage of ulceration, or only to a very limited extent. Such cases are apt to escape true diagnosis, on account of absence of typical symptoms & of early defervescence, being passed over under such names as "feverish cold", "mild Influenza", "gastric catarrh", or "gastric fever", "feverish diarrhoea", "simple febriculâ", "simple continued fever", "slow fever", "remittent fever", "feverish bilious attack", etc. The occurrence of one or more cases in the same house would draw attention to their true nature. For example Case No. two (a girl aged 11) was seized with rather abrupt illness & died in 6 days: & yet my locum tenens certified death as due to acute pneumonia, no definite diagnosis having been made.

Enteric fever was not at this time prevalent in the District, though very soon after new cases rapidly developed. The true nature of the case was revealed when cases No 3, 7, & 8, shortly developed in the same house, & cases 9 & 18 in the house below. No doubt the excreta from the first case were deposited in the common privy & filthy leaking ash-pit without any thought of disinfection.

Again, case No 21, <sup>ing</sup> showed from the beginning marked pulmonary symptoms & absence of abdominal symptoms, was not relegated to its proper place as a Typhoid case until two other occupants of the same house (No's 22 & 25) developed continued fever, undoubtedly of a typhoid character.

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Case No 57 was classed as "slow fever" (a popular term which always

PART II.

(Typhoid) until her mother (No 58) & her sister continued fever; (then the series of three al, justified the diagnosis of Enteric fever. ys borne in mind & found useful, is this;+ ng for four days or five days without any se is probably either typhoid or tuberculosis"

s test will prove of inestimable value in to fever, though mild or brief in character. more than one sample of blood examined. the blood being taken on the 14th day, during I did not have the examination repeated, was a true case of Enteric Fever. ) was only febrile for 11 days with tympanites, n; (the early defervescence cast doubt on the e day after the temperature reached normal

r abortive forms number 17, or 20.5%. ses was 14.6 years. 10 were children g with Moore's statement that such cases 10 were males & 7 females. vered rapidly on the 8th day. Four cases ys. Twelve cases recovered in 15 to symptoms were mild or only of moderate aged 36), reached normal in 18 days, though ngs & prostration, but moderate fever. ated in 20 days though definite pneumonia vere; & No 82 mild), which afterwards rel- st attack in 14 days.

ABORTIVE FORMS. Under this group are included c; & haemorrhagic forms. The "ataxia" e sometimes called "Brain fever." Most to a secondary infection of septic nature:

NAME *Barbara White.* No 77.  
ADDRESS *33 John St.  
Coopen New Town*  
OCCUPATION

AGE *3 1/4* SEX *F.*  
DISEASE *Typhoid fever.  
(Pulmonary catarrh).  
Widal's Reaction negative*  
RESULT *Recovery.  
Fever = 15 days.  
Recrudescence in relation = 8 days*

NAME *Mary Baker.* No 86.  
ADDRESS *16 Price's Buildings  
Coopen Village*  
OCCUPATION  
AGE *2.* SEX *F.*  
DISEASE *Enteric fever.*

NAME *Alice Waite.* No 69.  
ADDRESS *Belside Furnace.*  
OCCUPATION  
AGE *3 1/2 yrs* SEX  
DISEASE *Aborted Typhoid.*  
RESULT *Recovery.*

*Diagnosis based on high fever, abdominal pain, enlargement of spleen, & absence of any local disease.*

## PART II.

NAME *Barbara White.* NT 77.  
 ADDRESS *35 John St.  
 Coacopan New Town*  
 OCCUPATION  
 3 1/4 AGE SEX F.  
 DISEASE *Typhoid Fever.  
 (Pulmonary catarrh).  
 Widal's Reaction negative*  
 RESULT *Recovered.  
 Fever = 15 days.  
 Recovery in convalescence = 8 days  
 Interval = 5 days.*

## Salol treatment.

POCKET CHART  
 FOR BEDSIDE CASE TAKING  
 Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
 JANE WRIGHT & Co. Publishers, Bristol  
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Case No 69 (a girl of 3), recovered rapidly on the 8th day. Four cases ended favorably in 12 to 14 days. Twelve cases recovered in 15 to 21 days.

In most of these cases the symptoms were mild or only of moderate severity. Case No 54 (woman aged 36), reached normal in 18 days, though attended with diarrhoea, sweatings & prostration, but moderate fever. Case No 67 (girl aged 2) terminated in 20 days though definite pneumonia had developed.

In addition, two cases, (No 17 severe; & No 82 mild), which afterwards relapsed, reached normal in the first attack in 14 days.

§ 11. THE GRAVE & ACUTE OR SEVERE FORMS. Under this group are included the "bilious", adynamic, "ataxic" & haemorrhagic forms. The "ataxic" forms is said by Murchison to be sometimes called "Brain fever". Most of these severe forms are due to a secondary infection of septic nature:

## PART II.

## VARIETIES OF ENTERIC FEVER.

## TREATMENT.

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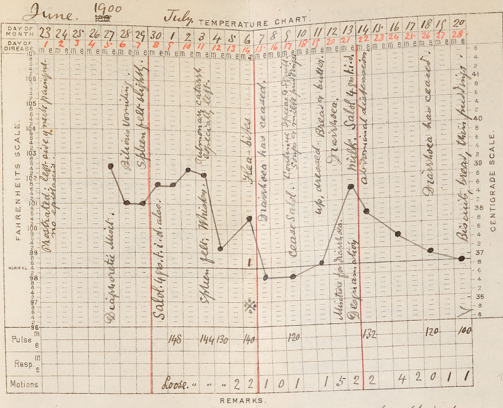
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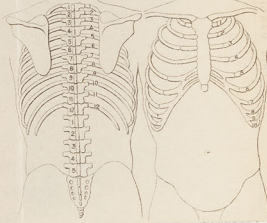
VA 3433



REMARKS.

July 6 - Blood taken for Widal's Test. - No reaction obtained  
 July 23 - Up. No diarrhoea. Aug. 2 - Feeling almost as though  
 July 3 - Mottles on wrist passed in bed.  
 July 13 - Skin peeling off hands & arms.

METHOD OF INDICATING PHYSICAL SIGNS.  
 Crepitas C. Rales R. Friction F. Cavities C. Consolidation  Fluid  
 CARDIAC MURMURS  
 Point of greatest intensity. W. Area over which it is audible



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Case No 69 (a girl of 3), recovered rapidly on the 8th day. Four cases ended favorably in 12 to 14 days. Twelve cases recovered in 15 to 21 days.

In most of these cases the symptoms were mild or only of moderate severity. Case No 54 (woman aged 36), reached normal in 18 days, though attended with diarrhoea, sweatings & prostration, but moderate fever. Case No 67 (girl aged 2) terminated in 20 days though definite pneumonia had developed.

In addition, two cases, (No 17 severe; & No 82 mild), which afterwards relapsed, reached normal in the first attack in 14 days.

11. THE GRAVE & ACUTE OR SEVERE FORMS. Under this group are included the "bilious, adynamic, ataxic, & haemorrhagic forms. The "ataxic" form is said by Murchison to be sometimes called "Brain fever" Most of these severe forms are due to a secondary infection of septic nature:

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PART II.

conveys the suspicion of Typhoid) until her mother (No 53) & her sister (No 60) took to bed with continued fever; then the series of three similar cases, though atypical, justified the diagnosis of Enteric fever.

A rule, which I have always borne in mind & found useful, is this;— "that any acute fever lasting for four days or five days without any rash or obvious local disease is probably either typhoid or tuberculosis" (Carter's "Elements").

In such cases, also, Widal's test will prove of inestimable value in the diagnosis of true Enteric fever, though mild or brief in character. It may be necessary to have more than one sample of blood examined. Case No 77 gave no reaction, the blood being taken on the 14th day, during defervescence: I regret that I did not have the examination repeated, though I have no doubt it was a true case of Enteric Fever.

Case No 88 (a child aged 2) was only febrile for 11 days with tympanites, diarrhoea, and enlarged spleen; the early defervescence cast doubt on the diagnosis, but blood taken the day after the temperature reached normal gave Widal's reaction.

From my 83 cases the mild or abortive forms number 17, or 20.5%.

The average age of these cases was 14.6 years. 10 were children under 15 years of age, agreeing with Moore's statement that such cases are more common in children. 10 were males & 7 females.

Case No 69 (a girl of 3), recovered rapidly on the 8th day. Four cases ended favorably in 12 to 14 days. Twelve cases recovered in 15 to 21 days.

In most of these cases the symptoms were mild or only of moderate severity. Case No 54 (woman aged 36), reached normal in 18 days, though attended with diarrhoea, sweatings & prostration, but moderate fever. Case No 67 (girl aged 2) terminated in 20 days though definite pneumonia had developed.

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PART II.

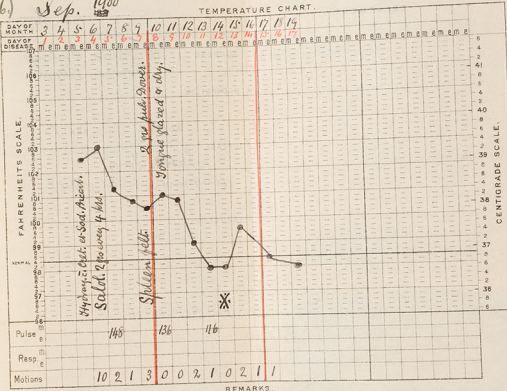
NAME *Barbara White.* No. *77.*  
 ADDRESS *35 John St. Coopers New Town*  
 OCCUPATION  
 AGE *3 1/4* SEX *F*  
 DISEASE *Typhoid fever.*  
*(Pulmonary catarrh).*  
*Widal's Reaction negative*  
 RESULT *Recovery.*  
*Febrile 15 days.*  
*Reconvalescence 8 days*

typhoid) until her mother (No 58) & her sister continued fever; then the series of three al, justified the diagnosis of Enteric fever. ys borne in mind & found useful, is this: 4 ng for four days or five days without any se is probably either typhoid or tuberculosis"

s test will prove of inestimable value in to fever, though...

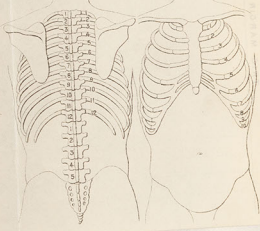
NURSES INSTRUCTIONS, DIETARY &c.

(86.) Sep. 1900



REMARKS  
 \* Blood taken for Widal's Test, which was positive.  
 No spots: no epistaxis.  
 Child backward in development - has no molars or canines: no speech.  
 Stools green and curdy. Micturition 9 times & urine passed in cradle.

METHOD OF INDICATING PHYSICAL SIGNS.  
 Crepitus C. Rubor R. Friction: F. Cavities III. Consolidation IIII. Fluid  
 CARDIAC MURMURS: M. Area over which it is audible M.  
 Point of greatest intensity M. Area over which it is audible M.



II. THE GRAVE & ACUTE OR SEVERE FORMS. Under this group are included the "bilious"; adynamic; "ataxic"; & haemorrhagic forms. The "ataxic" form is said by Murchison to be sometimes called "Brain fever". Most of these severe forms are due to a secondary infection of septic nature:



PART II.

NAME *Barbara White* NO. *77.*  
 ADDRESS *35 John St.  
 Coopers New Down*  
 OCCUPATION  
 3 1/2 AGE SEX *F.*  
 DISEASE *Typhoid fever.  
 (Pulmonary catarrh).  
 Widal's Reaction negative*  
 RESULT *Recovery.  
 Fever = 15 days.  
 Recurrence = 2 weeks - 8 Jan*  
 NO. *86.*  
 NAME *Mary Baker*  
 ADDRESS *No 17 Dicks Buildings  
 Coopers Village*  
 OCCUPATION  
 AGE *2.* SEX *F.*  
 DISEASE *P. Seric Fever*

Typhoid) until her mother (No 58) & her sister continued fever; then the series of three al, justified the diagnosis of Enteric fever. ys borne in mind & found useful, is this: 4 ng for four days or five days without any se is probably either typhoid or tuberculosis"

test will prove of inestimable value in fe fever, though mild or brief in character. more than one sample of blood examined. the blood being taken on the 14th day, during I did not have the examination repeated, was a true case of Enteric Fever. was only febrile for 11 days with tympanites, n; (the early deferescence cast doubt on the e day after the temperature reached normal

NAME *Alice Waite* NO. *69.*  
 ADDRESS *Belvide Furnace.*  
 OCCUPATION  
 AGE *3 1/2 yrs* SEX  
 DISEASE *Abortid Typhoid.*  
 RESULT *Recovery.*  
*Diagnosis based on high  
 fever, abdominal pain, enlarge-  
 ment of spleen, & absence  
 of any local disease.*

er abortive forms number 17, or 20.5%. cases was 14.6 years. 10 were children ng with Moore's statement that such cases 10 were males & 7 females. vered rapidly on the 8th day. Four cases ys. Twelve cases recovered in 15 to symptoms were mild or only of moderate aged 36), reached normal in 18 days, though ngs & prostration, but moderate fever. nated in 20 days though definite pneumonia vere; & No 82 mild, which afterwards rel- st attack in 14 days.

ERE FORMS. Under this group are included c" & haemorrhagic forms. The "ataxia" e sometimes called "Brain fever" Most to a secondary infection of septic nature:

PART II.

VARIETIES OF ENTERIC FEVER.

It is possible to introduce confused nomenclature by multiplying unnecessarily the varieties to the diseases. Authors generally approve of Murphison's classification, with modifications. The mild and abortive forms. weeks (rarely one to two weeks) & probably the intestinal lesion never reaches the stage of ulceration or only to a very limited extent. Cases are apt to escape the diagnosis on account of absence of typical symptoms & to early defecation, being passed over under names as "everish cold," "catarrh of the intestinal tract," "catarrh of the stomach," "everish diarrhoea," "simple catarrh of the large intestine," "everish fever," "menstrual fever," "everish bilious attack," etc. The occurrence of one or more cases in the same house would draw attention to their true nature. For example Case No. two (a girl aged 17 years) with rather abrupt illness & died in 8 days; & yet my own reports detailing death as due to acute pneumonia no definite diagnosis having been made. Enteric fever was not at this time present in the District, though very soon after new cases rapidly developed. The true nature of the case was revealed when cases No. 57 & 58 shortly developed in the same house & cases 9 & 18 in the house below. No doubt the excretion of the first case was deposited in the common privy & filthy looking and did without my thought of distinction. Again, case No. 51 showed the characteristic marked ordinary symptoms & absence of abdominal symptoms, was not related to its proper place as a Typhoid case until two other occupants of the same house (No's 52 & 53) developed continued fever, undoubtedly of typhoid character. Likewise case No. 52 was not noticed by my former student, although there was no doubt of its true nature seeing that it was preceded by a protracted & severe case (No. 50) & followed by a fatal haemorrhagic case (No. 50) in the same house. The nature of case No. 52 though unknown was not confirmed until his mother (No. 48) developed the Enteric fever. Case No. 54 was classed as "low fever" (a popular term which always

PART II.

NAME Barbara White No. 77.  
ADDRESS 35 John St.  
Coopers New Down

OCCUPATION  
AGE 3 1/4 SEX F.  
DISEASE Typhoid Fever.  
(Pulmonary catarrh).  
Widal's Reaction negative

RESULT  
Recovery.  
Fever = 15 days.  
Micrococci in urine = 8 Dec.  
No. 86.

NAME Mary Baker.  
ADDRESS 16 Priests Buildings  
Coopers Village

OCCUPATION  
AGE 2. SEX F.  
DISEASE Enteric Fever

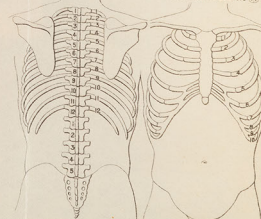
Typhoid) until her mother (No 58) & her sister continued fever; then the series of three al, justified the diagnosis of Enteric fever. ys borne in mind & found useful, is this: 4 ng for four days or five days without any se is probably either typhoid or tuberculosis"

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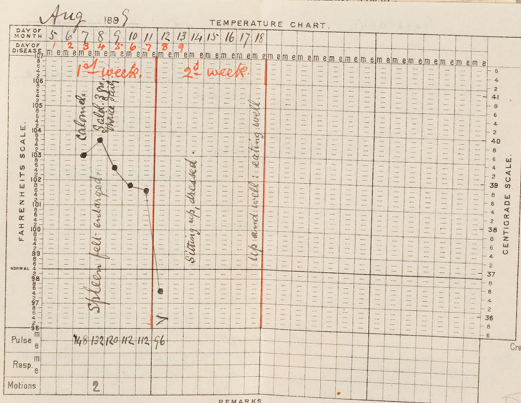
NURSES INSTRUCTIONS, DIETARY &c.

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METHOD OF INDICATING PHYSICAL SIGNS.  
Crepitus C. Rales R. Friction F. Cardiac Murmurs M. Fluid Consolidation H. Fluid  
Point of greatest intensity M. Area over which it is audible M.



rards rel-  
re included  
"ataxia"  
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ic nature:



Remarks:  
Took all on 5<sup>th</sup> Aug - fever, raving, abdominal pain.  
Aug. 8 - Spleen distinctly felt at margin of ribs.  
No evidence whatever of Grammaia.

...PART II...  
...VARIETIES OF ENTERIC FEVER...  
...It is possible to introduce confused nomenclature by multiplying...  
...The lever terminates in two or three...  
...weeks, (rarely one to two weeks)...  
...regards the stage of ulceration or only to a very limited extent...  
...not to escape the diagnosis on account of absence of...  
...asymptoms & of early deference, being passed over under such names...  
...as "typhoid cold", "mild influenza", "catarrh of catarrh" or "catarrh of...  
...typhoid diarrhoea", "simple typhoid", "simple typhoid fever", "catarrh of...  
...typhoid fever", "typhoid fever", "typhoid fever", etc. The confusion...  
...in the same house would draw attention to it...  
...cases No. 2 & 3...  
...died in 6 days; & yet my local typhoid...  
...pneumonia...  
...not at this time prevalent in the District...  
...was rapidly developed...  
...cases No. 3, 4, & 5 shortly developed in the same...  
...in the house below...  
...located in the common entry & little...  
...to distinction...  
...swollen...  
...symptoms was not repeated to its proper place...  
...the other occupants of the same house (No. 2)...  
...was never...  
...was not notified by my locum tenens...  
...the true nature...  
...case (No. 20) & followed by a fatal...  
...me...  
...med until his mother (No. 45) developed...  
...as "low fever" (a popular term which always



## PART II.

conveys the suspicion of Typhoid) until her mother (No 58) & her sister (No 60) took to bed with continued fever; (then the series of three similar cases, though atypical, justified the diagnosis of Enteric fever.

A rule, which I have always borne in mind & found useful, is this;— "that any acute fever lasting for four days or five days without any rash or obvious local disease is probably either typhoid or tuberculosis" (Carter's "Elements").

In such cases, also, Widal's test will prove of inestimable value in the diagnosis of true Enteric fever, though mild or brief in character. It may be necessary to have more than one sample of blood examined. Case No (77) gave no reaction, the blood being taken on the 14th day, during defervescence: I regret that I did not have the examination repeated, though I have no doubt it was a true case of Enteric Fever.

Case No (86) (a child aged 2) was only febrile for 11 days with tympanites, diarrhoea, and enlarged spleen; (the early defervescence cast doubt on the diagnosis, but blood taken the day after the temperature reached normal gave Widal's reaction.

From my 83 cases the mild or abortive forms number 17, or 20.5%.

The average age of these cases was 14.6 years. 10 were children under 15 years of age, agreeing with Moore's statement that such cases are more common in children. 10 were males & 7 females.

Case No (69) (a girl of 3), recovered rapidly on the 8th day. Four cases ended favorably in 12 to 14 days. Twelve cases recovered in 15 to 21 days.

In most of these cases the symptoms were mild or only of moderate severity. Case No 54 (woman aged 36), reached normal in 18 days, though attended with diarrhoea, sweatings & prostration, but moderate fever. Case No 67 (girl aged 2) terminated in 20 days though definite pneumonia had developed.

In addition, two cases, (No 17 severe; & No 82 mild), which afterwards relapsed, reached normal in the first attack in 14 days.

II. THE GRAVE & ACUTE OR SEVERE FORMS. Under this group are included the "bilious", adynamic, "ataxic", & haemorrhagic forms. The "ataxic" form is said by Murchison to be sometimes called "Brain fever". Most of these severe forms are due to a secondary infection of septic nature:

NAME *James Scouler* No. *52.*  
 ADDRESS *Bebside Furnace.*  
 OCCUPATION  
 AGE *29.* SEX  
 DISEASE *Typhoid Fever.*  
 RESULT *Recovery.*

*Ambulatory, & insidious  
 during first 2 weeks.  
 Constipation.*

NAME *Wm Ferguson* No. *68.*  
 ADDRESS *Bebside Furnace.*  
 OCCUPATION  
 AGE *35-* SEX  
 DISEASE *Typhoid Fever*  
 RESULT *Recovery.*

*Ambulatory & latent  
 for first two weeks.*

with delirium, severe diarrhoea, haemorrhage,  
 s, the "typhoid stage" being developed in a  
 All the fatal cases necessarily come under  
 r average age being 20.2 years (excluding  
 l cases, <sup>were</sup> under 15: three were between 25  
 e fatal illnesses, the mean was 29 days; (from  
 ).  
 e form of Enteric fever numbered 21 the average  
 ) days, (from 18 to 58 days). 14 of these cases  
 rotracted on account of relapse, recrudescence,  
 to a certain extent accounts for their class-  
 1.5% come under this heading

STOR AMBULATORY FORMS.- where the patient  
 to go about or even to follow his employ-  
 spond to those of a mild attack of Enteric  
 anifestations whatever; or the local symptoms  
 tion from the true diagnosis, viz.- pulmonary,  
 hison refuses to consider "gastric" or "bilious"  
 ys "what is commonly called "gastric" is  
 abortive or latent form, with retching or  
 Dr. Moore calls these irregular varieties

I recollect a severe case in 1896 where  
 st persistent, with continued fever; the case  
 week from severe epistaxis, <sup>and</sup> melæna.  
 es as latent, insidious, ambulatory, or other-  
 i. e. 21.7% of these 14 were males & four  
 under 15 years. The mean age was 25.5 years  
 llness equalled 33.8 days. Some of the cases  
 character, but only two were fatal.

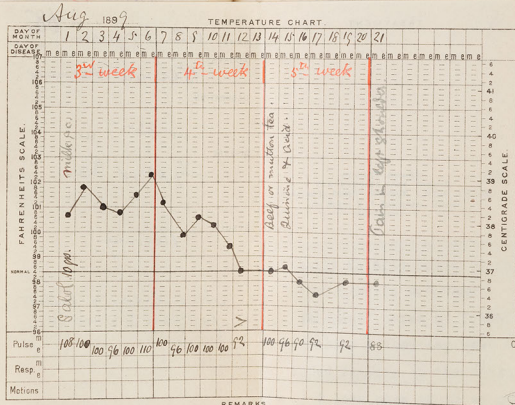
EXIAL FORM IS admittedly rare. Osler states  
 ledge of such cases," but Liebermeister rec-  
 gnised this form as "uncommon" in an epidemic at Basle; & even

NAME *James Scouter* No. *52.*  
 ADDRESS *Beaside Furnace*  
 OCCUPATION  
 AGE *29.* SEX  
 DISEASE *Typhoid Fever.*  
 RESULT *Recovery.*

*Amulatory, & insidious  
 during first 2 weeks.  
 Constipation.*

with delirium, severe diarrhoea, haemorrhage,  
 s, the "typhoid stage" being developed in a  
 All the fatal cases necessarily come under  
 r average age being 20.2 years (excluding  
 l cases, under 15: three were between 25

e fatal illnesses, the mean was 29 days; (from  
 ).  
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 rotracted on account of relapse, recrudescence,  
 to a certain extent accounts for their class-



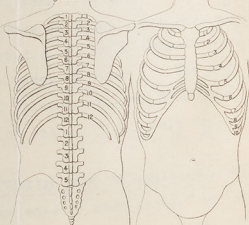
## NURSES INSTRUCTIONS, DIETARY &amp;:

the patient  
 his employ-  
 of Enteric  
 local symptoms  
 z.- pulmonary,  
 tric" or "bilious"  
 astric" is  
 tching or  
 varieties  
 in 1896 where  
 ver; the case  
 lena.

ry, or other-  
 les & four  
 was 25.6 years  
 me of the cases  
 atal.

Osler states  
 rmeister rec-  
 le; & even

METHOD OF INDICATING PHYSICAL SIGNS  
 Cephalic C. Rales R. Friction - Cavities III Consolidation III Fluid  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible M.



No. 58.

NAME *James Scouler*

ADDRESS *Beaside Furnace*

OCCUPATION

AGE *29.* SEX

DISEASE *Typhoid Fever.*

RESULT *Recovery.*

*Ambulatory, & inaction during first 2 weeks. Constipation.*

POCKET CHART  
FOR BEDSIDE CASE TAKING.  
Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
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TREATMENT.

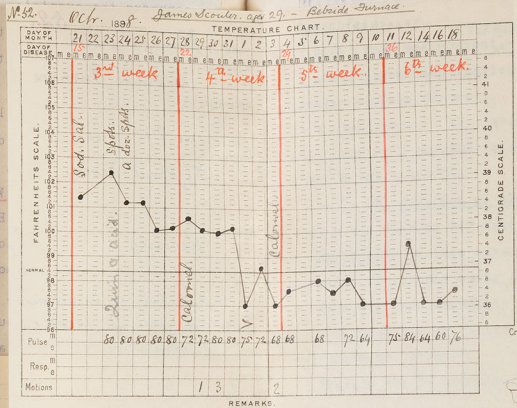
with delirium, severe diarrhoea, haemorrhage, the "typhoid stage" being developed in a All the fatal cases necessarily come under average age being 20.2 years (excluding cases, under 15: three were between 25 fatal illnesses, the mean was 29 days; (from form of Enteric fever numbered 21 the average days, (from 18 to 56 days). 14 of these cases protracted on account of relapse, recrudescence, to a certain extent accounts for their class- 1.5% come under this heading

FOR AMBULATORY FORMS.- where the patient to go about or even to follow his employment to those of a mild attack of Enteric manifestations whatever; or the local symptoms tion from the true diagnosis, viz.- pulmonary, hison refuses to consider "gastric" or "bilious" ys "what is commonly called "gastric" is

"really Enteric fever in an abortive or latent form, with retching or "other gastric symptoms". Dr. Moore calls these irregular varieties "aberrant" forms of typhoid. I recollect a severe case in 1896 where retching & vomiting were most persistent, with continued fever; the case ended fatally in the third week from severe epistaxis and melæna.

I look upon 18 of my cases as latent, insidious, ambulatory, or otherwise aberrant in character, i. e. 21.7%: Of these 14 were males & four females. Only five were under 15 years. The mean age was 25.6 years & the average duration of illness equalled 33.8 days. Some of the cases afterwards proved severe in character, but only two were fatal.

IV. THE AFEBRILE OR APYREXIAL FORM IS admittedly rare. Osler states that, has "no personal knowledge of such cases," but Liebermeister recognised this form as "not uncommon" in an epidemic at Basle; & even

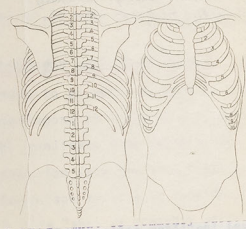


NURSES INSTRUCTIONS DIETARY & C.

hemorrhage, sloped in a ly come under (excluding between 25

29 days; (from 21 the average of these cases re, recrudescence, or their class-

METHOD OF INDICATING PHYSICAL SIGNS. Caputus C. Rates R. Fremitus F. Cavities III. Consolidation III. Fluid CARDIAC. Murmurs M. Point of greatest intensity. M. Area over which it is audible. M.



the patient his employ- k of Enteric local symptoms 12., pulmonary, stric" or "bilious" gastric" is

"really Enteric fever in an abortive or latent form, with retching or "other gastric symptoms". Dr. Moore calls these irregular varieties "aberrant" forms of typhoid. I recollect a severe case in 1896 where retching & vomiting were most persistent, with continued fever; the case ended fatally in the third week from severe epistaxis and oedema.

I look upon 18 of my cases as latent, insidious, ambulatory, or otherwise aberrant in character, i. e. 21.7%. Of these 14 were males & four females. Only five were under 15 years. The mean age was 25.5 years & the average duration of illness equalled 33.8 days. Some of the cases afterwards proved severe in character, but only two were fatal.

IV. THE APYREURIC OR APYREXIAL FORM IS admittedly rare. Osler states that it has "no personal knowledge of such cases," but Liebermeister recognised this form as "not uncommon" in an epidemic at Basle; & even

THIS MARGIN FOR FASTENING IN GUARD BOOK.

HISTORY OF CASE.

Oct. 21 — *Admis* for last  
2 weeks, especially last  
one.

Oct. 21 - Sod. Sal.  
Oct. 23 - Has taken pills  
for constipation. *Stomach*  
slightly coated, especially at  
back. Weak & *silly*. Hair  
& purpling in R. iliac.  
A few spots.

Oct. 24 - a doz. spots.  
Surling & tenderness in R. iliac.

Nov. 14 - Very *colic*.

Oct. 28 - Calomel caused 1 lb.  
Nov. 3 - " " *two*  
thin *runs*. Sticky or  
milk, soda, &c.

Nov. 6 - *Stomach* moist &  
coated thickly. Salicy  
milk freely.

TREATMENT.

(Dreschfeld).

*in such cases*  
High fever was present, with delirium, severe diarrhoea, haemorrhage,  
or other grave complications, the "typhoid stage" being developed in a  
greater or less degree. All the fatal cases necessarily come under  
this class, viz. -- 13, their average age being 20.2 years (excluding  
an infant of 7 mos.); 8 fatal cases <sup>more</sup> under 15; three were between 25  
& 30; & two above 50.

As to the duration of the fatal illnesses, the mean was 29 days; (from  
five & six days to 112 days).

Recoveries in this severe form of Enteric fever numbered 21 the average  
duration of illness being 40 days, (from 18 to 59 days). 14 of these cases  
of recovery were unusually protracted on account of relapse, recrudescence,  
or complications, which also to a certain extent accounts for their class-  
ification as "severe".

Thus, in all 34 cases or 41.5% come under this heading

III. THE LATENT, INSIDIOUS OR AMBULATORY FORMS. - where the patient

feels unwell, & yet continues to go about or even to follow his employ-  
ment. The symptoms may correspond to those of a mild attack of Enteric  
fever; or there may be no local manifestations whatever; or the local symptoms  
may be such as to draw attention from the true diagnosis, viz. - pulmonary,  
gastric, or bilious. Dr. Murchison refuses to consider "gastric" or "bilious"  
fever as distinct types; & says "what is commonly called "gastric" is  
"really Enteric fever in an abortive or latent form, with retching or  
"other gastric symptoms". Dr. Moore calls these irregular varieties  
"aberrant" forms of typhoid. I recollect a severe case in 1896 where  
retching & vomiting were most persistent, with continued fever; the case  
ended fatally in the third week from severe epistaxis, <sup>and</sup> melæna.

I look upon 18 of my cases as latent, insidious, ambulatory, or other-  
wise aberrant in character, i.e. 21.7%; Of these 14 were males & four  
females. Only five were under 15 years. The mean age was 25.5 years  
& the average duration of illness equalled 33.8 days. Some of the cases  
afterwards proved severe in character, but only two were fatal.

IV. THE AFEBRILE OR APYREXIAL FORM IS admittedly rare. Osler states  
that he has "no personal knowledge of such cases," but Liebermeister rec-  
ognised this form as "not uncommon" in an epidemic at Basle; & even

erly vomiting in eight cases; & early pneumonia

set occurred in 22 out of the 41 cases (fully described by their parents as "felled down" or immediately taking to bed. en, I was first summoned on the occurrence " or "threatened fits" (Meningeal type). Two un proved fatal, the other developed pneumonia

t diagnosis, says. "Typhoid fever occurs more as in girls: it is rare before five years before the age of two; & when it does happen almost always be traced to contagion"

is not uncommon in children, but rare in infants.

ade of life, 14 were boys, & 16 girls: age, 23 were girls & 18 boys. So that childhood, females are most frequently attacked. tal cases were aged 5 years & under.

urs of age which I met with, & which certain- hoid nature, occurred in a male infant, aged three weeks of gastro-intestinal symptoms, - ove 99% or 98% being detected, but with ally, when the motions numbered three or s found to reach & be sustained at 102° collapse occurred in about five days, without cept middle ear discharge, & a very faint ef. The diagnosis of typhoid fever was severe case was in progress next door, while were offensive. Of course a P.M. exami- question; but the Livers could ~~not~~ be felt but the spleen could not be palpated. re of the nature of septicæmia.

o of my cases were over 50; both died (one over 60. (male), & recovered after a protracted ent & insidious in all three cases; (the

NAME <sup>No. 67</sup> Sarah Hannah Johnson  
ADDRESS Beside Junee.  
OCCUPATION  
AGE 2. SEX  
DISEASE Typhoid Fever.  
"Fits"  
Pneumonia.  
REULT Recovery.

Note - fall of Temp. after pneumonia: protracted illness for 5 days when

NAME <sup>No. 63</sup> Wm Scott.  
ADDRESS Coopen Village.  
OCCUPATION  
AGE 6/4. SEX  
DISEASE Typhoid Fever (protracted)  
REULT Recovery.

There was mauldering talk, incontinence of urine, passage of blood from bowels,

PART II.  
... of this type have been described.  
... in reference to diagnosis is...  
... of the existence of typhoid fever, the...  
... increase of temperature."  
... Dr. Cairns, the M.O.H. of the district, has mentioned  
... rose-hot, etc.

Other varieties are described under the name of...  
... of pneumonia, typhoid, typhoid, typhoid, the...  
... Moore believes that in these cases the  
... by the respiratory tract.  
... was a resident in the Glasgow Western Infirmary, I recalled Dr. Rind-  
... of "classical pneumonitis," which  
... occurred at Midlothian when he was in the fever hospital there.  
... it may have been associated with Typhoid.

TYPHOID FEVER IN CHILDREN - - -  
... were regarded as distinct types. Now I believe  
... as Enteric, unless when definitely  
... than usually ending within a  
... "Typhoid remittent fever in children  
... in his experience. Undoubtedly, Enteric  
... it is not even yet a general  
... I believe it is not even yet a general  
... as it should be. Probably it might be  
... in the first decade of life, a very large  
... give a positive result.  
... in the first decade of life -- 36, 14; next  
... with 21 cases.  
... or 49.4% were under the age of  
... being seven years.  
... 5 years & under or 28.3%  
... 5 years & under or 15.2%  
... occurs in children; while Moore  
... in children.  
... the first week in 11  
... cases of 16 years; whilst it occurred during the first week in 11  
... cases of one month; while early bronchial catarrh was found present

No. 67

Name *Sarah Hannah Ellison*

Address *Rehoboth Junction.*

Occupation \_\_\_\_\_

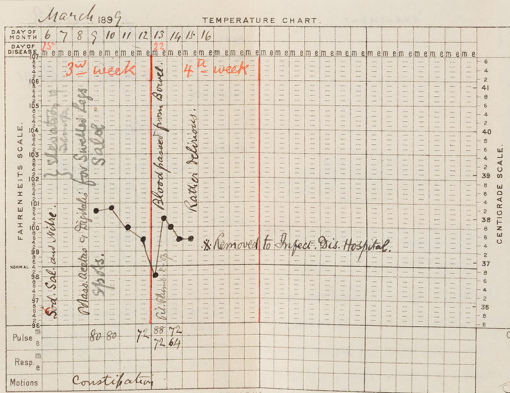
Age *2* Sex \_\_\_\_\_

Disease *Typhoid fever  
"fits"  
Pneumonia*

Result *Recovery.*

*Note - fall of Temp. after  
Administration: gradual  
before for 5 days when*

early vomiting in eight cases; & early pneumonia  
set occurred in 22 out of the 41 cases (fully  
described by their parents as "felled down  
days immediately taking to bed.  
en, I was first summoned on the occurrence  
" or "threatened fits" (Meningeal type). Two  
un proved fatal, the other developed pneumonia  
t diagnosis, says. "Typhoid fever occurs more  
as in girls: it is rare before five years  
n before the age of two; & when it does happen  
almost always be traced to contagion"  
is not uncommon in children, but rare in infants.

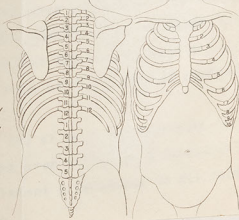


Illness began about Feb. 20 - intense pain in head, appetite fails.  
He continued to work for a day or two, & then gave in. (Feb. 23, Temp. =  
103°) Temp. was daily high - 101° or 102° and finally 100°. He  
old man persisted that he was fit for work & eating well. He did  
return to work (as a carter) for 2 days, but yielded to weakness, &  
his feet & legs swelled. (Temp. = 102°).

Illness on March 9, probably of 2 1/2 weeks duration.

## NURSES INSTRUCTIONS DIETARY &amp; C.

METHOD OF INDICATING PHYSICAL SIGNS  
Crepitus C. Rales R. Friction F. Levitus L. Consolidation Co. Fluid  
CARDIAC MURMURS  
Point of greatest intensity M. Area over which it is audible M.



girls:  
So that  
entirely attack-  
under.  
which certain-  
e infant, aged  
al symptoms, -  
, but with  
three or  
d at 102 1/2  
days, without  
very faint  
fever was  
next door, while  
P.M. examin-  
be felt  
ipated.  
fa.  
th died (one  
er a protracted  
cases: 'the

NAME *Sarah Hannah Wilson* No. *67*  
 ADDRESS *Bebbide Junction.*  
 OCCUPATION \_\_\_\_\_  
 AGE *2 1/2* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever - "Puls" Pneumonia*  
 RESULT *Recovery.*

*Note - fall of Temp. after pneumonia; patient became fir 5 days when pneumonia was detected, by rather rapid descent.*

POCKET CHART.  
 FOR BEDSIDE CASE TAKING  
 Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
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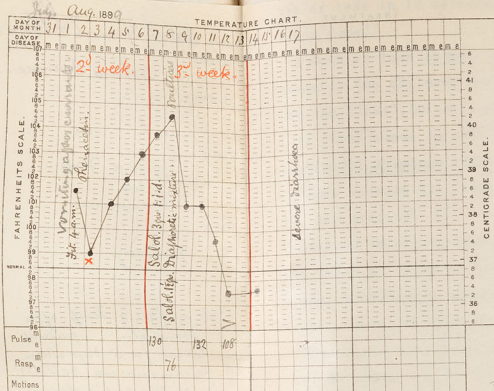
arly vomiting in eight cases; & early pneumonia  
 set occurred in 22 out of the 41 cases (fully  
 described by their parents as "felled down  
 rays immediately taking to bed.  
 ten, I was first summoned on the occurrence  
 " or "threatened fits" (Meningeal type). Two  
 un proved fatal. the other developed pneumonia

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 as in girls: it is rare before five years  
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 almost always be traced to contagion"  
 is not uncommon in children, but rare in infants.  
 decade of life, 14 were boys, & 16 girls:  
 of age, 23 were girls & 18 boys. So that  
 childhood, females are most frequently attack-  
 total cases were aged 5 years & under.  
 years of age which I met with, & which certain-  
 typhoid nature, occurred in a male infant, aged  
 three weeks of gastro-intestinal symptoms, -  
 above 99° or 99½° being detected, but with  
 ienly, when the motions numbered three or

four daily, the temperature was found to reach & be sustained at 102½°  
 to 108°. A fatal issue from collapse occurred in about five days, without  
 any definite local symptoms, except middle ear discharge, & a very faint  
 suspicion of pulmonary mischief. The diagnosis of typhoid fever was  
 suggested by the fact that a severe case was in progress next door, while  
 the adjacent sinks & ashpits were offensive. Of course a P.M. examin-  
 ation might have decided the question; but the Livers could ~~not~~ be felt  
 to be considerably enlarged, but the spleen could not be palpated.

Possibly this case was more of the nature of septicaemia.

Further attack.  
ENTERIC FEVER - "SENILE." Two of my cases were over 50: both died (one  
 male one female). One was over 60. (male) & recovered after a protracted  
 illness. The onset was latent & insidious in all three cases; (the  
 type of fever was adynamic.)



REMARKS

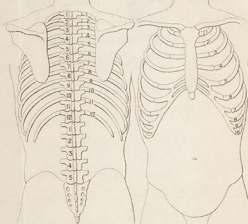
Diarrhoea during first week, ceases to July 21.  
 Definite signs of pneumonia at R. base on Aug. 8.  
 Referred apertures later. But severe diarrhoea Aug. 17.

NURSES INSTRUCTIONS, DIETARY &amp;c.

early pneumonia

41 cases (fully  
s "felled downoccurrence  
1 type). Two  
eloped pneumoniaer occurs more  
e five years  
it does happentation"  
t rare in infants.  
16 girls:So that  
equently attack-  
& under.which certain-  
ale infant, aged  
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ed, but with  
i three or

METHOD OF INDICATING PHYSICAL SIGNS.  
 Crepitus C. Rales R. Friction F. Consolidation C. Field  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible M.



four daily, the temperature was found to reach & be sustained at 102½° to 103°. A fatal issue from collapse occurred in about five days, without any definite local symptoms, except middle ear discharge, & a very faint suspicion of pulmonary mischief. The diagnosis of typhoid fever was suggested by the fact that a severe case was in progress next door, while the adjacent sinks & ashpits were offensive. Of course a P.M. examination might have decided the question; but the Liver could not be felt to be considerably enlarged, but the spleen could not be palpated. Possibly this case was more of the nature of septicæmia.

ENTERIC FEVER - "SENILE." Two of my cases were over 50; both died (one male: one female). One was over 60. (male) & recovered after a protracted illness. The onset was latent & insidious in all three cases; the type of fever was adynamic.

HISTORY OF CASE.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

## HISTORY OF CASE.

Had diarrhoea all the week before 31<sup>st</sup> July. At that day was very cross.  
 Aug. 1 - Very feverish. Vomiting. Black currents had been given.  
 Aug. 2 - Had a fit about four.  
 Aug. 3 - After phenaco. 90.  
 Aug. 7 - only slight catarrh in lungs. Constip. at this time. Oil & magnesia. Diaphoretic mixture of phenaco. & Salol. 3 gr. t. i. d.  
 Aug. 8 - Definite signs of pneumonia at R. base. Dactylic. Jaccs, Sells, Nicks, etc. Salol 12 gr. t. i. d.  
 Aug. 9 - Bowel moved after Magnesia. Yellow smelly motions. Thirst. Orange white tongue. Abdomen distended. Rather delirious at times.  
 Aug. 17. Severely debilitated.

## TREATMENT

more or less in 12 cases; early vomiting in eight cases; & early pneumonia in one case.

A more or less abrupt onset occurred in 22 out of the 41 cases (fully one-half) the children being described by their parents as "felled down from the first", but not always immediately taking to bed.

In three cases in children, I was first summoned on the occurrence of cerebral symptoms - "fits" or "threatened fits" (Meningeal type). Two of these cases in the long run proved fatal, the other developed pneumonia but recovered. 12 (67)

West, as an aid to correct diagnosis, says. "Typhoid fever occurs more than twice as often in boys as in girls: it is rare before five years of age, exceedingly uncommon before the age of two; & when it does happen in such young subjects, can almost always be traced to contagion"

Dreschfeld says Enteric is not uncommon in children, but rare in infants.

Of 30 cases in the first decade of life, 14 were boys, & 16 girls: of 41 cases under 15 years of age, 23 were girls & 18 boys. So that in my experience as regards childhood, females are most frequently attacked. Also one fourth of my total cases were aged 5 years & under.

The only case under two years of age which I met with, & which certainly is only doubtfully of a typhoid nature, occurred in a male infant, aged 7 mos. (case No 81). After three weeks of gastro-intestinal symptoms, - with a rise of temperature above 99° or 99½° being detected, but with great exhaustion, rather suddenly, when the motions numbered three or four daily, the temperature was found to reach & be sustained at 102½° to 103°. A fatal issue from collapse occurred in about five days, without any definite local symptoms, except middle ear discharge, & a very faint suspicion of pulmonary mischief. The diagnosis of typhoid fever was suggested by the fact that a severe case was in progress next door, while the adjacent sinks & ashpits were offensive. Of course a P.M. examination might have decided the question, but the liver could not be felt to be considerably enlarged, but the spleen could not be palpated.

Possibly this case was more of the nature of septicæmia.

ENTERIC FEVER - SENILE. Two of my cases were over 50; both died (one male: one female). One was over 60. (male) & recovered after a protracted illness. The onset was latent & insidious in all three cases; the type of fever was adynamic.

Of 83 cases, nine were over the age of 40, or 10.84%: of these, two died, both being above 50 years (or 22.2% mortality among cases over 40).

On the whole, Enteric fever is not common beyond 40 years of age, & as would be expected, the mortality is usually high, from complications, asthenia, & heart failure,

In "Parke's Hygiene" reference is made to the fact that "at the period of life when these (Peyer's) patches naturally degenerate, the susceptibility to typhoid fever materially lessens".

MULTIPLE ATTACKS & IMMUNITY.—Among these 83 cases, I found no case which had previously suffered from Typhoid. I once however attended a girl through an attack of Enteric fever, who had also suffered from it 4 years before. Also a man, now aged 40, (the father of cases Nos. 20, 29 & 30) states that between 10 & 30 he suffered from four attacks of continued fever, accompanied each time with intestinal haemorrhage, & diagnosed as Typhoid Fever. Dreschfeld states "acquired immunity is a well-established fact in this as in some other infectious fevers." Of over 2000 cases of Enteric fever which came under observation at the Hamburg General Hospital, only 14 persons were affected twice, & only one three times by Enteric fever. Yet Finlayson says "One attack does not seem to afford much if any protection from a second." In Parke's "Hygiene", it is stated that "as a first attack preserves in a great measure from a second, a peculiar condition of body is as essential as in small-pox": & it is suggested that the destruction of the Peyer's patches during the first attack renders a second attack improbable.

No doubt some people have a natural immunity from Typhoid fever: just as a special predisposition may exist in others. Anti-typhoid inoculation is now under trial as a means of prophylaxis, & it is to be noted in Wright & Leishman's paper in the Brit. Med. Jour. 20/1/1900. p. 123. that man who had previously suffered from Enteric fever are deducted from the uninoculated; i. e. they are looked upon as having acquired immunity from further attack.

AGE.	Table I.		
	Cases	Male	Female
Under 1 year	1	1	0
From 1 to 10	29	13	16
,, 11 ,, 20	16	8	8
,, 21 ,, 30	21	13	8
,, 31 ,, 40	8	5	3
,, 41 ,, 50	5	4	1
,, 51 ,, 60	2	1	1
,, 61 ,, 70	1	1	0
	83	46	37

of 1772 cases, the mean age, - 21.25 years (Murchison)

of my 83 cases .. .. - 19.4 "

SEX. of 83 cases at all ages, <sup>46</sup> were males, & 37 females.

Males- 55.42%

Females- 44.57%

of 41 cases under 15, however 23 were females or 56.1%

18 ,, Males ,, 43.9%

SEASON. Table II.

													Mar	June	Sep	Dec	Totals.
	Ja.	Fb.	Mr.	Ap.	My.	Ju.	Jly.	Au.	Sep	Oc.	No.	Dec.	Spr.	Sum.	Aut.	Win.	
<del>1897</del>													0	20	9	0	29
1898	1	0	1	0	0	2	2	3	9	6	4	2	1	7	19	3	30
1899	2	1	2	0	0	1	1	4	3	1	0	1	2	6	4	4	16
1900	0	0	0	0	0	3	2	3	-	-	-	-	0	8	-	-	8 (incomplete)
Totals	3	1	3	0	0	6	9	26	17	10	5	3	3	41	32	7	83 cases

Following Murchison's "Seasons," in Summer 41 cases originated; in Autumn 32; in Winter 7; & in Spring 3.

It will be noted that during the month of August, 26 cases of Enteric fever developed; next comes Sept. with 17 cases; & Oct with 10 cases. (but no "1900" cases are included in Sept & Oct.)

The conditions of Temperature, atmospheric pressure, & rainfall, which

favor the seasonal prevalence of Enteric fever are not definitely known.

LOCALITY. Table III.

	1897	1898	1899	1900	my own cases	other cases	Total Enteric cases
Bebside Colliery	3	4	3	1	11	(1897)	11
Cowpen Village	16	6	2	1	25	20	45
Bebside Furnace	4	12	7	3	26	(1898)	26
Cowpen New Town	0	3	1	2	6	3	9
Kitty Brewster	6	5	3	1	15	-	15
	29	30	16	8	83.		106.

Table IV.	Pop.	Total Enteric Cases.	Enteric Total Deaths.	Propn. of deaths to cases	Propn. of cases per 1000 pop.	Prop. of Enteric deaths per 1000 pop.
Bebside	1035	11	3	27.3%	10.6	2.9
Cowpen Village	660	45	5	11.1%	68.2	7.57
Bebside Furnace	565	26	3	11.5%	46.02	5.3
Cowpen New Town	425	9	2	33.3%	21.17	4.7
Kitty Brewster	370	15	1	6.6%	40.54	2.7
Totals	3055	106	14	13.2%	34.6	4.5
Period covered - 3½ years						

14.5 deaths in 3½ years out of a pop. of 3055 figures out to over ~~420~~ 1200 <sup>deaths</sup> ~~deaths more than the~~ per annum per 1,000,000 persons living, which is more than <sup>three times</sup> the Enteric death rate per annum per 1,000,000 for all England 30 years ago.

MORTALITY. Dreschfeld in "Allbutt's System" gives tables shewing how the annual mortality from Fever per 1,000,000 persons living has remarkably decreased in England: while the mortality per persons attacked remains as high as in Murchison's time: viz. about 17%. (Glasgow Fever Hospital - 17.29%).

The mortality varies from year to year as shewn in Table V. In the first decade of life my case mortality - 20%. Murchison says mortality is low in children.

From 11 to 30 - my case mortality - 13.5%

Above 31 - " " " " - 12.5% (12 deaths, both above 50).

7 females died & 6 males.

One ~~principle~~ puerperal case died. The mortality in puerperal cases

PART II.

is said to be 50%.

BRAND's hydropathic treatment is reported to have reduced the mortality from 21% to 6 or 7%, but it is very probable that some of the above fatal cases would not have been subjected to that treatment at all, & therefore the worst cases may be excluded, to the advantage of the case death-rate.

Thirteen cases ~~include~~ terminated fatally among the 83 cases included in my Analysis, or 15.6%. Three of the fatal cases were treated entirely by my locum tenens, & I did in Hospital: deducting these four cases.

79 cases, with nine deaths - 11.4%.

*There are reasons for excluding some of the fatal cases from the category of Enteric cases altogether.*

Six cases which recovered were removed to Hospital, after being under my treatment or my locum's for some time: deducting these -

73 cases with 9 deaths - 12.3%

Two of the 13 deaths occurred suddenly (15.4% of fatal cases) one in a woman predisposed to cerebral haemorrhage - in the fourth week:

One, probably from pulmonary thrombosis in a boy with double pneumonia & great exhaustion (probably <sup>of</sup> Tubercular), - end of sixth week.

Breschfeld says sudden death occurs in about 4% of fatal cases.

Table V.

1897	29 cases	6 deaths	20.7%
1898	30 ..	1 ..	3.3%
1899	16 ..	4 ..	25%
1900	8 ..	2 ..	25%

*Note the specially low death-rate.*

EPIDEMIC OF 1897.

In 1897, Cowpen Village suffered most severely. The season was hot & dry, the water supply from the village pump was utterly inadequate for a population of 660. & the water was seriously polluted. No doubt exists that the drinking of this water, favored by defective sanitation in general, caused the local outbreak. 36 cases occurred in Cowpen Village during 1897 or 54.5 cases per 1000 of population. The death-rate was 13.9% of all cases.

During 1897 the inhabitants <sup>of</sup> Kitty Brewster had occasionally to use Cowpen pump water when their own supply was cut off, & six cases occurred here (all in one house, up & downstairs), or 16 cases per 1000

Part II.

pop. 1897

Bebside in 1897 Had three cases or 2.9 cases per 1000 pop.

Bebside & Bebside Furnace at that time received a distinct water supply from a spring.

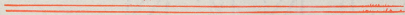
METEOROLOGICAL NOTES. 1897 - '9  
Supplied by D. Laing, M.O.H. Blyth.

<u>1897</u>	<u>inches of Rainfall</u>		<u>Days with rain</u>
Jan.	2.03	Much snow & hail during month.	23
Feb.	1.30	Fine generally	13
Mar.	2.95	Strong winds 23rd - 25th.	24
Apr.	1.51	Very fine sunny month.	21
May	1.42	Very fine month	13
June	2.49	Much cloudy weather	16
July	1.25	Fine & warm throughout	11
Aug.	2.79	Showery thunderstorm end of 1st week	17
Sep.	2.73	Generally very fine	15.
Oct.	1.28	Fine quiet weather-dry-hazy	7
Nov.	1.52	Dull Weather	15
Dec.	2.10	Generally mild	17
<hr/>			
<u>1898</u>			
Jan.	1.01	Very dry month -cloudy	10
Feb.	1.01	Generally fine, snow from 18th to 26th	17
Mar.	1.47	Strong winds, much snow	13
Apr.	2.23	Fine beginning of Month. Rain last week	17
May.	2.00	Showery month - 'unsettled weather	20.
June	1.77	ditto	14
July	0.55	Fine sunny month; sunshine on 29 days	7
Aug	1.98	Fine until end of month	18
Sept	0.37	Very dry weather	9
Oct	4.72	Showery On 17th thunderstorm. 1.53" rainfall	20
Nov.	3.22	Generally mild & foggy	16
Dec.	1.11	Fine weather mild till end of month	17

1899	<u>Inches of rainfall</u>		<u>Days with rain</u>
Jan.	2.04	Much snow & hail. thunderstorm 22nd	24
Feb.	1.29	Fine with haze	15
Mar	2.91	Stormy month thunderstorm 17th	22
Apr.	1.55	Very fine & sunny	19
May	1.47	Dry fine month. thunderstorm 29th	15
June 7	2.50	Cloudy weather. thunderstorm 3rd	17
July	1.30	Warm & fine throughout	13
Aug.	2.81	Thunderstorm on 5th - 6th	18
Sept	2.74	Usually fine. thunderstorm 6th	15
Oct.	1.29	Fine quiet weather. Much haze	8
Nov.	1.53	Dull. Gale on 28th	16
Dec.	2.14	Generally mild	19.

x<sup>x</sup> Anyday is classified as a "rainy day" if 0.06 inch of rain falls.

Rainfall in year in this country amounts to 30" on the average.  
According to Parke's "Hygiene " .



PART II

INCUBATION PERIOD. Symptoms during the incubation period may be absent, or the patient may feel "out of sorts", or even complain of symptoms usually more indicative of the shape of invasion - (Languor, chills, headache, anorexia, diarrhoea). Hilton Fagge believed that during the incubation period the Bacilli Typho<sup>si</sup> produce a local "infective granuloma" & then by the lymphatic channels invade the organism in swarms, producing the general symptoms of Enteric Fever.

A series of six cases in which it was possible to approximately calculate the incubation periods occurred at the beginning of the local epidemic of 1897 in 2 families occupying the downstairs & upstairs apartments of a house (cases No 2.3.7.8.9.18). Case No 2, after walking a distance of several miles on the 11th July, took ill on 12th July, & died on 17th July, undoubtedly from acute Enteric Fever, though certified by my locum tenens as due to Acute Pneumonia. On 22nd July, a brother (Case 3) developed symptoms of Enteric Fever, ten days after the onset in case two. Another brother (case 7) sickened on Aug. 3 & a third (case 8) on Aug. 6: i. e. 12 & 15 days after the onset in case 3. A girl (case 9) in the house below also took ill on Aug 6 (15 days after Case 3) & her brother (case 18) sickened on Aug. 23 (17 days after case 9).

Assuming the incubation periods in these five cases to be ~~7-17~~ from 10 to 17 days, an average of about 14 days is obtained which is generally accepted as near the mark; though Liebermeister gives 3 weeks as the average; & Murchison says <sup>incubation</sup> ~~it~~ may not exceed 1 or 2 days.

Yet all the five cases may have had their origin from case 2, through infected evacuations discharged into the common privy & ashpit, which were filthy & leaking, the date of infection varying with each one.

ONSET OR STAGE OF INVASION. - comprising the first week, or stage of enlargement of the intestinal glands.

In most cases the patient had been unwell for from a few days to a fortnight before being seen. The onset was thus as a rule insidious, a sensation of malaise being complained of, with a tired feeling & languor, chills, headache, backache, general aching pains, anorexia, & thirst.

Sometimes epistaxis occurred early, or nausea & vomiting, or abdominal pain, with or without diarrhoea, & occasionally marked drowsiness.

In many cases on pressure, right <sup>iliac</sup> ~~inguinal~~ tenderness was elicited.

The proportion of cases with gradual invasion was 86.7% .

## PART II.

But the onset may be abrupt:- attended by a rigor, or severe sickness & vomiting, or free epistaxis, or with pronounced malaise & general influenza-like symptoms as in my own case, or with severe diarrhoea. Such sudden attacks were found in the proportion of 13.2%, in persons under 30.

The following existed as early symptoms:-

Sickness & vomiting	19.2%
Diarrhoea	15.6%
Pronounced pulmonary Catarrh	3.6% (in children under 15)
Delirium	6%
Ciddiness	4.8%
Abdominal pain	16.8%

In my own case & others, the abdominal pain was increased on depression of the diaphragm in deep inspiration, rather than by direct pressure on the abdomen.

Sore throat	3.6%
Epist <sup>x</sup> scis	7.2%
Heavy sweatings	3.6%
Specially intense headache	6%
Cerebral symptoms	3.6%
Earache & suppuration	2.4%
Swollen cervical glands	1 case.

Dreschfeld says the beginning of the fever is generally reckoned from the date the patient feels compelled to take to bed, but surely it is necessary to count from the earliest definite symptoms - 'chills, general aching, malaise etc. or a condition expressed by the pit people's phrase "not clivor" at all"

The tongue is nearly always from the first coated with a creamy white fur, except round the margins & tip, which are clean; & bright red papillae are dotted prominently amidst the coating.

The pulse is usually quickened considerably at first, but may quieten down afterwards. The skin feels hot, & thirst is complained of.

I have not been able to observe the "text-book" oscillating step-ladder rise of temperature during the first few days; or else it has been disturbed by antipyretics, as in my own case, (antifebrin being taken to cause diaphoresis & relieve headache, etc.) As a rule, in colliery practice ~~the~~ doctor is apt to be called early enough, yet generally three or four

PART II.

days or even a week had elapsed since the early symptoms of invasion were ~~the~~ first noticed.

When I find a temperature of 102° or 103° after a few days malaise & no local explanation, especially if there is some relaxation of bowels, or vomiting, or epistaxis, or abdominal soreness, with a creamy-coated tremulous tongue, ~~is~~ I expect a probable case of Typhoid. The condition which in my experience it is most difficult to distinguish from Typhoid in an early stage, is a mild form of Influenza, but in the latter case the temperature falls to normal in a few days, unless some local complication develops. Indeed in some of my cases Influenza preceded the definite onset of Typhoid symptoms. In others, pronounced bronchial or pulmonary signs & absence of abdominal symptoms, misled for a time: in one such case, the occurrence of other cases of continued fever in the same house revealed the true diagnosis. Cerebral symptoms occurred at the onset of the attack in two children, & left their mark on the cases ~~at~~ throughout: both proved fatal in six & sixteen weeks respectively, with a strong presumption of tubercular disease.

In some cases, enlargement of the spleen & abdominal distension could be distinctly made out after even a few days illness.

SECOND WEEK: OR STAGE OF SOFTENING AND ULCERATION.— The nature of the case is now, except in mild cases with absence of abdominal symptoms or in complicated cases, pretty clear. Temperature continues elevated, the abdomen is usually distended, rose-spots appear, the spleen can often be palpated, the tongue inclines to become dry in the middle, & diarrhoea as a rule prevails more or less. Some cases abort in the end of this week, & some mild cases terminate with lysis; the process of ulceration probably never having begun. Death does not usually occur as early as this but of my cases two died after apparently five or six days acute fever. (cases 2 & 81).

THIRD WEEK OR STAGE OF THE GENUINE TYPHOID ULCER.— In this week the "Typhoid state" is fully developed, if it appears at all. Delirium may be present, Emaciation becomes apparent, & prostration is marked. Heavy sweats often occur: diarrhoea is usually severe, with tympanites, & often considerably enlarged spleen; Spots still come & go, the tongue is tremulous, brown or glazed, & parched; sordes collect on teeth, lips & nostrils; complications may occur: Haemorrhage from the

PART II.

NAME Edith Mary Gray. No 79.  
ADDRESS Kitty Brewster Square.  
OCCUPATION

12. AGE SEX F  
DISEASE Typhoid Fever.  
(Widal's reaction obtained).

RESULT Recovery.  
Duration = 30 days.

Bnaphthol & Salol treatment.  
Example of "lysis"

NAME Mary Ellen Forrest. No 78.  
ADDRESS 5 Tweedy St.  
Gowper Village  
OCCUPATION

5. AGE SEX F  
DISEASE Typhoid Fever.  
(Widal's reaction obtained).

RESULT Recovery.  
Fever = 16 days.

Salol treatment.  
Example of "Crisis"

occur:-haemorrhage from the bowels; per-  
tion or incontinence of urine & foeces;

decline in this week, or death may occur.  
of numerous modifications -----to the end"

TRISATION.- In this week in most cases  
y, covering a period of three to ten days  
ore abrupt change for the better occurs  
most cases the "amphibolic stage" of Wunder-  
fortunes" of Murchison. Instead of recov-  
low the "amphibolic stage" from continued  
ptic), marasmus, recrudescence, or sequelae.  
inate fatally from a general aggravation

irly established care does not cease.  
coverable cause, recrudescence or relapse  
patient & the attendants. But in the  
favorable progress is slowly or rapidly made.  
rength are regained, & very often the patient  
le perfect health is recovered. Children  
e rapidly than adults.

in a certain proportion of cases DEATH will  
ten take place before the end of the second  
or fourth week; or from exhaustion or compli-  
ed cases, even after the febrile stage has come  
that in fatal cases the powers of nature  
& effects of the Bacillus typhoides, supplemented  
other bacteria. In some cases intestinal  
accelerate death. I have not experienced  
on.

No. 79.

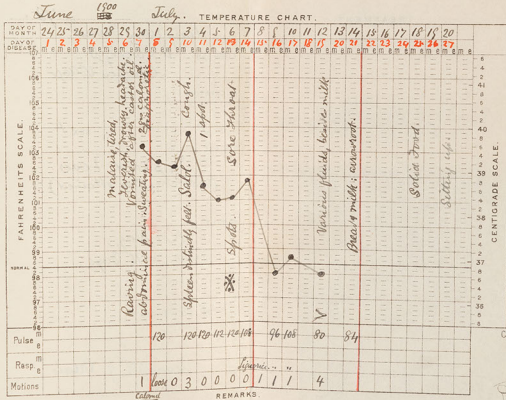
NAME *Edith Mary Gray.*  
 ADDRESS *Nitty Brewster Square.*  
 OCCUPATION \_\_\_\_\_  
 12. AGE \_\_\_\_\_ SEX *F*  
 DISEASE *Typhoid fever.*  
*(Widal's reaction obtained).*  
 RESULT *Recovery.*  
*Duration = 30 days.*  
*Anaphthol & Salt treat ment.*  
*Example of "Lysis"*

PART II.

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 or incontinence of urine & fœces;

decline in this week, or death may occur.  
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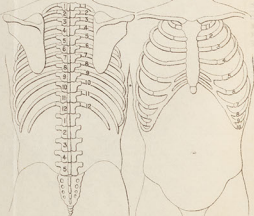


NURSES INSTRUCTIONS, DIETARY &c.

to cease.  
 or relapse  
 But in the  
 rapidly made.  
 the patient  
 Children

DEATH will  
 the second  
 on or compli-  
 stage has come  
 of nature  
 ldes, supplemented  
 es intestinal  
 experienced

METHOD OF INDICATING PHYSICAL SIGNS.  
 Capitus C. Rales R. Friction F. Cavities III. Consolidation III. Fluid II.  
 CARDIAC MURMURS  
 Point of greatest intensity. M. Area over which it is audible.



PART II.

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patient & the attendants. But in the

NAME *Edith Mary Gray.*  
ADDRESS *16, Grosvenor Square.*

OCCUPATION \_\_\_\_\_  
12. AGE \_\_\_\_\_ SEX *F*  
DISEASE \_\_\_\_\_

*Typhoid fever.*  
*(Winter's reaction obtained).*

RECOVERY *Recovery.*  
*Duration = 30 days.*

*Anaphthol & Saled treat ment*

*Example of "Lysis"*

POCKET CHART  
FOR RESIDUE CASE TAKING  
Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S.  
John Wright & Co. Publishers, Bristol.  
Copyright

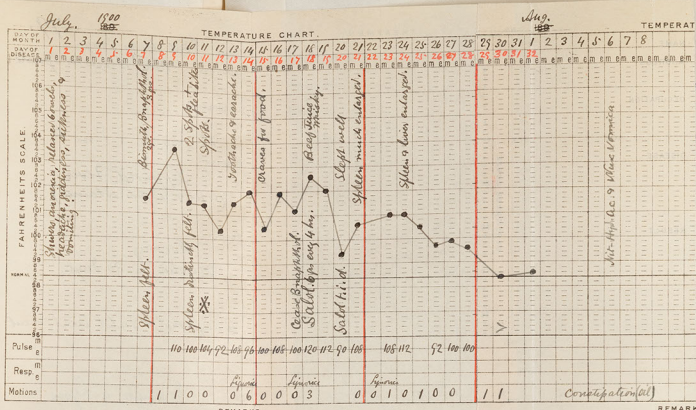
In due time flesh & strength are regained, & very often the patient  
becomes stouter. As a rule perfect health is recovered. Children  
appear to recover much more rapidly than adults.

Recovery is the rule, but in a certain proportion of cases DEATH will  
occur. This does not often take place before the end of the second  
week, usually in the third or fourth week; or from exhaustion or compli-  
cations, later in protracted cases, even after the febrile stage has come  
to an end. It is <sup>probable</sup> ~~probable~~ that in fatal cases the powers of nature  
are overcome by the toxic effects of the Bacillus typhoides, supplemented  
by the septic products of other bacteria. In some cases intestinal  
haemorrhage & perforation accelerate death. I have not experienced  
any examples of perforation.

HISTORY OF CASE.

TREATMENT

THIS MARGIN FOR FASTENING IN GUARD BOOK.



July 11 - Allow taken for Widal Reaction: positive  
 Four weak & large open agglutins no. for power 1000.

... since the early stages of typhoid...  
 ... after a few days...  
 ... especially if there is some relaxation of...  
 ... of abdominal tenderness, with a steady...  
 ... expect a prostatic case of typhoid. The...  
 ... it is most difficult to distinguish...  
 ... a mild form of influenza, but in the latter...  
 ... is to be noted in a few days, unless some local...  
 ... Indeed in some of the cases influenza...  
 ... In others, pronounced...  
 ... of typhoid symptoms, related to a...  
 ... occurrence of other cases of continued fever in...  
 ... the diagnosis of typhoid symptoms occurred at...  
 ... that took care of the case...  
 ...

HISTORY OF CASE.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

from the bowels; per-  
 of urine & faeces;  
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 by the septic products of other bacteria. In some cases intestinal  
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 any examples of perforation.

PART II.

nostrils, Complications may occur-haemorrhage from the bowels; perforation & peritonitis; retention or incontinence of urine & faeces; bedsores are apt to form.

The febrile condition may decline in this week, or death may occur. "The picture is susceptible of numerous modifications ----to the end" says Murchison.

FOURTH WEEK: OR STAGE OF CICATRISATION. In this week in most cases defervescence occurs gradually, covering a period of three to ten days (lysis.) <sup>W<sup>2</sup> 74</sup> In a few cases a more abrupt change for the better occurs (crisis.) <sup>W<sup>2</sup> 74</sup> This week is in most cases the "amphibolic stage" of Wunderlich, the "period of changing fortunes" of Murchison. Instead of recovery, protracted fever may follow the "amphibolic stage" from continued ulceration of the bowels (septic), marasmus, recrudescence, or sequelae. But the illness may now terminate fatally from a general aggravation of the symptoms.

CONVALESCENCE

When convalescence is fairly established care does not cease. From slight causes or no discoverable cause, recrudescence or relapse may occur to disappoint the patient & the attendants. But in the ordinary course of events favorable progress is slowly or rapidly made.

In due time flesh & strength are <sup>probable</sup> regained, & very often the patient becomes stouter. As a rule perfect health is recovered. Children appear to recover much more rapidly than adults.

Recovery is the rule, but in a certain proportion of cases DEATH will occur. This does not often take place before the end of the second week, usually in the third or fourth week; or from exhaustion or complications, later in protracted cases, even after the febrile stage has come to an end. It is probable that in fatal cases the powers of nature are overcome by the toxic effects of the Bacillus typhoides, supplemented by the septic products of other bacteria. In some cases intestinal haemorrhage & perforation accelerate death. I have not experienced any examples of perforation.

NAME TREATMENT

ADDRESS

OCCUPATION

AGE SEX

DISEASE

RESULT

POCKET CHART FOR BEDSIDE CASE TAKING  
Compiled by ROBERT SIMPSON M.R.C.S.  
John Wright & Co. Publishers.  
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THIS MARGIN FOR FASTENING IN GUARD BOOK.

ANALYSIS OF SYMPTOMS AND COMPLICATIONS:

- ! - ! - ! - ! - !

7.

I. PHYSIOGNOMY. It may be ~~###~~ true that an Enteric patient has a clear eye, a bloom on the cheek, & an intelligent look, in the early stages; but very soon in severe cases the countenance assumes a sunken grey color, & wears a dull, heavy & weary look. The pupils are occasionally very dilated, but oftener are about normal size, & in the typhoid state may be contracted. But yet it is astonishing to find some very severe cases cheerful & smiling throughout, their apparent condition belying temperature, pulse, diarrhoea etc. Others again take a gloomy view of their illness, & fear the worst; medical men are said to make bad patients & I admit that I myself had presentiments of death, fearing heart failure, perforation, haemorrhage etc.

Decubitus in severe cases is almost <sup>always</sup> dorsal: it seems as if in great prostration it requires too much effort to keep on the side. It is wise to get patients to turn on to either side occasionally; & when a patient begins to do so voluntarily it is a good sign.

II. CUTANEOUS ~~SYSTEM~~ SYSTEM. - I now believe that, if carefully looked for daily a very small proportion of cases will be found quite devoid of the typical rose spots throughout. In my last ten cases I have made a special point of searching for the spots, & believe they were not present in only two, i.e. one-fifth of the cases. But over all the 83 cases I have only noted rose spots in 34 cases, (numerous in four cases), or 41%. The number I have observed at one time did not exceed 20 or 30. On the summit of a spot I have now & then noticed the little vesicle mentioned by Gardner, probably indicating the opening of a sweat duct.

The skin is moist during the illness in most cases.

Excessive Sweatings occurred in 13 cases, or 15.66%.

Marked Sudamina or Sweat-rash were observed in only five cases, or 6%

Purpuric spots & ecchymoses were present in 3 cases, of which two were fatal, though no other form of visible haemorrhage supervened.

Desquamation was ~~###~~ noticed more or less markedly in five cases.

This is probably of common occurrence during convalescence but may

NAME *Edward Aickitt* No 47.  
 ADDRESS *Bebside Furnace.*  
 OCCUPATION  
 AGE *21.* SEX  
 DISEASE *Enteric Fever with Relapse.*  
 RESULT *Recovery.*

NAME *Henrietta Robson* No 51.  
 ADDRESS *Cowpen New Town.*  
 OCCUPATION  
 AGE *10* SEX  
 DISEASE *Typhoid Fever.*

NAME *Annie Pattison* No 62.  
 ADDRESS *Kitty Brewster Farm*  
 OCCUPATION  
 AGE *28.* SEX  
 DISEASE *Typhoid Fever.*  
 RESULT *Recovery.*

*Note - drop of Temp. on 11<sup>th</sup> day,  
 Fall to normal in 4<sup>th</sup> week,  
 and recrudescence for  
 another week.*

TREATMENT.  
 my own case sudamina  
 th itching. In one  
 soles peeling.  
 ,probably associated  
 in the case of two brothers.  
 in one prolonged case:  
 arlatina & was followed  
 supposed to be due to  
 ly pyaemic, occurred in  
 in my own case during  
 o the first attack &  
 s remission.  
 s, which are said to be  
 chymosis & superficial  
 left cheek, steadily

"fever smell" is distinguishable about severe  
 not always possible for me to take the tem-  
 ly & very seldom twice daily. As a rule  
 ound to be higher than a forenoon temperature;  
 iently struck by the evening temperature  
 rature curve formed by the daily readings  
 During the "amphibolic period" large osci-  
 took place. <sup>in 47</sup> Also in the first week I fre-  
 of the temperature, only to be followed by  
 me cases anti-pyretics might have to with  
 .1151.55.62.  
 recorded (106.6) was in a comatose,

NAME *Edward Aichitt* No. *47*  
 ADDRESS *Beaside Furnace.*  
 OCCUPATION \_\_\_\_\_  
 AGE *21* SEX \_\_\_\_\_  
 DISEASE *Interic Fever with Relapse.*  
 RESULT *Recovery.*  
 TREATMENT \_\_\_\_\_

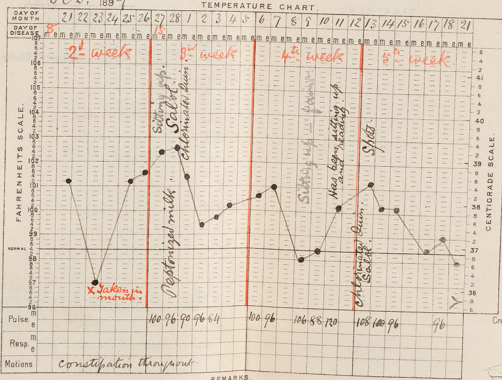
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 in my own case during  
 o the first attack &

NAME *Hennietta Robson* No. *51*  
 ADDRESS *Cowpen New Town.*  
 OCCUPATION \_\_\_\_\_  
 AGE *10* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever.*

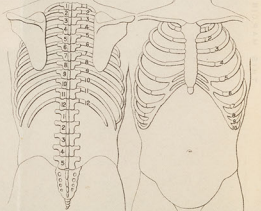
NURSES INSTRUCTIONS, DIETARY &c.

said to be  
 superficial  
 ,steadily  
 le about severe  
 take the tem-  
 As a rule  
 oon temperature;  
 emperature  
 ly readings  
 large osci-  
 t week I fre-  
 followed by  
 ave to with  
 lose,

*Feb. 1899*      *March*



METHOD OF INDICATING PHYSICAL SIGNS.  
 Capitus C. Rales R. Friction: C. Cardiac M. Consolidation M. Fluid M.  
 CARDIAC MURMURS.  
 Point of greatest intensity M. Area over which it is audible M.



ANALYSIS OF SYMPTOMS AND COMPLICATIONS.

... it may be said that an epidemic patient ...  
... clear eye & look on the cheek, an intelligent look in the eyes ...  
... but very soon it covers down the countenance ...  
... before it wears a dull, heavy & weary look. The pupils are ...  
... very dilated, but otherwise are about normal size, in the typical state ...  
... but yet it is refreshing to find some very severe ...  
... cases described & sailing throughout, their apparent condition ...  
... Of these again take a group ...  
... in their illness, & later the temperature ...  
... facts & I must say I would not presentiments of death, leading ...  
... failure, paralysis, hemorrhage etc. ...  
... occurring in severe cases is almost ...

HISTORY OF CASE.

TREATMENT.

Blank lined area for case history and treatment notes.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

NAME *Edward Ashlett* No. *47*  
ADDRESS *Bebside Furnace.*  
OCCUPATION  
AGE *21* SEX  
DISEASE *Subtle fever with Kelapae.*  
RESULT *Recovery.*

TREATMENT  
... my own case sudamina  
... th itching. In one  
... soles peeling.  
... probably associated  
... in the case of two brothers.  
... in one prolonged case:  
... arlatina & was followed  
... supposed to be due to

NAME *Herculita Robson* No. *51*  
ADDRESS *Couper New Town.*  
OCCUPATION  
AGE *10* SEX  
DISEASE *Typhoid fever.*  
RESULT *Recovery.*

...ly pyaemic, occurred in  
... in my own case during  
... o the first attack &  
... s remission.  
... s, which are said to be

*Wk - drop below normal on  
11<sup>th</sup> day, after sweating.*

... chymosis & superficial  
... left cheek, steadily

"fever smell" is distinguishable about severe

not always possible for me to take the tem-  
... ly & very seldom twice daily. As a rule  
... found to be higher than a forenoon temperature;  
... quently struck by the evening temperature  
... erature curve formed by the daily readings

was often very irregular. During the "amphibolic period" large osci-  
... llations or "spikings" often ~~take~~ <sup>took</sup> place. <sup>AM 67</sup> Also in the first week I fre-  
... quently found a sudden drop of the temperature, only to be followed by  
... a further elevation: In some cases anti-pyretics might have to with  
... this as in my own case & Nos. 11, 51, 55, 62  
... The highest temperature recorded (106.6) was in a comatose,

POCKET CHART,  
FOR REGULAR CASE TAKING.  
Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
John Wright & Co. Publishers, Bristol.  
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PART II.  
ANALYSIS OF SYMPTOMS AND COMPLICATIONS.

- - - - -

1. FEVERS

It may be said that an enteric patient has a sharp spike a day on the chart, & an intelligent look in the early stage. But very soon in severe cases the countenance assumes a sallow grey color, & hair a dull, heavy & weary look. The pupils are occasionally dilated, but in other are about normal sized, in the typical state. But yet it is astonishing to find how very rarely they look through their apparent condition during the course etc. Other signs take a different view. The vocal chords are said to be inflamed, & small red patches of vesiculating heart-membrane etc.

HISTORY OF CASE.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

No. 47.

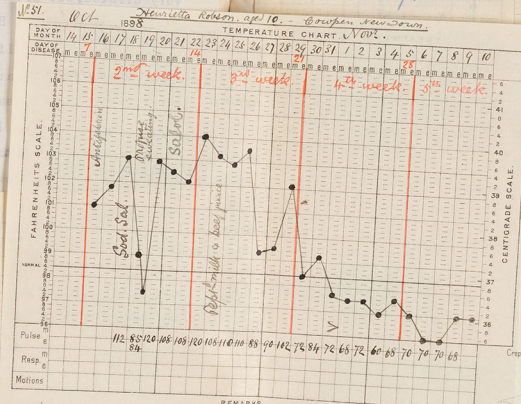
NAME *Edward Abbott*  
ADDRESS *Rebbside Furnace.*  
OCCUPATION  
AGE *21.* SEX  
DISEASE *Enteric Fever with Relapse.*  
RESULT *Recovery.*

TREATMENT

my own case sudamina  
th itching. In one  
soles peeling.

, probably associated

in the case of two brothers.  
in one prolonged case:  
aratina & was followed



NURSES INSTRUCTIONS, DIETARY &c.

be due to

occurred in

ase during

attack &

le.

is said to be

superficial

k, steadily

le about severe

take the tem-!

As a rule

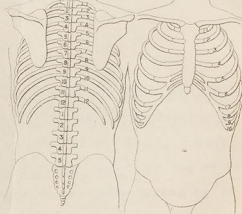
noon temperature;

temperature

aily readings

" large osci-

METHOD OF INDICATING PHYSICAL SIGNS.  
Crepitus C. Rales R. Friction F. Cavities V. Consolidation III. Fluid  
CARDIAC MURMURS.  
Point of greatest intensity M. Area over which it is audible S.



was often very irregular. During the ~~intermissions~~ <sup>break</sup> intermissions "spikings" often ~~took~~ <sup>took</sup> place. Also in the first week I frequently found a sudden drop of the temperature, only to be followed by a further elevation. In some cases anti-pyretics might have to with this as in my own case & Nos. 11, 51, 55, 62.

The highest temperature recorded (106.6) was in a comatose,

PART II.  
ANALYSIS OF SYMPTOMS AND COMPLICATIONS.

- - - - -

TEMPERATURE.

It may be felt true that an enteric patient has a slight fever's boom on the cheek, an intelligent looking in the early stage but very soon it passes away the countenance assumes a sunken grey color, & wears a dull, heavy & weary look. The pupils are occasionally dilated, but almost all other signs about normal size, in the typical state.

HISTORY OF CASE.	TREATMENT.
Oct. 16 - Has felt unwell for a week.	
Oct. 18 - No diarrhoea. R. chin tenderness & gurgling. Out on Sod. Sal.	
Oct. 19 - Profuse sweating.	
Oct. 24 - Replenished milk & beef juice (Arrow's).	
Nov. 1 - no complaint. Strictly on above diet.	

THIS MARGIN FOR FASTENING IN GUARD BOOK.

No. 47.

NAME Edward A. Ashlett.

ADDRESS Beside Furnace.

OCCUPATION

AGE 21. SEX

DISEASE Enteric Fever with Relapse.

RESULT Recovery.

Note "spikings" at end of Relapse - accompanied by septic symptoms (chill, head, & sweatings). Free desquamation 3 weeks later.

POCKET CHART FOR BESIDE CASE TAKING  
Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
John Wright & Co. Publishers, Bristol.  
Copyright.

my own case sudamina th itching. In one soles peeling.

probably associated

in the case of two brothers. in one prolonged case: arlatina & was followed supposed to be due to

ly pyaemic, occurred in

In my own case during o the first attack & s remission.

s, which are said to be

chymosis & superficial left cheek, steadily

Odour - 'A characteristic "fever smell" is distinguishable about severe cases.

III. TEMPERATURE. - It was not always possible for me to take the temperature at a fixed hour daily & very seldom twice daily. As a rule an evening temperature was found to be higher than a forenoon temperature; but in some cases I was frequently struck by the evening temperature being the lower. The temperature curve formed by the daily readings was often very irregular. During the "amphibolic period" large oscillations or "spikings" often took place. Also in the first week I frequently found a sudden drop of the temperature, only to be followed by a further elevation: In some cases anti-pyretics might have to with this as in my own case & Nos. 11, 51, 55, 62.

The highest temperature recorded (106.6) was in a comatose,



THIS MARGIN FOR FASTENING IN GUARD BOOK.

HISTORY OF CASE.

Sep. 27 - Appears to have mild influenza a week previous. Temp. practically non-febrile.  
 Sep. 27 - Tongue trembling & slight coated, with red papillae. Headache, pain in limbs, & abdomen.  
 Sep. 30 - 4 mos. at first stage, leucorrhoea loose.  
 Oct. 1 - 6 loose mos.  
 Keratin coats Carbolic pills. (2 1/2 p) on F. i. d.  
 Oct. 2 - 7 or 8 mos.  
 Oct. 3 - 2 days loose mos.  
 One spit - now passing away.  
 Oct. 6 - Tongue dry & brown. Right heart at times. Bowels rather distended.  
 Oct. 8 - Vomiting.  
 Oct. 14 - Tongue clean.  
 Oct. 15 - Costive.  
 Nov. 4 - Tongue quite clean.  
 Replanned milk. Urinary bag more not appreciated.  
 Nov. 9, 10, 11 - Shivers & hot attacks.  
 Nov. 15 - Tongue slightly coated with clean mucus.

(Continued).

Nov. 15 - On milk & soda only. Constipated. Stitches of heat & sweating.  
 Nov. 15. - uron. root.  
 .. 23. - Cocoa or tea: biscuits: mutton broth, fruit, & Tapioca. Has been up today.  
 Dec. 6 - Quite pulse.  
 General diet.  
 Still feeling: & has desquamated all over.

TREATMENT.

NAME  
 ADDRESS  
 OCCUPATION  
 AGE  
 SEX  
 DISEASE  
 RESULT

TREATMENT.

NAME  
 ADDRESS  
 OCCUPATION  
 AGE  
 SEX  
 DISEASE  
 RESULT

POCKET CHART.  
 FOR BEDSIDE CASE TA  
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POCKET CHART.  
 FOR BEDSIDE CASE TA  
 Compiled by ROBERT SIMPSON, L.R.C.P.  
 John Wright & Co. Publishers.  
 COPYRIGHT.

TREATMENT.

escape the notice of both were followed by scurfy de case desquamation was very The hair fell out mor Boils in the arm-pits with heavy perspirations. A small ischio-foetal A scarlet rash appear on the first occasion it wa by desquamation; the other Quinine. Cellulitis & Abscess in a case which finally proved Markings on the finger-convalescence, two parallel l the recrudescence, with an in Bed-sores formed in thro I cannot remember observ caused by pediculi. In a fatal case, a girl a necrosis of the skin over the extending, were observed. Odour. - "A characteristic" cases.

III. TEMPERATURE. - It was not perature at a fixed hour daily an evening temperature was foun but in some cases I was frequen being the lower. The temperatu was often very irregular. Durat ulations or "spittings" often quently found a sudden drop of th a further elevation: In some ca this as in my own case 2 Nos. 11. The highest temperature rec

PART II

escape the notice of both doctor & patient. In my own case sudamina were followed by scurfy desquamation attended with itching. In one case desquamation was very free, even the palms & soles peeling.

The hair fell out more or less in 7 cases.

Boils in the arm-pits occurred in two cases, probably associated with heavy perspirations.

A small ischio-rectal ~~abscess~~ abscess formed in the case of two brothers.

A scarlet rash appeared at intervals thrice in one prolonged case: on the first occasion it was regarded as true scarlatina & was followed by desquamation: the other two appearances were supposed to be due to Quinine.

Cellulitis & Abscess in three places, probably pyaemic, occurred in a case which finally proved fatal.

Markings on the finger-nails were observed in my own case during convalescence, two parallel lines corresponding to the first attack & the recrudescence, with an interval for the week's remission.

Bed-sores formed in three cases.

I cannot remember observing taches bleuâtres, which are said to be caused by pediculi.

In a fatal case, a girl aged 15, a kind of ecchymosis & superficial necrosis of the skin over the clavicles, & on the left cheek, steadily extending, were observed.

Odour.- A characteristic "fever smell" is distinguishable about severe cases.

~~IIII~~

III. TEMPERATURE.- It was not always possible for me to take the temperature at a fixed hour daily & very seldom twice daily. As a rule an evening temperature was found to be higher than a forenoon temperature; but in some cases I was frequently struck by the evening temperature being the lower. The temperature curve formed by the daily readings was often very irregular. During the "amphibolic period" large oscillations or "spikings" often ~~took~~ <sup>took</sup> place. <sup>W<sup>47</sup></sup> Also in the first week I frequently found a sudden drop of the temperature, only to be followed by a further elevation: In some cases anti-pyretics might have to with this as in my own case & Nos. 11, 51, 55, 62.

The highest temperature recorded, (106.6) was in a comatose,

NAME *Ethel Yudberry* No 17  
 ADDRESS *Crofton.*  
 OCCUPATION  
 AGE 7 SEX  
 DISEASE *Typhoid Fever: Relapse.*

TREATMENT.  
 Calomel. 3 grs. twice.  
 Salol. 3 grs every 8 hrs  
 Mist. Catechu, Chalk &  
 occasionally for diarrhoea.  
 Mist. Suss + Digitalis  
 cough every 4 hrs.  
 2 grs Calomel, twice.  
 Pulv. Glycyrrhiz. Co.  
 Salol. 3 grs twice daily.  
 Salol. 4 grs. t. i. d.  
 Mist. ac. Nit-Hyd. ʒi

five hours before death.  
 lations over a period  
 nes, though rarely, the  
 ch afterwards relapsed).  
 , "typhoid state" mark-  
 eable rapid pulse, stupor,  
 black motions on the  
 condition clear, &

NAME *George Tweddle* No 80.  
 ADDRESS *15. Wood Row.*  
 OCCUPATION *Bebside Furnace Miner*  
 AGE 30 SEX M.  
 DISEASE *Enteric Fever, (Relapse)  
 (Widal's Reaction positive).*

TREATMENT.

instance, constipation  
 101': eating pears  
 ed diarrhoea & a tem-  
 to the end of the second  
 location, Severe in-  
 with collapse symptoms.

NAME *Wm Ferguson* No 5.  
 ADDRESS *Crofton Village*  
 OCCUPATION *Pitman*  
 AGE 20 SEX  
 DISEASE *Enteric Fever*  
 RESULT *Recovery*

TREATMENT.  
 - Calomel, 5 grs twice.  
 - Antifebris. 5 grs, for headache  
 - ʒi Sol. Quin. Chlorinat.  
 hours (2 grs in dose).  
 - Oil. Plum. t. i. q. as  
 for diarrhoea. A Dessert-  
 brandy every 6 hrs.  
 - ʒi Brandy every 4 hrs.  
 ment every ½ hour.  
 - Turp. stupor to  
 & pain.  
 - Rise of 70° & diarrhoea  
 eted a return to milk  
 Albumen water, & brandy.  
 8 grs t. i. d.

the last temperature  
 stage were.  
 lowed by a steady  
 32nd day.  
 urther elevation of  
 perspiration may "fell")  
 = 102' at 5 a m.  
 In 102' in the evening.  
 a fall in the temperature  
 proportion to Tem-  
 next: within 36 hours  
 temperature - 104.2°  
 was found his pulse  
 eratures recorded in  
 to do with pulse-  
 not so alarming  
 value of 120 and  
 with diarrhoea  
 & swelling. Again  
 the fever. I found

*Pseudo-lysis in 2<sup>nd</sup> week.*

NAME Ethel Yudberry NO. 17  
 ADDRESS Coopers.  
 OCCUPATION \_\_\_\_\_  
 AGE 7 SEX \_\_\_\_\_  
 DISEASE Typhoid fever: Relapse.

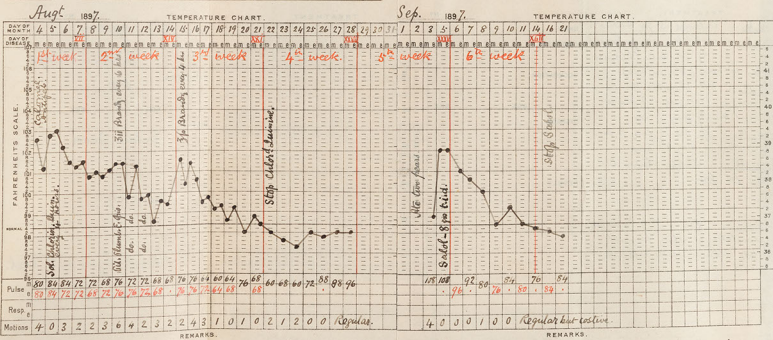
---

NAME Perp Swedde NO. 89  
 ADDRESS 15 Wood Row.  
 OCCUPATION Refrid Furnace  
 Minor  
 AGE 30 SEX M.  
 DISEASE Typhoid fever, (Relapse)  
(Mild's Reaction positive).

TREATMENT.  
 Calomel 3 grs. twice.  
 Saldol 3 grs every 8 hrs  
 Minor Calcechu, Chalk &  
 occasionally for Dyspepsia  
 Nitro-Tann + Hydrate  
 every once 4 hrs.  
 2 grs Calomel, twice.  
 Dole, Zygostin, Co.  
 Saldol 3 grs twice daily.  
 Saldol 4 grs t. i. d.  
 Minor Ac. Nit Hyd. 3ii

five hours before death.  
 lations over a period  
 nes, though rarely, the  
 ch afterwards relaxed.  
 "typhoid state" mark-  
 able rapid pulse, stupor,  
 black motions on the  
 condition clear, &  
 instance, constipation  
 101': eating pearls  
 sed diarrhoea & a tem-  
 the end of the second  
 location. Severe in-

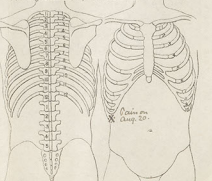
Case 5: - Wm Ferguson, age 20, Atman, Coopers Village.



REMARKS: The patient's parents kept me a more cow. Dementia existed in the household - with no fever: also in neighbouring houses. Patient has scars of glandular abscess on neck

- NURSES INSTRUCTIONS, DIETARY & MEDICINE
- Aug 4 - Milk diluted with Sale, lime, or barley water.
  - Lemon water. Cold cloths to brow for headache.
  - Aug 10 - Brandy. 3ii every 6 hrs
  - " 15 - " 3ii every 4 hrs
  - " 18 - Gruel.
  - " 23 - Broths.
  - " 26 - Puddings: trife; fish: Wine instead of Brandy.
  - Sep 5 - Neume milk, &c.
  - " 9 - Borax, brils, & Lysol Puddings
  - " 16 - " Gruel, trife, eggs, Wine.

METHOD OF INDICATING PHYSICAL SIGNS  
 Cephalic C. Sales R. Friction. Cavities III Constipation  Fluid III  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area in which it is audible



THIS MARGIN FOR FASTENING IN SQUARE BOOK.

HISTORY OF CASE.

Malaise since Aug. 1<sup>st</sup>.  
 Headache, anorexia, feet listless & puffy, flushed. Tongue moist, thick creamy coating, red tip & edges. No nausea & vomiting in R. line fossa.  
 Aug. 5 - Continues protracted of flushed, complains greatly of headache.  
 Aug. 8 - Headache. No rate of ft.  
 Aug. 10 - Bowel loose. No thirst. No anorexia.  
 Aug. 11 - Still some diarrhoea, tongue moist & coated.  
 Aug. 13 - Not so well. Tongue increased. Listless. Tongue coated. Freshened slowly, no headache. Abdominal tenderness & fulness.  
 Aug. 20 - Pain in R. loins on moving. 3 aft. hours.  
 Aug. 22 - Clean tongue, got up to have bed made. Stg. diarr. (labr).  
 Aug. 28 - Pain in R. leg (anore) when in *Orthobates*?  
 Sep. 3 - Drains on a rise of 3<sup>rd</sup> after eating 2 pears on Sep. 2. Constip<sup>on</sup> followed, with high 3<sup>rd</sup> and pulse full. *Orthobates* faint.  
 Sep. 16 - Sitting up dressed; weak & emaciated.

TREATMENT.

Aug. 4 - Calomel, 5 grs. twice.  
 Aug. 5 - *Antifebrin*, 5 grs. for headache.  
 " 3<sup>rd</sup> Sol. Quin. Chlorinat. every 4 hours (2 grs. in dose).  
 Aug. 10 - *Pr. plumbic* 5 grs. as required for diarrhoea. A Dessert-spoonful brandy every 6 hrs.  
 Aug. 15 - 3<sup>rd</sup> Brandy every 4 hrs. Nourishment every 4 hours.  
 Aug. 28 - *Scrup.* stupor to leg for pain.

Sep. 5 - Rice & 3<sup>rd</sup> & *Neoborn* necessitated a return to milk & *Alb.* Albumen vitell. & brandy.  
 Sald. 8 grs. t. i. d.

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE \_\_\_\_\_ SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_

TREATMENT.

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE \_\_\_\_\_ SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_

NAME Ethel Judberry 17  
 Corippen.  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE 7 SEX \_\_\_\_\_  
 DISEASE Typhoid fever; Relapse

TREATMENT.  
 Calomel 3 grs. twice.  
 Sald. 3 grs. every 8 hrs.  
 Mistr. Colchicu, Caalk & a small for *Orthobates*.  
 Mistr. Suss + *Diplotis* every 4 hrs.  
 2 grs Calomel, twice.  
 Quin. *Orthobates*.  
 Sald. 3 grs. twice daily.  
 Sald. 4 grs. t. i. d.  
 Mistr. Ac. Nit. Hydr. 3<sup>rd</sup>

five hours before death. rations over a period of 24 hours, though rarely, the ch afterwards relaxed. "typhoid state" marked by rapid pulse, stupor, black motions on the condition clear, &

NAME Percy Tweedle 58.  
 ADDRESS 15, Wood Row.  
 Occupation Seaside Turnace Union.  
 AGE 30 SEX M.  
 DISEASE Intermittent Fever, (Relapse) (Widal's Reaction positive).

TREATMENT \_\_\_\_\_

instance, constipation 101'; eating pears and diarrhoea & a tem-

RESULT Recovery.  
 1<sup>st</sup> attack = 19 days  
 Interval = 4 "  
 Relapse = 19 "  
 Antifebrin begun on 32<sup>nd</sup> day.  
 Sald. *Diplotis* & *Diplotis*

TREATMENT \_\_\_\_\_

the end of the second location, Severe in- with collapse symptoms. the last temperature stage was - lowed by a steady 32nd day. further elevation of

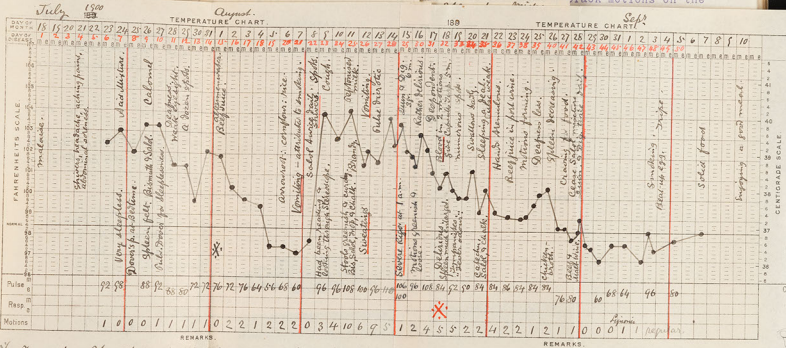
most of the cases, as far as my observations go. Temperature reached 106.6° in one moribund case  
 " " or exceeded 104° in 18 cases  
 " " " " 103° " 35 "  
 " " " " 102° " 21 "  
 " " " " 101° " 2 "

In some cases, on the complete deferescence of the fever, I found

NAME Ethel Judberry, 17  
 ADDRESS Cooper.  
 OCCUPATION  
 AGE 7 SEX  
 DISEASE Typhoid fever: relapse.

TREATMENT  
 Calomel 3 po. twice  
 Sald. 3 po. every 8 hrs  
 Minc. Calcechu, Chalk & cream for bowels.  
 Mist. Juss + Digitalis with every 4 hrs.  
 2 po Calomel, twice  
 Pulv. Glycyrrhiz. Co.  
 Sald. 3 po. twice daily.  
 Sald. 3 po. t. i. d.  
 Minc. de. Ml. Hyd. 2i

five hours before death.  
 lations over a period  
 nes, though rarely, the  
 ch afterwards relapsed).  
 "typhoid state" mark-  
 ible rapid pulse, stupor,  
 black motions on the



NAME  
 ADDRESS  
 OCCUPATION  
 AGE  
 SEX  
 DISEASE  
 RESULT

NURSES INSTRUCTIONS, DIETARY & METHOD OF INDICATING PHYSICAL SIGNS

Crucifix C. Rates R. Friction C. Cardiac III. Consolidation II. Fluid III. Cardiac Murmurs

Point of greatest intensity. M. Area over which it is audible

most of the cases, as far as my observations go.  
 Temperature reached 106.6° in one moribund case  
 .. .. or exceeded 104° in 18 cases  
 .. .. 103° .. 35 ..  
 .. .. 102° .. 21 ..  
 .. .. 101° .. 2 ..

In some cases, on the complete deservescence of the fever, I found







PART II.

the temperature sometimes far below normal, especially after severe attacks, where the vital powers remained low (See chart 28 in the 8th week)

- Between 98' & 99' - 1 case
- ,, 97' & 98' - 39 ,,
- ,, 96' & 97' - 17 ,,
- At 96' - 3 ,,

IV.

IV. CIRCULATORY SYSTEM.

The highest recorded pulse-rates, during the attack were.-

- In 1 case (infant of 7 mos.) - 180. Died
- ,, 7 cases, reached or exceeded 160. Five died.
- ,, 11 ,, ,, ,, 140. Three died

NO 10.

NAME Edward Turner.

ADDRESS Coupen Village.

OCCUPATION Miner.

AGE 26. SEX

DISEASE Interic fever.

RESULT Recovery in 4<sup>th</sup> week.

Note moderate pulse-rate in high fever.  
High pulse-rate in convalescence.

POCKET CHART.  
FOR BEDSIDE CASE TAKING.  
Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
John Wright & Co Publishers, Bristol.  
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TREATMENT.

Antifebrin, 5 grs, for head-casualty.

Chlorinat. (2 grs) every 4 hrs. in mustard water. Must- back of neck, for headache

Vi. Plum. & Op. for diarrhoea.

Vi. Carbolic (2 grs) t. i. d.

" " tunic daily.

uddenly.

rule stage were.-

in proportion to Tem-  
temperature = 104.2'

etimes found his pulse  
rule in adults, the pulse  
deal to do with pulse-  
was not so alarming  
ent pulse of 120 <sup>and</sup> ~~case~~  
elapse), with diarrhoea  
rful & smiling. Again  
pulse 120-130, I was

the temperature sometimes far below normal, especially after severe attacks, where the vital powers remained low (See chart 28 in the 8th week)

Between 98' & 99' - 1 case regular.

.. 97' & 98' - 39 .. 1 was seen during the last 20 or 30

.. 96' & 97' - 117 .. 200 to 140 or 150.

At 96' - 3 .. the first instance to occur in 31 days

IV.

IV. CIRCULATORY SYSTEM.

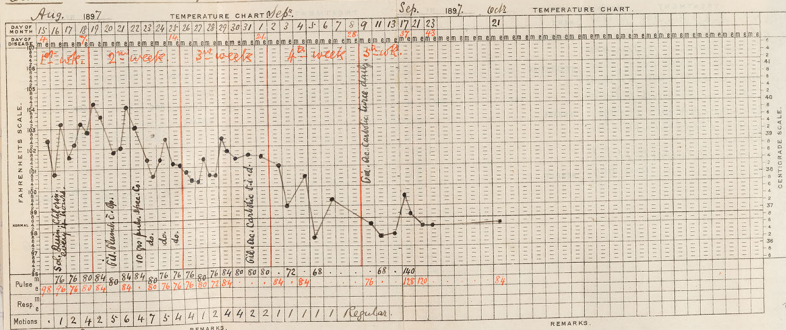
The highest recorded pulse-rates, during the attack were...

In 1 case (infant of 7 mos.) - 180. Died

.. 7 cases, reached or exceeded 160. Five died.

.. 11 .. .. . 140. Three died

Case 10. - Edward Turner, age 26. Miner. - Leowen Village





PART II.

erally greeted with an almost merry countenance.

After the temperature reaches normal, the pulse often falls very irregular.

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ch one died. isted in an old man

degeneration, the file.

70 beats per minute = e = 172. 800 beats

cases during con-

the legs ~~was~~ with g man of 33, followed

ses, two of which died: of the vessel walls.

limbs. In one mor- flea-bites. In

the abdomen corres- irium. In the case

ming gangrenous & k & chin, as well as

NAME *Jane Hetherington* No. *34*  
 ADDRESS *Cowpen Village*  
 OCCUPATION \_\_\_\_\_  
 AGE *21* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever*  
 RESULT *Recovery*

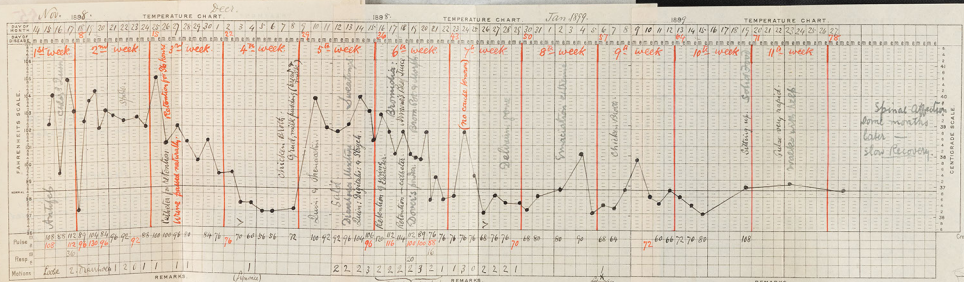
TREATMENT.

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE \_\_\_\_\_ SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_

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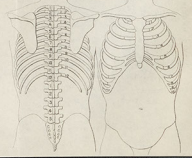
NAME *Jane Hetherington* No. *34*  
 ADDRESS *Coupen Village*  
 OCCUPATION \_\_\_\_\_  
 AGE *21* SEX \_\_\_\_\_  
 DISEASE *Typhoid fever*  
 RESULT *Recovery*

It was only during the last 24 or 36 hours from 100 to 140 or 160. It striking, but appears to come & go from day to day. In one case, during the first week, intermittent fever proved very unpleasant; also in the fourth case, it was even with T = 99.2, I felt no relief, owing to exceedingly rapid & weak



NURSES INSTRUCTIONS, DIETARY &

METHOD OF INDICATING PHYSICAL SIGNS  
 Crispus C. Rales R. Friction F. Convuls C. Consolidation M. Fluid  
 CARDIAC MURMURS  
 Point of greatest extent, M. Area over which it is audible M.

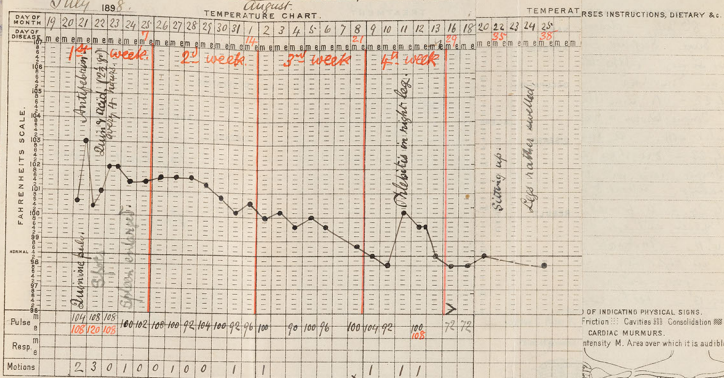


REMARKS  
 All since 10<sup>th</sup> Nov. Before that, suffered from tooth-ache.  
 On 11<sup>th</sup> Nov. patient has acute hoarse, hoarse & raspy.  
 On 12<sup>th</sup> Nov. patient has acute hoarse, hoarse & raspy.



erally greeted with an almost merry countenance. After the temperature reaches normal, the pulse often falls very

No. 34. - Jane Helmerington, age 21. - Couper Village



NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

OCCUPATION \_\_\_\_\_

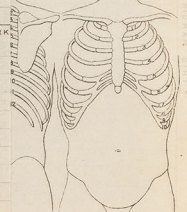
AGE \_\_\_\_\_

DISEASE \_\_\_\_\_

RESULT \_\_\_\_\_

REMARKS

This patient I have always suspected of a fibrinial tendency. In the beginning of 1880 she had an attack of dry pleurisy on right side.



generally greeted with an almost merry countenance.

After the temperature reaches normal, the pulse often falls very low, 52-54, & sometimes becomes irregular.

In some of the fatal cases, it was only during the last 24 or 36 hours that the pulse increased from 100 to 140 or 180.

Dicrotism is often very striking, but appears to come & go from day to day.

ACTION OF HEART.

An intermittent or irregular heart's action was found in 8 cases, of which one died. In my own case, during the first week, intermittent action & tendency to fainting proved very unpleasant: Also in the fourth week, after recrudescence had set in, & ~~was~~ even with T = 99.2°, I felt a premonition of impending dissolution, owing to exceedingly rapid & weak cardiac action (120-130)

A V.S. mitral murmur was heard in three cases, of which one died.

Dilatation of heart with swelled legs & feet existed in an old man over 80, yet he recovered, after a protracted illness.

In cases of extreme cardiac weakness, from muscle degeneration, the first sound was sometimes very faint, but never inaudible.

Rapid heart-action increases ~~the~~ tissue waste. 70 beats per minute = 100,800 beats in 24 hours: while 120 beats per minute = 172,800 beats in 24 hours.

SLIGHT PHELEBITIS in the lower limbs occurred in two cases during convalescence. Case (34)

A very tense, swollen, "hide bound" condition of the legs was with rapid weak pulse was left after an attack in a strong man of 33, followed by troublesome recurrent superficial ulceration.

Purpuric spots & patches occurred in three cases, two of which died: showing great deterioration of the blood itself & of the vessel walls. Petechiae were most commonly observed on the lower limbs. In one moribund case the petechiae looked like haemorrhagic flea-bites. In the case which recovered, vibices & ecchymoses on the abdomen corresponded to marks of scratches inflicted during delirium. In the case of a girl of five, who died, ecchymosed blebs, becoming gangrenous & spreading, appeared over the clavicles & left cheek & chin, as well as petechiae on the lower limbs & elsewhere.

HISTORY OF CASE.

After 85 July - diarrhoea for 13 days. Suffer from weakness since. After the 14<sup>th</sup> July, again diarrhoea.  
July 22 - R. iliac tenderness. Some brown & rather thin. Pulse soft. a few spots.  
July 23 - diarrhoea ceased. Some mucus, with whitish coating. About 1/2 doz. spots.  
July 24 - a formed motion. Green enlarged & tender.  
Aug. 11 - Moderate phlebitis in right leg - relieved by warm fomentations.  
Aug. 13 - feels easy.  
... 24 - legs rather swollen.

TREATMENT.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

PART II.

Case No 30, (a boy aged 3), from the mother's description, appears to have developed Acute Haemophilia during the last (5th) week, intestinal haemorrhage being profuse; but she also stated that a week after the illness commenced "two two-pound jars" were filled with blood discharged from the bowels. The fatal haemorrhage ensued after three week's cessation of melaena, when convalescence was beginning. The case was attended throughout by a locum tenens.

PYAEMIC ABSCESSSES occurred in a fatal case, probably secondary to suppuration of the ear: a considerable quantity of pus was evacuated from the neighbourhood of the right elbow, & small subcutaneous abscesses formed on the left elbow & left ankle. The patient was a chronic suff-

NAME *David Cheyne* No *73.*  
 ADDRESS *Beboide.*  
 OCCUPATION \_\_\_\_\_  
 AGE *28.* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever.*  
 RESULT *Recovery.*

*Sore throat in early stage. Probably, the 2<sup>nd</sup> week is really only the 1<sup>st</sup> week of Typhoid.*

*Congestion & catarrhal bronchitis very severe in later stages.*

*Constipation.*

POCKET CHART. No 1.  
 FOR BEDSIDE CASE TAKING.  
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 COPYRIGHT.

TREATMENT. \_\_\_\_\_

\_\_\_\_\_ had been detected. \_\_\_\_\_

\_\_\_\_\_ temp. had fallen from \_\_\_\_\_

\_\_\_\_\_ bral haemorrhage. \_\_\_\_\_

\_\_\_\_\_ casual & later \_\_\_\_\_

\_\_\_\_\_ a chestless diarrhoea. \_\_\_\_\_

\_\_\_\_\_ variety of Typhoid \_\_\_\_\_

\_\_\_\_\_ respiration, but no \_\_\_\_\_

\_\_\_\_\_ fever irrespective \_\_\_\_\_

\_\_\_\_\_ the later stages occur \_\_\_\_\_

\_\_\_\_\_ minute in the first \_\_\_\_\_

\_\_\_\_\_ def: Also 36 & 40 \_\_\_\_\_

\_\_\_\_\_ continued fever but \_\_\_\_\_

\_\_\_\_\_ at woman aged 42, de- \_\_\_\_\_

\_\_\_\_\_ rations = 38 in the \_\_\_\_\_

\_\_\_\_\_ use <sup>112</sup> where bronchitis \_\_\_\_\_

\_\_\_\_\_ aged 2, in the third \_\_\_\_\_

\_\_\_\_\_ the Temp. = 104.6' \_\_\_\_\_

\_\_\_\_\_ gestion in the third \_\_\_\_\_

\_\_\_\_\_ 36, while the temp. \_\_\_\_\_

\_\_\_\_\_ in a boy aged 3 \_\_\_\_\_

\_\_\_\_\_ (ar?), the respirations \_\_\_\_\_

\_\_\_\_\_ ase terminated rather \_\_\_\_\_

\_\_\_\_\_ appeared very soon, \_\_\_\_\_

\_\_\_\_\_ respiration becomes \_\_\_\_\_

\_\_\_\_\_ minute with a temp. \_\_\_\_\_

\_\_\_\_\_ minute in a man aged \_\_\_\_\_

105, pulse 140, in stupor & delirium deepening to coma. temp 101.2, pulse 140, in stupor & delirium deepening to coma.

Mild laryngeal catarrh was noted in one case ascribed to a smoking chimney.



PART II.

Case No 30, (a boy aged 8) from the mother's description, appears to have developed Acute Haemophilia during the last (5th) week, intestinal haemorrhage being profuse; but she also stated that a week after the illness commenced "two two-pound jars" were filled with blood discharged from the bowels. The fatal haemorrhage ensued after three week's cessation of melaena, when convalescence was beginning. The case was attended throughout by a locum tenens.

PYAEMIC ABSCESSSES occurred in a fatal case, probably secondary to suppuration of the ear; a considerable quantity of pus was evacuated from the neighbourhood of the right elbow, & small subcutaneous abscesses formed on the left elbow & left ankle. The patient was a chronic sufferer from Retinal haemorrhages but no albuminuria had been detected.

She also suddenly in the fourth week after the temp. had fallen from 102° to 98° with a pulse of 100, probably from cerebral haemorrhage.

RESPIRATORY SYSTEM.

I have only occasionally observed the rate of respiration, but no doubt along with the pulse it is quickened in high fever irrespective of any lung implication. I have counted 36 per minute in the first & second weeks in children with no pulmonary mischief: Also 38 & 40 per minute with a temp. of 102.2° & 101.1° in a stout woman aged 42, delirious, but with no lung complication. The respirations = 36 in the first week, in a young man aged 23, Temp. 104.6° pulse 112, where bronchitis & congestion had begun. In the case of a child aged 2, in the third week, with acute pneumonia, respiration rate = 76 while temp. = 104.6° In a young man aged 20, with broncho-pneumonia & congestion in the third & fourth weeks, the rate of breathing reached 34 & 36, while the temp. was 102.4° to 103.5° & the pulse 92 to 100. Again in a boy aged 3 with cerebral symptoms & double pneumonia (tubercular?), the respirations numbered 76 per minute with a temp. of 104°; this case terminated rather suddenly a week later from pulmonary thrombosis.

In fatal cases before the end as a rule the respiration becomes rapid, loud, automatic, of a "nervous" type: e.g. 56 per minute with a temp. of 105°, pulse 140, in a comatose subject; & 60 per minute in a man aged 54, temp 101.2°, pulse 140, in stupor & delirium deepening to coma.

Mild laryngeal catarrh was noted in one case ascribed to a smoking chimney.

TREATMENT

TREATMENT.

HISTORY OF CASE

TREATMENT

NAME  
ADDRESS  
OCCUPATION  
AGE SE  
DISEASE  
RESULT

POCKET CHART FOR MEDICAL CASE-TAP  
Compiled by ROBERT SIMPSON, L.R.C.S.  
John Wright & Co. Publishers, Cambridge.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

Epistaxis, slight or moderate in quantity, occurred in about 17 cases at some period. 20.4% or about one-fifth of the cases. Moore says it occurs in one-fifth of the cases, & is common in children. Under 15 there were 11 cases; & over 15 there were six cases; or nearly twice as often in children. But its frequency seems to vary in different outbreaks: this year (1900) out of 11 cases of Enteric fever, I do not think one case has had epistaxis. Osler states that "it precedes typhoid fever more commonly than it does any other febrile affection". Picking at the nose is sometimes the cause of the epistaxis in children.

I recollect a case in a young man (not included in this series), with persistent vomiting, which proved fatal after severe epistaxis & melaena in the third week: but how far the melaena depended on blood swallowed I cannot say.

Sore throat, I have found<sup>as</sup> an early symptom in two cases: at a later (typhoid) stage, ulceration of the throat & mouth is sometimes discovered.

It has been asserted that there is a "tonsillar" variety of Typhoid fever.

Bronchitis, with or without congestion in the later stages, occurred in 14 cases (17%) three of which proved fatal. (21% Moore).

In one case of catarrhal bronchitis in a boy with continued fever, but no abdominal symptoms, Typhoid fever was not suspected, but rather tubercular disease, until a sister fell ill 2½ weeks later.

Pneumonia, catarrhal or croupous, developed in five cases (6%) two being fatal. (Moore. 13% or more). One case of pneumonia became evident on the fifth day in a boy whose illness began with a "fit" & who seemed to lose speech, sight & hearing to some extent, & manifested tremors of head & arms: he died at the end of six weeks, & it is doubtful if Tuberculosis may not have been the disease, for a tendency in that direction exists on the paternal side.

Cough is not uncommon even with no physical signs: such cases numbered 11. In my own case a troublesome tickling cough appeared very soon, subsided during remission in the third week, & returned with recrudescence.

Pleurisy was found along with pneumonia (tubercular?) in a fatal puerperal case: in other two instances, localised pain in the side suggested pleurisy (3.6% of cases). (Moore. 3.6%, one third fatal).

Pulmonary tubercle was suspected in two fatal cases, one<sup>of</sup> which devel-

PART II.

oped with a rigor after accouchement. Hectic fever & bronchial symptoms persisting after the fourth week is said to indicate Tuberculosis. (Murchison); also a quick pulse-rate in convalescence (Stokes).

Empyema: No case occurred in this series, but in 1896 I had under my care a strong man with Enteric fever who developed pneumonia & nearly succumbed. Empyema was not diagnosed (even in consultation), yet during convalescence such an enormous quantity of pure inodorous pus was expectorated daily for a long time that no other explanation seems possible. ~~He~~ He recovered perfect health. (I have come across six cases of Empyema, in every case preceded by pneumonia (non-enteric))

VI.

DIGESTIVE SYSTEM.

As a rule the appetite is seriously impaired from the first, & a keen, sometimes insatiable <sup>desire</sup> for liquids, especially fresh cold water, is displayed. A patient has been known to get up in the night & go in search of cold water, which he consumed in large draughts.

It is obvious that the digestive & assimilative powers are much weakened, & hence the necessity for great care in selecting suitable nourishment, on account of the danger of causing or aggravating irritability of the bowels. The "craving" for food may shew itself during defervescence, but in my experience is easily satisfied without giving solid food. In my own case, just after the normal was reached, I took a keen liking for the salt milk in which "Findon haddocks" had been cooked: I also enjoyed "salt meat juice (Wyeth's & Armour's) which I generally find is liked by very few. Murchison believed salt fluids satisfied the "craving for food" readily, hence it is important to include salt in the dietary ~~treatment~~. Variety in liquids for assuaging thirst is also desirable.

The lips, gums & teeth: The lips early become dry & cracked; Later, sordes form on the lips, gums, & tongue, especially in severe "typhoid" cases. Exudation of blood from the gums, with other haemorrhages, occurs

## PART II.

in examples of "haemorrhagic putrid fever".

Devic reports "Buccal ulceration" in about one-fifth of the cases, if looked for. In my own case I particularly remarked in the second week a small ulcer opposite the left outer <sup>lower</sup> incisor tooth between the gum & lip.

Tongue .- As a rule with few exceptions, the tongue is at the beginning covered with a more or less thick creamy-white coating, except round the margin; bright red papillae are prominently dotted about in the fur. Sometimes the tongue is quite clean & fissured: or coated brownish-white & deeply fissured. Later in severe cases, the tongue gradually becomes dry, brown, parched & cracked; it is very tremulous & protruded & kept out with difficulty. But sometimes it becomes dry & glazed.

But in many cases the tongue remains comparatively clean & moist throughout even severe & protracted fever. In my own case the tongue was only found slightly dry after a sleep.

The tongue & mouth may show aphthous patches; or the mouth & throat may become ulcerated, in severe cases.

Dysphagia .- This is sometimes observed in the "typhoid" stage: it may be due to the parched condition of the mouth & throat, or ~~to~~ to an ulcerated condition. In fatal cases, probably a muscular paresis also develops.

Nausea, retching & vomiting frequently occurs at the onset. About 17 cases presented this symptom at one time or other (20.5%) & seven of these were described as "bilious". At a later stage the vomiting may be due to the taking of too much milk. In my own case, at an early stage of the recrudescence of the fever I vomited large curdled masses & bilious fluid until only peptonised milk was taken. I can quite understand retching being the exciting cause of perforation, as well as being an important symptom of peritonitis.

Abdominal distension, meteorism or tympanites .- Distension was present in most cases to a greater or less degree. But even in two fatal cases (one with severe diarrhoea in a puerperal case; the other with consti-

PART II.

tion, marasmus & nervous symptoms extending to 112 days), the abdomen was quite soft & flat. (There is doubt as to the diagnosis in both of these cases). Meteorism existed in eight of the fatal cases to a marked degree. Tympanites was present in at least 65 cases to some extent. - 80% of all the cases. Of ~~at least~~ non-fatal cases, 57 shewed more or less distension: It was very moderate in my own case. I never saw meteorism to such a degree as to cause distress which necessitated puncture for relief. The distension may continue, in severe cases, for some time after convalescence has been established, & only disappear slowly. No doubt the paresis of the intestinal walls, which allows of their distension, is recovered from with the return of nervous vitality to the whole organism.

Gurgling & tenderness on pressure in the right iliac region is very common, & is in many cases a suggestive sign at the onset. Moore considers gurgling a sign of little importance, for it can frequently be elicited in cases not suffering from Typhoid, even with no diarrhoea.

Abdominal pain & tenderness: Sometimes abdominal pain is most complained of at an early period, & is seldom very severe, Pain & tenderness are most usually confined to the right iliac or splenic regions. In my own case & one or two others, at the beginning a soreness across the abdomen was markedly increased by pressure of the descending diaphragm in deep inspiration. Colicky pains caused tendency to fainting in my own case during the first week. & were always severe after a glycerine suppository: Also on lying on to the right iliac region, tenderness was developed more than by direct pressure of the hand.

Spleen. I believe on careful & frequent examination the spleen will, in the majority of cases be found more or less enlarged in Typhoid Fever. In fact personally I place great stress on enlargement of the spleen, as a diagnostic sign, especially when it is sufficiently enlarged to be manifest on palpation, which is much more reliable than percussion.

Where there is any difficulty, I cause the patient to take a deep inspiration, when an enlarged spleen can be felt coming against the fingers pressed under the margin of the ribs.

PART II.

be felt soon after the first symptoms have  
 h day; & increases to a certain extent, then  
 declines. But it <sup>can sometimes</sup> ~~will~~ also be palpated for  
 ature has reached normal.  
 ecially struck by the ease with which I could  
 been in the fingers like a potato. <sup>no 8</sup> I have  
 ch was only slightly enlarged during the first  
 increased in size during the relapse. in such  
 of the spleen in 20 cases (24%) but I believe  
 the frequency. 15 of the cases were under

TREATMENT  
 verid have made special  
 cases (eight giving  
 been by palpation in  
 or 1/4 of the cases.  
 n 54 cases or two-thirds  
 of Enteric fever, &  
 of 100 according to  
 ion or regularity through-  
 stipitation as not favor-  
 ating the absence of  
 ate, as in my own case  
 sting & not unlikely  
 Always alkaline in

a prominent feature  
 may be acid or  
 cease under the milk  
 k & require astrin-  
 to convalescence.  
 was reported  
 everly during the  
 attacks. Diarrhoea  
 ions, or to six or seven,  
 cious motions are

NAME *John George Whitten* No. *8.*  
 ADDRESS *Kitty Brewster*  
 OCCUPATION \_\_\_\_\_  
 AGE *3 yrs* SEX \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT *Recovery.*  
*Enormously enlarged spleen, even palpable*

NAME *James Morton* No. *82.*  
 ADDRESS *55 New Row, Rebside.*  
 OCCUPATION *Miner.*  
 AGE *40.* SEX *M.*  
 DISEASE *Typhoid fever. (Widal's reaction positive).*  
 RESULT *Recovery after Relapse.*  
*3 naproxol }  
 Quinine & Acid }*  
 Note -  
*Constipation prevalent through both attacks.  
 Incomplete defervescence in 2<sup>nd</sup> week, with oscillations in 3<sup>rd</sup> week, & Relapse in 4<sup>th</sup> week.  
 No "Typhoid state".*

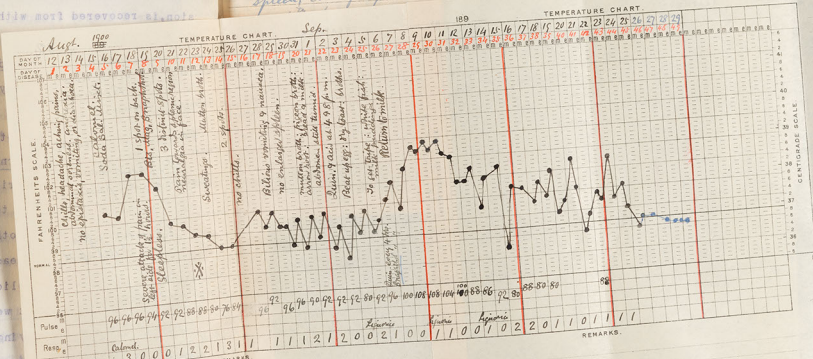
POCKET CHART FOR BEDSIDE CASE TAKING.  
 Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S.  
 John Wright & Co. Publishers, Bristol.  
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re exhausting than a large number of very scanty evacuations; hence is well to ascertain the amount as well as the number. A desire

PART II.

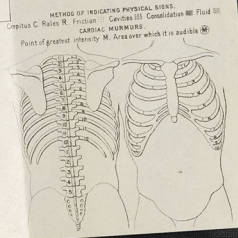
NAME *John George Whitten* No. *8.*  
 ADDRESS *Nitty Brewster*  
 OCCUPATION \_\_\_\_\_  
 DISEASE *AGE 3 yrs SEX \_\_\_\_\_*  
 RESULT *Recovery.*  
*Profoundly enlarged spleen even palpable*

... be felt soon after the first symptoms have  
 ... day; & increases to a certain extent, then  
 ... lines. But it <sup>can sometimes</sup> ~~will~~ also be palpated for  
 ... ture has reached normal.  
 ... especially struck by the ease with which i could  
 ... been in the fingers like a potato. <sup>✓</sup> <sup>Ⓟ</sup> I have  
 ... h was only slightly enlarged during the first  
 ... increased in size during the relapse.  
 ... of the spleen in 20 cases (24%) but i believe  
 ... the frequency. 15 of the cases



\* Blood taken for Widal's Test - positive.  
 U.S. murmur heard at apex - pulmonary area. Had left-side  
 pleurisy 20 yrs ago, heart-affected.

NURSES INSTRUCTIONS, DIETARY &...



METHOD OF INDICATING PHYSICAL SIGNS.  
 Capitus C Rates R. Friction F. Cardiac Murmurs  
 Point of greatest intensity M. Area over which it is audible

... re exhausting than a large number of very scanty evacuations; hence  
 ... is well to ascertain the amount as well as the number. A desire

PART II.

No. 8.  
NAME John George Whitten.  
ADDRESS 111, Brewer's

OCCUPATION  
AGE 3 yrs SEX

DISEASE

RESULT Recovery.

immensely enlarged spleen, even palpable on 4th day

POCKET CHART FOR BEDSIDE CASE TAKING. Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S. John Wright & Co. Publishers, Bristol. COPYRIGHT.

as be felt soon after the first symptoms have  
h day; & increases to a certain extent, then  
colines. But it <sup>can sometimes</sup> also be palpated for  
nature has reached normal.  
specially struck by the ease with which I could  
been in the fingers like a potato. I have  
oh was only slightly enlarged during the first  
increased in size during the relapse.  
t of the spleen in 20 cases (24%) but I believe  
s the frequency. 15 of the cases were under  
over that age. However I have made special  
pleen in my last nine cases (eight giving  
enlargement of the spleen by palpation in  
a percentage of 77.7 or 4/5 of the cases.  
as a classical symptom of Enteric fever, &  
ty of cases. - 93 out of 100 according to  
times we find constipation or regularity through-  
s. Moore regards constipation as not favor-

able, & certainly it must not be regarded as indicating the absence of  
the absence of the usual ulceration; where obstinate, as in my own case  
as a rule, the severe expulsive efforts are exhausting & not unlikely  
to cause perforation.

Diarrhoea may exist from first to last & be a prominent feature  
in the case; or it may be an early symptom & then cease under the milk  
diet; or it may develop in the middle of the attack & require astrin-  
gent treatment; or it may occur later & continue into convalescence.  
It may be absent during the first attack & occur severely during the  
relapse; or constipation may continue through both attacks. Diarrhoea  
may vary in severity, from one to three or four motions, or to six or seven,  
or to a dozen or more in 24 hours. A few very copious motions are  
more exhausting than a large number of very scanty evacuations; hence  
it is well to ascertain the amount as well as the number. A desire

PART II.

relapsing, recurrent, & nervous varieties extending to 112 cases) the spleen was  
enlarged in 107. A list of these is given in the appendix in both of these  
cases. Metastasis existed in eight of the fatal cases & a marked  
degree. Tubercles were present in at least 80 cases in some extent.  
80% of all the cases. In 10 cases, however, non-fatal cases, it showed more or less  
distention; it was very moderate in my own case. I never saw metastasis  
to such a degree as to cause distress which necessitated puncture for  
relief. The distention was continuous in several cases for some time.  
After convalescence has been established, & only disappears slowly. No  
doubt the progress of the intestinal walls, when allowed of their disten-  
tion, recovered long with the return of nervous vitality to the whole

HISTORY OF CASE.

TREATMENT

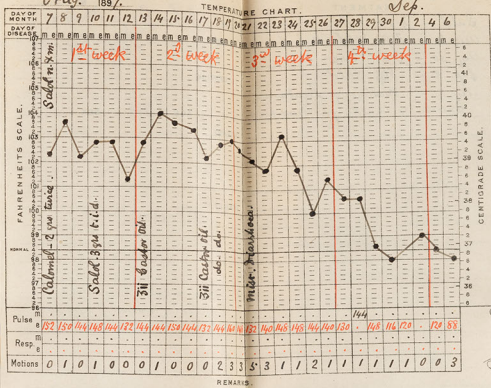
TREATMENT.

NAME  
ADDRESS  
OCCUPATION  
AGE SEX  
DISEASE  
RESULT

POCKET CHART FOR BEDSIDE CASE TAKING. Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S. John Wright & Co. Publishers. COPYRIGHT.

THIS MARGIN FOR FASTENING IN GUARD BOOK

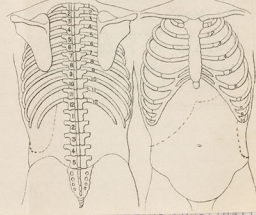
Case 8. - John George Whitten and 3. Nelly Brewster.



NURSES INSTRUCTIONS, DIETARY Etc.

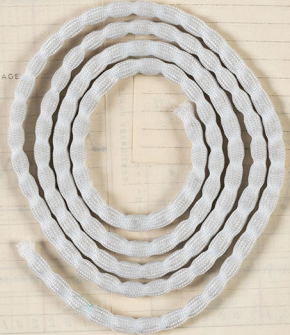
Milk, with Soda, being a bulky food.  
 Tepid Sponging. Cold to head.  
 Aug. 18 - milk gruel.  
 " 19 - Bran, 31 every 4 hrs.  
 " 21 - 4 x, op., Calomel, & chalk,  
 as required.  
 Aug. 30 - diet, Whites, etc. see  
 this memo. Gruel stopped.  
 Sep. 4. - Gruel. Broths. Bovril.  
 Sep. 7. - General Light Diet  
 (unless there is Diarrhoea).

METHOD OF INDICATING PHYSICAL SIGNS  
 Capitus C. Osae R. Frictus = Capitus III. Constipatio III. Fluid III.  
 CARDIAC MURMURS.  
 Point of greatest intensity M. Area over which it is audible III.



POCKET CHART  
 FOR BEDSIDE CARE TAKEN  
 Compiled by ROBERT SIMPSON L.R.  
 John Wright & Co. Publishers.  
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NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_  
 AGE \_\_\_\_\_  
 DISEASE \_\_\_\_\_  
 RESULT \_\_\_\_\_



able, & certainly it must not be regarded as indicating the absence of the absence of the usual ulceration: where obstinate, as in my own case as a rule, the severe expulsive efforts are exhausting & not unlikely to cause perforation.

Diarrhoea may exist from first to last & be a prominent feature in the case or it may be an early symptom & then cease under the milk diet: or it may develop in the middle of the attack & require astringent treatment: or it may occur later & continue into convalescence. It may be absent during the first attack & occur severely during the relapse: or constipation may continue through both attacks. Diarrhoea may vary in severity, from one to three or four motions, or to six or seven, or to a dozen or more in 24 hours. A few very copious motions are more exhausting than a large number of very scanty evacuations: hence it is well to ascertain the amount as well as the number. A desire

HISTORY OF CASE.

Became suddenly ill on Aug. 6.  
 Aug. 7 - Feverish, Headache & vomiting. Abdominal pain.  
 Aug. 9 - Vomiting ceased, weakness, fluid. Spleen & liver enlarged & easily palpated. Thirst. Restless.  
 Aug. 10 - Spleen much enlarged; also liver. Abdominal distension, but not tympanitic. Stools no more clean. Some Bronchitis. (Bed just made 100).  
 Aug. 11 - Restless at night. Bronchitis.  
 Aug. 16 - Abdomen tympanitic.  
 " 18 - " very distended.  
 Spleen large & firm. Liver also.  
 Aug. 19 - Loose, bad-smelling motions. Still has Bronchitis.  
 Aug. 30 - Improving. Sweats very readily.  
 Sep. 4 - Crawling for food. Inclined to diarrhoea.  
 Sep. 16 - Very profuse watery motions, tendency to looseness. (Subcuticular peritonitis?)

TREATMENT.

Salt - 3 1/2 night & morning.  
 Aug. 10 - 3 grs Salt E. I. Q.  
 Aug. 30 - Salt twice daily.  
 Sep. 8 - Stop Salt.  
 Aug. 21 - Mixture of Laudanum, Colic, & chalk, for diarrhoea.

THIS MARGIN FOR FASTENING IN GUARD BOOK

RESULT

POCKET CHART,  
 FOR BERIC CASE TAKEN  
 Compiled by ROBERT SIMPSON, L.R.  
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 Croydon, Surrey.

PART II.

The spleen may sometimes be felt soon after the first symptoms have appeared, even on the fourth day; & increases to a certain extent, then decreases as the fever declines. But it <sup>can sometimes</sup> will also be palpated for some time after the temperature has reached normal.

In one child I was specially struck by the ease with which I could grasp the much enlarged spleen in the fingers like a potato. <sup>^</sup> I have remarked that a spleen which was only slightly enlarged during the first attack <sup>sometimes</sup> became considerably increased in size during the relapse.

I have noted enlargement of the spleen in 20 cases (24%) but I believe this by no means represents the frequency. 15 of the cases were under the age of 15 & five were over that age. However I have made special note of the state of the spleen in my last nine cases (eight giving Vidal's reaction) & found enlargement of the spleen by palpation in seven of the cases, giving a percentage of 77.7 or 3/4 of the cases.

DIARRHOEA. is looked upon as a classical symptom of Enteric fever, & occurs in the great majority of cases. - 93 out of 100 according to Murchison. However, sometimes we find constipation or regularity throughout, even in undoubted cases. <sup>^</sup> Moore regards constipation as not favorable, & certainly it must not be regarded as indicating the absence of the ~~absence~~ of the usual ulceration: where obstinate, as in my own case as a rule, the severe expulsive efforts are exhausting & not unlikely to cause perforation.

Diarrhoea may exist from first to last & be a prominent feature in the case; or it may be an early symptom & then cease under the milk diet; or it may develop in the middle of the attack & require astringent treatment; or it may occur later & continue into convalescence. It may be absent during the first attack & occur severely during the relapse; or constipation may continue through both attacks. Diarrhoea may vary in severity, from one to three or four motions, or to six or seven, or to a dozen or more in 24 hours. A few very copious motions are more exhausting than a large number of very scanty evacuations; hence it is well to ascertain the amount as well as the number. A desire

for defecation may result chiefly in passage of flatus. Murchison says "No fact appears to me to be better established than that the severity & danger of this disease are in direct<sup>ct</sup> proportion to the intensity of the diarrhoea." But in some even fatal cases, I found no great difficulty in controlling the diarrhoea which did not at worst exceed 2, 4, or 6 evacuations in the 24 hours. Yet he also says "There is no relation between the intensity of the diarrhoea & the extent of intestinal disease found after death"

Diarrhoea is often absent or slight in mild attacks<sup>s</sup>, yet even in such cases, with practically no abdominal symptoms, haemorrhage or perforation may occur, & transform a mild into a dangerous or fatal case.

Some look upon the diarrhoea as a means of eliminating the fever-poison, but though it may not be desirable to lock up the bowels, I believe it is wise to use astringents if the evacuations exceed three or four in 24 hours.

I have found diarrhoea present more or less in 54 cases or two-thirds; absent in 28 cases or one-third.

Only in the fatal puerperal case was it uncontrollable: for as a rule appropriate treatment reduced the number of motions.

Ischio-rectal abscess curiously occurred in the case of two brothers; one case being mild & of a bronchitic type; the other haemorrhagic & fatal.

The loose Evacuations are generally "liquid & of the color of yellow ochre, very offensive." It is said that they are always alkaline in reaction. But occasionally I have observed salol passing in the motions & it has occurred to me<sup>that</sup> in such cases the evacuations may be acid or neutral. The color of the stools may be altered by drugs - e.g. Bismuth: but I have at times noted a constant green hue.

Intestinal haemorrhage. Out of 83 cases, blood more or less was reported in the evacuations, in 10 cases: but copious only in two cases, one being latent (2.4%). Murchison found copious bleeding (i.e. over six ounces) in 3.7%. In two of my cases (including myself during convalescence) it appeared probable that the passage of hard motions caused some blood to come from the anal ring. In six other cases, (9.6%) either a few

PART II.

clots of recognisable blood were observed, or the motions were black for a day or two, but in none of these cases did the quantity approach six ounces.

Haemorrhage appeared at the middle or end of the second week, end of the third week or later. In a case of relapse haemorrhage occurred on the tenth day, moderate in degree, & was attended by reduction of both pulse & temperature. In another case I found the temperature unexpectedly normal & in 36 hours a few clots were passed while the temperature rose to its former level.

In one of the fatal cases, only a small quantity of blood the size of a crown piece was passed during life, but after death a considerable quantity was reported to be discharged.

In the other fatal case profuse haemorrhage (the mother asserted that the quantity filled two two-pound jars) occurred early in the second week, ceased for three weeks, & ~~after~~ apparently when convalescence was beginning. Acute haemophilia set in with profuse melaena.

I also recollect a fatal case (not in this series) where profuse epistaxis occurred in the third week followed by copious melaena, but it was doubtful how far ~~was~~ blood ~~was~~ swallowed contributed to the latter.

Graves looked upon melaena as a "critical discharge of blood from the bowels"; & Trousseau regarded it as often a favorable sign, Moore says one copious haemorrhage sometimes does cause surprising improvement, but repeated haemorrhages are usually fatal.

Murchison & Liebermeister look upon intestinal haemorrhage as a formidable symptom; the latter found copious haemorrhage in 7.3% of cases; while 38.6% of the cases with haemorrhage died, only 11% of the cases without haemorrhage proved fatal.

In my experience a small quantity of blood passed per rectum may do no harm, or even coincide with general signs of improvement; yet it is an occurrence which causes some anxiety less profuse haemorrhage should follow.

PERFORATION OF THE BOWELS I have fortunately had no example of. Murchison infers that "in England, of every 33 persons attacked with Enteric fever

PART II.

one dies of perforation: & perforation is found in nearly one-fifth of the fatal cases" This usually fatal event is most common in severe cases with diarrhoea, but may even occur in mild cases with constipation: the period of occurrence is usually the 3rd, 4th or 5th weeks, but it may occur even before the 14th day or after the 60th day or even well into convalescence.

Peritonitis is the natural consequence of perforation, which is so rarely recovered from, that laparotomy appears a very justifiable operation.

I have not examined the urine in many of (series) with lung oom- severe case of relapse, haemorrhage, delirium, free from albumen. ant scanty. Salol & at there is no retention produce delirium, stupor. inence of urine during the urine in a fatal rs the "typhoid" condition te products which ought s are usually not depen- causes. nth day, In another crudescence appeared y menstrual discharge. e usual period in a n any of my cases.

NAME Mrs Green. No 58.  
ADDRESS Cowpen Village  
OCCUPATION  
AGE 29 SEX  
DISEASE Typhoid Fever.  
RESULT Recovery.

Note - Temp. to normal on 14<sup>th</sup> day (on which the M.O.H. saw her and evidently doubted the diagnosis).

Note also rise of Temp. in 6<sup>th</sup> week in connection with dysmenorrhoea.

POCKET CHART, FOR BEDSIDE CASE TAKING. Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S. John Wright & Co Publishers, Bristol. COPYRIGHT.

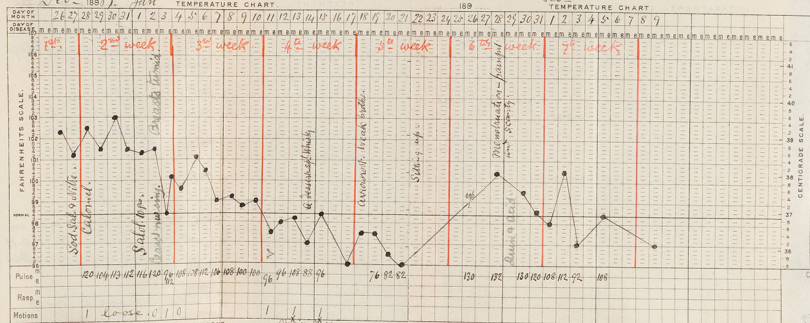
NERVOUS & MUSCULAR SYSTEMS. - Headache is very common at the onset in some cases is peculiarly intense & obstinate. It is usually

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Dec. 1887. Jan



PART VI.

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CENTRO-URINARY SYSTEM. - I have not examined the urine in many of the cases. In two fatal cases (one prior to this series) with lung complication, I found copious albuminuria. But in a severe case of relapse, which recovered, with diarrhoea, tympanites, slight haemorrhage, delirium, & typhoid state, the urine was clear, acid, amber, & free from albumen.

The color of the urine is often high & the amount scanty. Salol & carbolic acid will discolor the urine.

It is important, in the typhoid state, to see that there is no retention & re-absorption, for non-elimination may help to produce delirium, stupor, coma or convulsions. In one case I found incontinence of urine during convalescence, in a man. Blood was reported in the urine in a fatal haemorrhagic case. Murchison evidently considers the "typhoid" condition to be due to retention in the system of waste products which ought to be excreted by the kidneys; & cerebral symptoms are usually not dependent on true meningitis but on uraemic or septic causes.

In one woman, <sup>the 5th</sup> menstruation occurred on the ninth day. In another after convalescence, in the sixth week, a slight recrudescence appeared to be excited by the occurrence of painful & scanty menstrual discharge. The onset of an attack immediately followed the usual period in a young girl.

The condition of pregnancy was not present in any of my cases.

NERVOUS & MUSCULAR SYSTEMS. - Headache is very common at the onset & in some cases is peculiarly intense & obstinate. It is usually

to be recognized by the fact that the motion was slow for a day or two, but in none of these cases did the quantity of motion...  
Hemorrhage occurred at the night or end of the second week, and of the third week or later. In a case of relapse hemorrhage occurred on the tenth day, moderate in degree, & was attended by reduction of pulse & temperature. In another case I found the temperature moderately normal & in 36 hours a few clots were passed with the feces (at its former level).  
In one of the fatal cases, only a small quantity of blood was in a woman's case was passed during life, but after death a considerable

HISTORY OF CASE

TREATMENT

TREATMENT

NAME  
ADDRESS  
OCCUPATION  
AGE SE  
DISEASE  
RESULT

POCKET CHART  
FOR BEDSIDE CASE TAKING  
Compiled by ROBERT SIMPSON, L.R.C.P.  
John Wright & Co. Publishers  
Conventry

THIS MARGIN FOR FASTENING IN GUARD BOOK.

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PART II.

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TREATMENT.

NAME	
ADDRESS	
OCCUPATION	
AGE	SE
DISEASE	
RESULT	

POCKET CHART, FOR MEDICAL CASE TAKING, BY ROBERT SIMPSON, L.R.C.P. John Wright & Co. Publishers. COPYRIGHT

PERFORATION OF THE DUODENUM I have found in no example of Murchison's "in England, of every 33 persons attacked with Enteric fever"

PART II.

frontal, but sometimes occipital. It is not usual to have a complaint of headache from children.

A very persistent neuralgia of the back of the neck occurred in a female.

Giddiness is sometimes complained of early: & occasionally noises in the ears.

Pains in the Back & Limbs.- a condition of general aching, - are often mentioned, similar to those found in influenza, but not attended by such sudden prostration. In my own case, at the beginning, headache, backache, & dull pains in the limbs, persisted for a few days, being worse during the night so as to prevent sleep.

No 83.

NAME *John Kirkup.*

ADDRESS *4 Brick Row.  
Beside Furnace*

OCCUPATION *miner.*

AGE *18.* SEX *M.*

DISEASE *Enteric fever.  
(Widal's reaction positive)*

RESULT *Recovery in 4<sup>th</sup> week.*

*Salol.*

*Somnolence more or less during the attack: never delirious.  
Hiccough,  
Severe diarrhoea (dark green stools,  
melaena on 10<sup>th</sup> day.  
Spleen very much enlarged)*

POCKET CHART. No. 83.  
FOR BEDSIDE CASE TAKING.  
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TREATMENT.

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th "typhoid" symptoms,

Occasionally, delirium

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wsiness passes into

upor & coma, generally before the end. Hiccough was present in two fatal cases; & also in one moderately

83

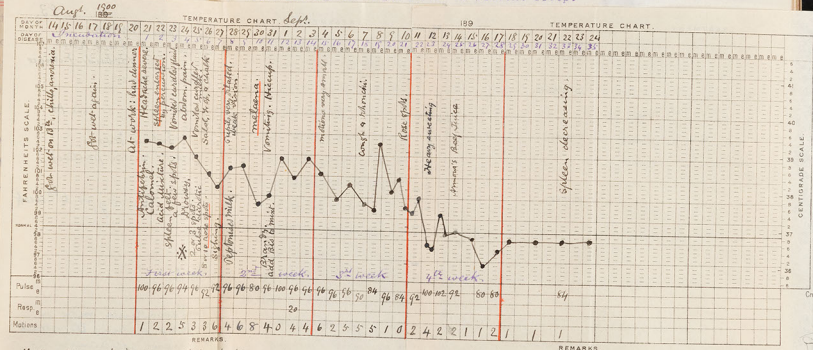
PART II.

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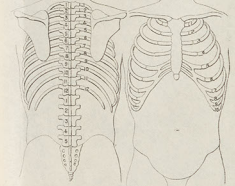
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Aug. 24 - Midal's reaction - positive.

NURSES INSTRUCTIONS DIETARY &

METHODS OF INDICATING PHYSICAL SIGNS  
 Cephus C. Ruler R. Friction F. Cervical C. Countersigns C. Fluid F.  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible A.



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33

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Rheumatism of the shoulder was a feature of one case.

Delirium.- In a great many cases there was a tendency to talking in sleep, or between waking & sleeping: but when fully awake, such cases were quite clear-headed. Even severe cases had often not the slightest delirium at any time. But as a rule, in very severe cases, delirium occurred at some time or other, in conjunction with "typhoid" symptoms, & the talk often ran on familiar occupations. Occasionally, delirium was an early symptom.

Liebermeister divides nervous disturbances into four grades of severity. Some ascribe the mental enfeeblement to insufficient nourishment; others to the presence of toxins in the blood. In my own case intellectual clearness remained throughout, but an irritable temper was rather trying to my attendants.

Delirium (of all grades) was present in 48 cases, or 57.8%.

In fatal cases, as a rule, urine was passed unconsciously in the condition of lethargy: if there was diarrhoea, the evacuations also escaped. In all, there was incontinence of urine, & often of feces, in 15 cases (18%)

Wakefulness & sleeplessness were very troublesome in some severe cases including my own.

Somnolence characterises some cases, & often comes on in defervescence after severe attacks. In fatal cases, drowsiness passes into stupor & coma, generally before the end.

Hiccough was present in two fatal cases; & also in one moderately

NAME *Robt. Ed. Rutherford* No. *70.*  
 ADDRESS *Kitty Brewster.*  
 OCCUPATION  
 AGE *26.* SEX  
 DISEASE *Intenic fever of a severe type*  
 RESULT *Recovery.*

*Severe "typhoid stage" - Delirium, incontinence, &c. Great emaciation, reduced to "skin & bone".*

POCKET CHART. *Nº 1*  
 FOR BEDSIDE CASE TAKING.  
 Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
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TREATMENT.

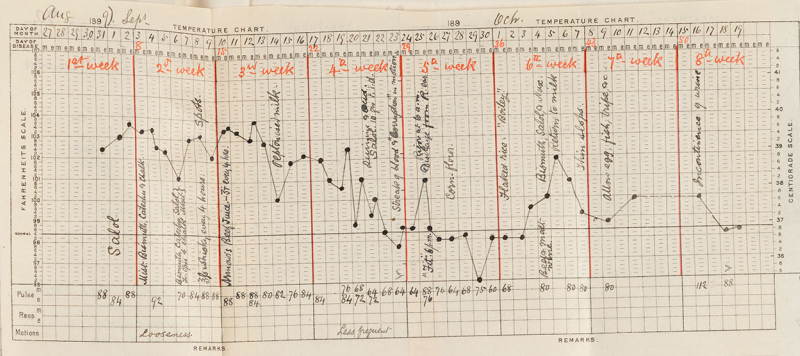
affiance. But it would  
 are sometimes unwilling  
 he temp. is 103'. In  
 ncrease during the second  
 ed at the period of de-  
 bs especially shrink to  
 ablished, & the condition  
 ks, especially in the  
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 ured in order to pre-  
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 on, in a state of pros-  
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 eady.  
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 remors of the hands

subsultus tendin... in severe cases. Sir Wm. Jenner look-  
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Carphology, jactitation, Cheyne-Stokes' breathing, & hiccough are  
 occasionally seen in cases, which usually prove fatal.

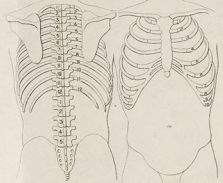
Rigidity & tremors occurred markedly in two fatal cases where the  
 onset was ushered in by cerebral symptoms: the power of speech & intelli-  
 gence was impaired in both cases, which were complicated & protracted.  
 In fact it is likely that tubercle existed in these cases.

General Convulsions. - "Fits" or similar cerebral symptoms were  
 said to have occurred at the onset of the illness in two fatal cases.  
 In a case which recovered, "fits" were alleged to take place about the  
 10th day of the illness, & a few days before pneumonia was discovered.



NURSES INSTRUCTIONS, DIETARY &c.  
 Milk & soda, three meals, &c.  
 Beef Juice.  
 Allerton water.  
 Mincey.

METHOD OF INDICATING PHYSICAL SIGNS  
 Capitate C. Scale R. Friction: Capitate III Consolidator III Fluid III  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible M.



...usculus tendinus are observed in severe cases. Sir W. Jenner looked upon "Inordinate tremor" as indicating deep ulceration of the intestine, likely to lead to haemorrhage or perforation; & this opinion was supported by Murchison.

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HISTORY OF CASE.

TREATMENT.

TREATMENT.

NAME  
ADDRESS  
OCCUPATION  
AGE SE  
DISEASE  
RESULT



POCKET CHART.  
FOR BEDSIDE CASE TAK  
Compiled by ROBERT SIMPSON, L.R.C.  
John Wright & Co. Publishers,  
Croydon.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

severe case where it seemed of no special significance. But it would be generally interpreted as an unfavorable sign.

Prostration.- In the early stage, patients are sometimes unwilling to take to bed, not feeling very ill, even when the temp. is 103°. In severe cases, prostration & emaciation rapidly increase during the second & third weeks, & appear to become specially marked at the period of defecescence. In critical cases, the lower limbs especially shrink to "skin & bone" until convalescence is fairly established, & the condition slowly improves. (Case 70)

Decubitus is usually dorsal in severe attacks, especially in the latter half. It is a favorable sign to find such cases voluntarily getting on to either side: & this should be encouraged in order to prevent bed-sores & congestion of the lungs. During my own attack, I turned on the side frequently, but there is disinclination, in a state of prostration, to change from the dorsal position.

Muscular paralysis or paresis is seen in the occurrence of meteorism, retention or incontinence of urine & feces, difficulty in swallowing, & in protruding the tongue & keeping it steady.

Muscular agitation.- The tongue is often tremulous from the first but especially in the "typhoid" stage, ~~the~~ when tremors of the hands & subsultus tendinum are observed in severe cases. Sir Wm. Jenner looked upon "inordinate tremor" as indicating deep ulceration of the intestine, likely to lead to haemorrhage or perforation; & this opinion was supported by Murchison.

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General Convulsions.- "Fits" or similar cerebral symptoms were said to have occurred at the onset of the illness in two fatal cases. In a case which recovered, "fits" were alleged to take place about the 10th day of the illness, & a few days before pneumonia was discovered.

Some cases of the disease are attended by a peculiarly violent form of delirium, which is characterized by the presence of tokens in the eyes, in my own case (Case 70) the pupils remained dilated throughout, but in this case the patient was rather dying to an extent.

Delirium (of all kinds) was present in 48 cases of 57. In the fatal cases a tubercle was passed unquestionably in the condition of the lungs, if there was diarrhoea, the excretion also occurred in the form of tubercles, often in large quantities. In 13 cases (18%) tubercles & spherules were very troublesome in some severe cases, including my own.

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NAME *George Hutchison* No. *42.*  
 ADDRESS *Rebside Furnace*  
 OCCUPATION  
 AGE *42.* SEX  
 DISEASE *Typhoid Fever.*  
 RESULT *Recovery.*  
*Severe "typhoid stage".*  
*Apoplectiform seizure &c*  
*slough passed.*

TREATMENT.

eration, an apoplectiform  
 ter a "nervous" seizure:  
 assed a blackened slough  
 ch weakened & emaciated  
 menced farm work pre-  
 like acute lumbago)  
 ngaged filling a cart  
 to the of the lumbar  
 ment very slowly dis-  
 to resume his occupation.  
 he eye-balls was some-  
 one case where the

NAME *Henry Sharp* No. *33.*  
 ADDRESS *Rebside Furnace.*  
 OCCUPATION  
 AGE *12.* SEX  
 DISEASE *Typhoid Fever*  
*with relapse*  
 RESULT *Recovery.*

TREATMENT.

e pupils was present  
 e, sometimes unusually  
 ality of the pupils  
 on says this condition  
 efferred to: also, ring-  
 inine may sometimes

Note - *Scarlatina on 19<sup>th</sup> day,*  
*followed by desquamation.*  
*Scarlet rash on 30<sup>th</sup> day.*  
*" " 48<sup>th</sup> "*  
*at the end of a moderate*  
*relapse.*

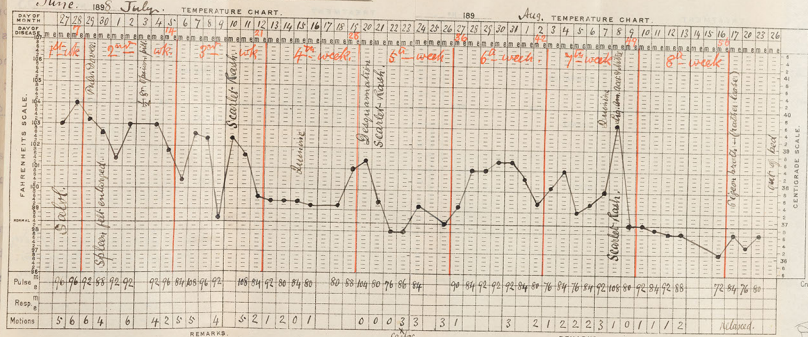
or after the second  
 atarrh of the Eus-  
 o were present, the  
 e in the right ear:  
 ne was normal.  
 about one-fifth  
 dults. It usually  
 mes profusely, at a

ed illness,  
 ree periods of ele-  
 oy tremors, rigidity  
 efervescence, in the

NAME *George Hutchison* <sup>42.</sup>  
 ADDRESS *Rebside Furnace*  
 OCCUPATION  
 AGE *42* SEX  
 DISEASE *Lymphoid Fever*  
 RESULT *Recovery*  
*Swae "typhoid stage"*  
*lymphoid fever*  
*slough passed*

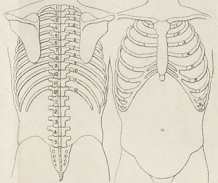
eration, an apoplectic form  
 ter a "nervous" nature;  
 ased a blackened slough  
 ch weakened & emaciated  
 menced farm work pre-  
 like acute lumbago)  
 ngaged filling a cart  
 the of the lumbar  
 ment very slowly dis-  
 to resume his occupation.  
 se eye-balls was some-  
 ne case where the

Case 2433 - Henry Sharp, age 12. - Rebside Furnace.



NURSES INSTRUCTIONS, DIETARY A.

METHOD OF INDICATING PHYSICAL SIGNS  
 Cephalic C. Sales R. Friction C. Cervical III. Consultation III. Flank III.  
 CARDIAC MEASUREMENT  
 Point of greatest intensity M. Area over which it is audible III.



Remarks: *Scarlet rash due to dummies, in one of all of the molars?*  
*Illness began on 18<sup>th</sup> June - free pharynx.*  
*July 31 - urine photoblastic on boiling; no albumen.*  
*" - Lumps count. Spleen still full. Adrenals indurated.*  
*This case was followed by the mother on the 27<sup>th</sup> Aug; the father on the 3<sup>rd</sup> Sep; a brother on the 5<sup>th</sup> Sep; a sister on the 6<sup>th</sup>.*  
*Other two (2<sup>nd</sup> & 3<sup>rd</sup> youngest) did not take it. The body was removed.*

Remarks: *No sore throat on 21<sup>st</sup> July, or Aug. 8.*

severe case where it seemed to be a special form. But it would generally be interpreted as an unfavorable sign. In the early stage, patients are sometimes unwilling to take to bed, but later very ill, even when the temperature is not raised. Convulsions & convulsive rigidity increase during the second & third weeks, & appear to become especially marked at the period of delirium. In critical cases, the lower limbs especially sink to "skin & bone" until consciousness is later established, & the condition slowly improves. (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

George Hutchison, No. 42.  
 Address: Rebside Furnace  
 Occupation:  
 Age 42, Sex:  
 Disease: Typhoid Fever.  
 Result: Recovery.  
 Severe typhoid stage.  
 Apoplectic seizure, &c.  
 Strength passed.

eration, an apoplectic form  
 ter a "nervous" seizure:  
 ased a blackened slough  
 ch weakened & emaciated  
 menced farm work pre-  
 like acute lumbago)  
 ngaged filling a cart  
 of the lumbar  
 ent very slowly dis-  
 to resume his occupation.  
 e eye-balls was some-  
 ne case where the  
 the pupils was present  
 ze, sometimes unusually  
 uality of the pupils  
 son says this condition  
 referred to; also, ring-  
 uinine may sometimes

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HISTORY OF CASE.

TREATMENT.

NAME

ADDRESS

OCCUPATION

AGE SEX

DISEASE

RESULT

TREATMENT.

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or after the second week. Louis attributed deafness of both ears to catarrh of the Eustachian tubes.

In one fatal case, where pyaemic conditions also were present, the source was believed to exist in suppurative disease in the right ear; the left ear was also deaf, but the tympanic membrane was normal.

Nose. - Epistaxis is comparatively frequent, in about one-fifth of the cases, & is more common in children than in adults. It usually occurs at an early period, but may also occur sometimes profusely, at a more advanced stage.

Marasmus was a prominent feature in a protracted illness, ushered in by cerebral symptoms, characterised by three periods of elevation of temperature, & marked in the later stages by tremors, rigidity & contractions.

Scarlatina occurred in two cases: (in one during defervescence, in the

100



PART II.

These three cases were in children.

In a man already suffering from spinal degeneration, an apoplectic form attack occurred in the fourth week, & five days later a "nervous" seizure; between the two attacks he was very prostrate & passed a blackened slough of mucous membrane. MR. R.

Typhoid Spine. A young man, who was very much weakened & emaciated by two attacks, & who recovered strength slowly, commenced farm work prematurely. Severe pain in the lumbar region (like acute lumbago) set in, & was ascribed to a twist or wrench when engaged filling a cart with manure in about a month, slight displacement ~~to the~~ of the lumbar spine to the right was noticed. Pain & disablement very slowly disappeared & it was many months before he was able to resume his occupation.

ORGANS OF SPECIAL SENSE. - Eyes. Pain in the eye-balls was sometimes mentioned & temporarily difficult vision; in one case where the latter symptom was marked, extreme dilatation of the pupils was present at the time. The pupils were mostly normal in size, sometimes unusually dilated & occasionally rather contracted. Inequality of the pupils was present during coma in two fatal cases; Murchison says this condition may be "independent of inflammation".

Ears. - Noises in the ears were occasionally referred to; also, ringing in the ears. It is true Sod; Salicylate or Quinine may sometimes have been the cause.

Deafness was a frequent symptom, especially in or after the second week. Louis attributed deafness of both ears to catarrh of the Eustachian tubes.

In one fatal case, where pyaemic conditions also were present, the source was believed to exist in suppurative disease in the right ear; the left ear was also deaf, but the tympanic membrane was normal.

Nose. - Epistaxis is comparatively frequent, <sup>occurs</sup> in about one-fifth of the cases, & is more common in children than in adults. It usually occurs at an early period, but may also occur sometimes profusely, at a more advanced stage.

Marasmus was a prominent feature in a protracted illness, ushered in by cerebral symptoms, characterised by three periods of elevation of temperature, & marked in the later stages by tremors, rigidity & contractions.

Scarlatina occurred in two cases; (in one during defervescence, in the

MR. R.

HISTORY OF CASE

- Sep. 3 - Clipped a pony in the pit & felt chilly & fatigued.
- Sep. 5 - at work.
- Sep. 14 - P. iliac tenderness.
- " 17 - Tongue coated white & moist. Costive.
- Sep. 23 - About 5 a.m. he fell "asleep", stirring, & awake feeling "queer" & hands shaking. Throat sore & ulcerated. Tongue red, dry, & glazed. He is very weak now.
- Sep. 25 - Mashed, & prefers to be left alone. Feeding less nourishment.
- Sep. 27 - Prostrate. Dry glazed tongue.
- Sep. 29 - His wife reported that in a motion during the night a "black substance was passed - a slough? It was not kept.
- Sep. 29 - Had a nervous attack, screaming & all power seemed to leave him.

TREATMENT.

NAME  
ADDRESS  
OCCUPATION  
AGE  
SEX  
DISEASE  
RESULT

TREATMENT.

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RESULT

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THIS MARGIN FOR PASTING IN GUARD BOOK.

NAME Frank Oms

ADDRESS Cowpen M

OCCUPATION

AGE 5

DISEASE Intermittent Fe

RESULT Recovery

Scarlet Fever,  
diphtheritic the  
weeks after  
of Typhoid F

instances: the one  
parently from pulmonary

apse, a recrudescence  
efervescence which from  
complete". Relapses  
apyrexia. Theoretically,  
e have merely the ex-  
ing: in relapses we have

produced recrudescence  
he, chill & gumboil,  
bed, excessive read-  
ns such as pneumonia,  
me cases, particularly  
in, as evidenced by

of more than a few  
th defervescence,  
apyrexia but were  
true relapse.  
tal issue resulted.  
bosis. Of the 18

10.  
single attack was

NAME Alison McWiven No 48

ADDRESS Belside Farmace.

OCCUPATION

AGE 21 SEX

DISEASE Typhoid Fever.

RESULT Recovery.

Prothiacks - Lysis in  
the 6<sup>th</sup> week.

TREATMENT.  
Turned sick on going  
which was in a delapidated  
king, shivery.  
tenderness.  
Tongue dry & brown  
minor & white coated.  
somewhat dry. Mucous  
softer.  
brown & dry in middle.  
white & moist.  
in a deep inspir<sup>n</sup>, in upper  
bronchial Catarrh.  
eruption - papules &  
- on breast &c.  
doses of whiskey,  
milk & beef juice.  
Loose bowels,  
rather loose.  
milk: does not  
in boiled milk.  
ing slops freely. Stop.  
milk & soda.  
Temp. up after slops.  
at quantity.

TREATMENT.

NAME Frank Om  
ADDRESS  
OCCUPATION  
AGE 5  
DISEASE  
RESULT Recovery

instances?; the one  
parently from pulmonary

apse, a recrudescence  
of exudate which from  
complete". Relapses  
apvrexia. Theoretically,  
e have merely the ex-  
ing: in relapses we have

productio recrudescence

Scarlet Fever,  
diphtheritic to  
weeks after  
of Typhoid

PART II.

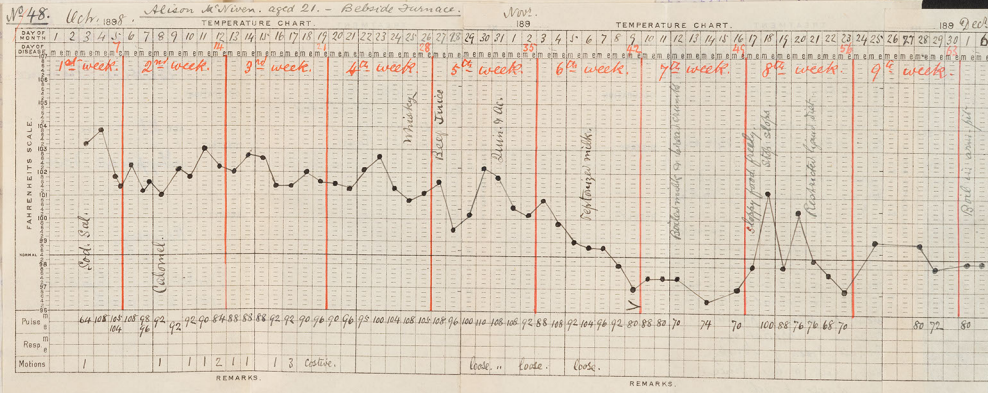
These three cases were in children.

It is now already following the spinal vaccination an epizootic  
attack occurred in the fourth week & five days later a "nervous" seizure  
between the two attacks he was very prostrate & passed a blackened stool  
of blood or menses.

A young man who recovered at a fairly early period & was very  
by two attacks & who recovered at a fairly early period & was very  
debate pain in the lumbar region (like acute lumbago)  
was excited to a relief or woman when engaged in the  
with acute in about a month slight discomfort in the  
Pain is dissipated very slowly dis-  
appeared & it was many months before he was able to resume his occupation.

SYMPTOMS OF SPINAL TENSE.

Eyes - Pain in the eyeballs was some-  
times noticed & reported. Vision in one case was present  
extreme distention of the pupils was present  
were mostly normal in size, sometimes unusually  
that contracted. Irradiation of the pupils  
of the lateral cases. Murchison says this condition  
distention".  
There were occasionally noticed for also, the  
true but slight or slight was sometimes  
ant reaction, especially in or after the second  
distention of both ears to certain of the dis-  
the presic conditions also were present, the  
list in suppurative disease in the light ear:  
all but the forward margins was normal.  
comparatively frequent, in about one-third  
more in children than in adults. It usually  
but may also occur occasionally probably



PART II

These three cases were in children.

It is a very interesting fact that the attack occurred in the fourth week & five days later a "return" attack between the two attacks he was very prostrate & passed a discharge along to mucous membrane.

A young man, who was very much weakened & emaciated by two attacks, who recovered strongly, commenced his work five days later in the lumber region (like some lumbermen) & was subjected to a list of wrench when engaged in lifting a cart with machinery about a month's interval. Pain & dislocation very slowly disappeared & it was many months before he was able to resume his occupation.

ORGANS OF SPECIAL SENSE

Pain in the eye-balls was sometimes mentioned & temporary blindness in one case where the

Ill course 25<sup>th</sup> day - Turned side on spring to walk out with, which was in a delirious, febrile condition.

Oct. 3 - Tired, aching, shivery.

Oct. 4 - Some cough.

Oct. 5 - abdominal tenderness.

Oct. 6 - Sleeps little. Tongue dry & brown in middle.

Oct. 10 - Tongue moist & white coated.

" 11 - Tongue somewhat dry. Motion begins to turn softer.

Oct. 12 - Tongue brown & dry in middle.

" 14 - Tongue white & moist.

" 15 - Sudamina from sweating.

Oct. 16 - Some pain on deep inspiration in upper abdomen. Some bronchial catarrh.

Oct. 24 - Sweat eruption - papules & small pustules - on breast, etc.

Oct. 25 - Small doses of whiskey.

" 27 - Seltzer, milk & beef juice.

Oct. 30 & 31 - Loose bowels.

Nov. 2 & 3 - Rather loose.

Nov. 6 - Softened milk. Does not care for it.

Nov. 12 - Creams in holes milk.

Nov. 18 - Working slips freely. Slip.

Return to milk & soda.

Nov. 20 - Sleep, up after slips. Restore quantity.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

OCCUPATION \_\_\_\_\_

AGE \_\_\_\_\_

SEX \_\_\_\_\_

DISEASE \_\_\_\_\_

RESULT \_\_\_\_\_

TREATMENT.

(Continued)

Nov. 23 - Biscuit. Thin boiled milk & biscuit. Arrow-root. Tapioca, etc.

Dec. 1 - "Blind" bed in leg amput. up 5 hours.

POCKET CHART FOR BEDSIDE CASE TAKING

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TREATMENT.

NAME Frank Om's

ADDRESS Cooper St

OCCUPATION \_\_\_\_\_

AGE 5-

DISEASE Intermittent Fe

RESULT Recovery.

Scarlet Fev., diphtheritic throat weeks after 4 Typhoid

70

instances: the one apparently from pulmonary apse, a recrudescence of fever which from complete". Relapses of apyrexia. Theoretically we have merely the existing: in relapses we have produced recrudescence of fever, chill & gumboil, of bed, excessive reactions such as pneumonia, in some cases, particularly in origin, as evidenced by

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of more than a few as duration occurred: some of these interfered with defervescence, while others occurred after a distinct interval of apyrexia but were not long enough in duration to deserve the name of true relapse.

In two cases, where recrudescence occurred, a fatal issue resulted, one from haemorrhage, the other from pulmonary thrombosis. Of the 18 cases, eight were males, & 10 females.

Recrudescence occurred in 7 cases under the age of 10.

.. ..	3 ..	between 10 & 20
.. ..	5 ..	20 & 30
.. ..	1 ..	30 & 40
.. ..	2 ..	40 & 50

PROTRACTED CASES.

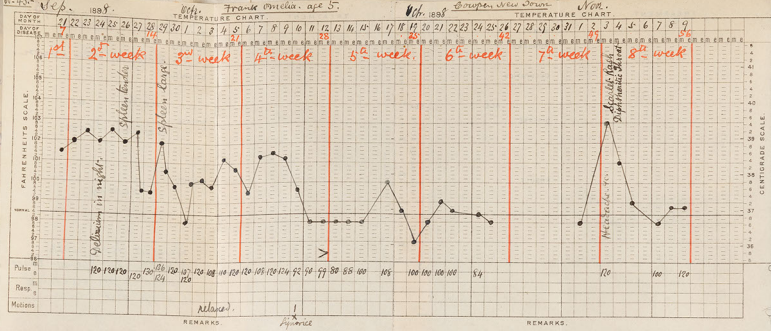
In eight cases of recovery without relapse, the single attack was prolonged beyond 28 days. No. 48

ET CHART FOR BEDSIDE CASE TAKING

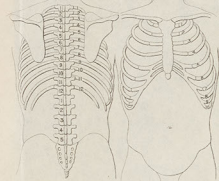
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METHOD OF INDICATING PHYSICAL SIGNS  
 Costas C. Bates R. Frislon - Coates III Consolidation of Fluid  
 CARDIAC MURMURS  
 Point of greatest intensity. M. Area over which it is audible W.



TREATMENT

Ill since 25<sup>th</sup> Sep. - Several weeks on prop to work out. W.L. which was in a dilapidated, filthy condition.

Oct. 3 - Food, acting, shivery.

Oct. 4 - Some cough.

Oct. 5<sup>th</sup> - Abdominal tenderness.

Oct. 6 - Sleeps little. Tongue dry & brown in middle.

Oct. 10 - Tongue moist & white coated.

" 11 - Tongue somewhat dry. Motion began to turn soft.

Oct. 12 - Tongue brown & dry in middle.

" 14 - Tongue white & moist.

" 15 - Sedamium from sweating.

Oct. 16 - Some pain on deep inspiration in upper abdomen. Some bronchial catarrh.

Oct. 24 - Sweat erupting - papules & small pustules - on breast &c.

Oct. 25 - Small doses of whiskey.

" 27 - Getting milk & beef juice.

Oct. 30 & 31 - Loose bowels.

Nov. 2 & 3 - Rather loose.

Nov. 6 - Sterilized milk. Does not care for it.

Nov. 12 - Creamed in holes milk.

Nov. 18 - Getting sleep freely. Stop.

Returns to milk & soda.

Nov. 20 - Getting up after sleep. Resolves quantity.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

OCCUPATION \_\_\_\_\_

AGE \_\_\_\_\_ SEX \_\_\_\_\_

DISEASE \_\_\_\_\_

RESULT \_\_\_\_\_

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 FOR MEDICAL CASE TAKING  
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... duration occurred: some of these interfered with defervescence, while others occurred after a distinct interval of apyrexia but were not long enough in duration to deserve the name of true relapse.

In two cases, where recrudescence occurred, a fatal issue resulted, one from haemorrhage, the other from pulmonary thrombosis. Of the 18 cases, eight were males, & 10 females.

Recrudescence occurred in 7 cases under the age of 10.

..	..	3	..	between 10 & 20
..	..	5	..	20 & 30
..	..	1	..	30 & 40
..	..	2	..	40 & 50

PROTRACTED CASES.

In eight cases of recovery without relapse, the single attack was prolonged beyond 28 days. *Nov 48*

HISTORY OF CASE

Sep. 21 - Ill for a week.  
 " 24 - Delirious nights.  
 " 25 - Headache. Pain in abdomen on pressure.  
 Sep. 26 - Spleen felt enlarged & tender. Tenderness in R. iliac region. Tongue white coated with red papillae.  
 Sep. 29 - Spleen large.  
 Oct. 3 - 1 loose M.  
 Oct. 5 - 1 soft M.  
 Oct. 10 - Pink flg. Co.  
 Nov. 3 - Headache, etc.  
 " 4 - Scarlat. tons. & diphtheritic throat.

Depyramin in Dec course.

Oct. 5 - abdominal tenderness.  
 Oct. 6 - Sleeps little. Tongue dry & brown in middle.  
 Oct. 10 - Tongue moist & white coated.  
 " 11 - Tongue somewhat dry. Mouth begins to turn soft.  
 Oct. 12 - Tongue brown & dry in middle.  
 " 14 - Tongue white & moist.  
 " 15 - Sudamina from sweating.  
 Oct. 16 - Some pain on deep pressure, in upper abdomen. Some bronchial catarrh.  
 Oct. 24 - Sweet eruption - papules & small pustules - on breast, etc.  
 Oct. 25 - Small doses of whiskey.  
 " 27 - Sipping milk & beef juice.  
 Oct. 30 - 31 - Loose bowels.  
 Nov. 2 - 3 - Rather loose.  
 Nov. 6 - Replenished milk. Dec no. case for it.  
 Nov. 12 - Creams in bottles milk.  
 Nov. 18 - Taking slops freely. Stop. Return to milk & soda.  
 Nov. 20 - Sleep, up after slops. Reduce quantity.

ST. CHART, FOR RECORD CASE TAKI  
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TREATMENT

NAME  
 ADDRESS  
 OCCUPATION  
 AGE  
 DISEASE  
 RESULT

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DISEASE  
 RESULT

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PART II.

other, during convalescence. N<sup>o</sup> 45

Sudden death terminated the illness in two instances?; the one probably from cerebral hemorrhage, the other apparently from pulmonary thrombosis. Both were complicated cases.

RECRUDESCENCE. - As distinguished from a relapse, a recrudescence implies "a reascend of the temperature after a defervescence which from its extent or its duration cannot be regarded as complete". Relapses "only occur after a definite period of complete apyrexia. Theoretically, the distinction made is that in recrudescences we have merely the extension or aggravation of mischief already existing; in relapses we have new mischief ab initio." (Finlayson).

The following were regarded as causes which produced recrudescence of fever: - excitement & talking, constipation, earache, chill & gumboil, painful & scanty menstruation, being too soon out of bed, excessive reading, fatigue, solid food, fruit, as well as complications such as pneumonia, phlebitis, or suppuration of the middle ear. In some cases, particularly my own, the recrudescence had probably a septic origin, as evidenced by chills, heats, & sweatings.

In 18 cases (21.6%) a recrudescence of fever of more than a few days duration occurred; some of these interfered with defervescence, while others occurred after a distinct interval of apyrexia but were not long enough in duration to deserve the name of true relapse.

In two cases, where recrudescence occurred, a fatal issue resulted, one from hemorrhage, the other from pulmonary thrombosis. Of the 18 cases, eight were males, & 10 females.

Recrudescence occurred in 7 cases under the age of 10.

**	**	3	..	between 10 & 20
**	**	5	..	20 & 30
**	**	1	..	30 & 40
££	**	2	..	40 & 50

PROTRACTED CASES. -

In eight cases of recovery without relapse, the single attack was prolonged beyond 28 days. N<sup>o</sup> 48

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NAME *Mrs Juddery* No 11  
 ADDRESS *Cowpen Village.*  
 OCCUPATION \_\_\_\_\_  
 AGE *30.* SEX \_\_\_\_\_  
 DISEASE *Enteric Fever with two relapses.*  
 RESULT *Recovery.*

TREATMENT.

n of the typhous mat-  
 separating sloughs.  
 nce favors relapse.  
 cases be the spleen.  
 ,but possibly in some  
 aged. A long interval  
 onth.

who "feeds" well,  
 3%. Dr. Shattuck ^  
 (while Osler had 40  
 may be double, rarely  
 Of 83 cases, relapse  
 single. & two were double  
 us, & nervous symptoms.

	Murchison's average	average
..	6.5	11.76
..	19.5	16.4

interval lasted for  
 16 days.

children under 15. &  
 ales.

females, aged two & 30. ^

attacks where single

ritical than the first  
 rather milder.

the first two attacks  
 other, all three attacks  
 y, etc. increased till

ses, of which six died,  
 se; or supervened on an  
 cle, syphilis, pyaemia,  
 1 typhoid course.

NAME *Ethel Haggarty* No 23.  
 ADDRESS *Cowpen Village.*  
 OCCUPATION \_\_\_\_\_  
 AGE *11.* SEX \_\_\_\_\_  
 DISEASE *Enteric Fever.*

TREATMENT.  
*Calomel, 2 grs. every 4  
 3 doses.  
 Salol, 4 grs t.i.d.  
 Comb. i. Op. as required  
 Coea.  
 Mist. Cret, Catechu,  
 ii.  
 Resume Salol t.i.d.*

NAME *Mrs Robson* No 46.  
 ADDRESS *Kitty Brewster.*  
 OCCUPATION \_\_\_\_\_  
 AGE *38.* SEX \_\_\_\_\_  
 DISEASE *Enteric Fever (relapse)*  
 RESULT *Recovery.*

TREATMENT.

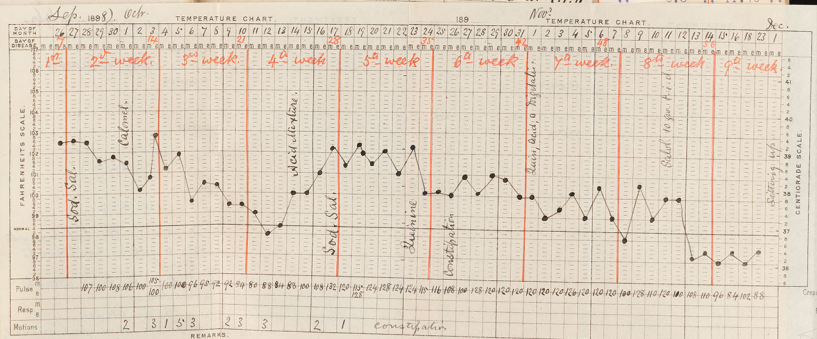
Treated in the kitchen, with  
 only a girl in her teens to  
 attend.  
 Note - in first attack  
 diarrhoea.  
 In 2nd attack, con-  
 stipation, and pulse usually  
 120 and above. No  
 "typhoid stage". Laughing  
 & cheerful

NAME *M<sup>r</sup> Judbury* No. *11*  
 ADDRESS *Coupen Village*  
 OCCUPATION  
 AGE *30* SEX  
 DISEASE *Interic Fever with two relapses*  
 RESULT *Recovery*

TREATMENT  
 of the typhous mat-  
 separating sloughs.  
 nce favors relapse.  
 cases be the spleen,  
 but possibly in some  
 aged. A long interval  
 onth. who "feels" well,  
 3%. Dr. Shattuck ^  
 while Osler had 40  
 may be double, rarely  
 Of 83 cases, relapse  
 single & two were double  
 us, & nervous symptoms.  
 Murchisons  
 average  
 average 22.1 days 27 days  
 .. 6.5 .. 11.78 ..

NAME *Ethel Haggarty* No. *23*  
 ADDRESS *Coupen Village*  
 OCCUPATION  
 AGE *11* SEX  
 DISEASE *Interic Fever*

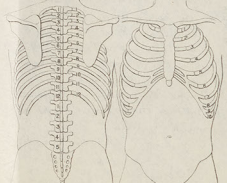
TREATMENT  
*Calomel, 2 grs. every 4*  
*3 doses*  
*Salol, 4 po t. i. d.*  
*cont. s. op. as symptoms*  
*loca.*  
*Mist. Ocul. Caticha,*  
*ii*  
*Resume Salol t. i. d*



REMARKS  
*All for nearly a week before 26<sup>th</sup> Sep.*

NURSES INSTRUCTIONS, DIETARY &c.

METHOD OF INDICATING PHYSICAL SIGNS  
 Outline C. Ruler R. Friction = Cavities III. Consolidation III. Fluid III  
 DARKER MARKINGS  
 Point of greatest intensity. M. Area over which it is audible III



THIS MARGIN FOR FASTENING IN SQUARE BOOK.

HISTORY OF CASE  
 Previous to Mrs. Kibbey's illness a little boy had a febrile illness, for which he was confined to bed - with pain at the time, but no doubt typhoid. Not nitrophenol.  
 Sep. 26 - Ill for a week previous - chills, aching all over, headache, etc.  
 Sep. 27 - Same symptoms.  
 Oct. 1 - Calomel.  
 Oct. 4 - Tongue coated dirty white.  
 Oct. 18 - 1 Cochine m<sup>o</sup>.  
 " 26 - Conetophol  
 " 28 - Tongue coated.  
 1 Cochine M.  
 Nov. 1 - Bowel regular on Lavin, acid, & fig.  
 Nov. 3 - Shred on milk tea  
 " 11 - 10 grs Sald t.i.d.  
 Nov. 15 - Cochine. Bowels moved with P. flyc. Co.  
 Tongue dirty but cleaning. Dried & talkative. Kept on milk & soda.  
 Nov. 23 - Bowels regular.  
 Dec. 1 - Lf. Feels less aching.

77

NAME  
ADDRESS  
OCCUPATION  
AGE 30. SEX  
DISEASE  
RESULT

TREATMENT.

Recovery.

TREATMENT

NAME  
ADDRESS  
OCCUPATION  
AGE SEX  
DISEASE  
RESULT

TREATMENT

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NAME  
ADDRESS  
OCCUPATION  
AGE 30. SEX  
DISEASE  
RESULT

TREATMENT.

Recovery.

TREATMENT.

NAME  
ADDRESS  
OCCUPATION  
AGE 11 SEX  
DISEASE  
RESULT

TREATMENT.

Recovery.

POCKET CHART FOR FEBRILE CASE TAKING  
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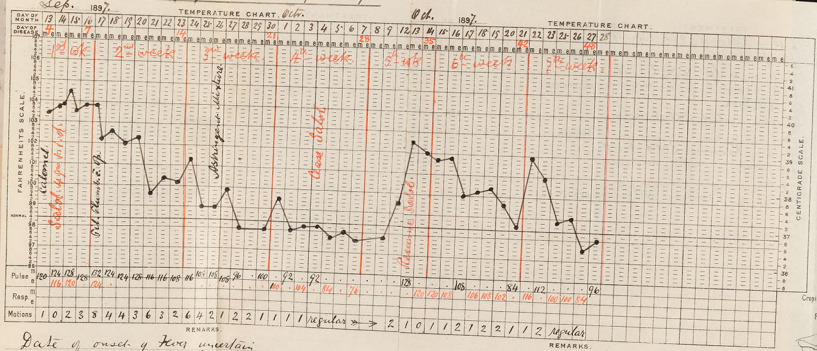
n of the typhous mat-  
 separating sloughs.  
 noe favors relapse.  
 cases be the spleen.  
 ,but possibly in some  
 ored. A long interval  
 onth.  
 5%. Dr. Shattuck  
 who "feels" well,  
 while Osler had 40  
 may be double, rarely  
 Of 83 cases, relapse  
 single, & two were double  
 us, & nervous symptoms.  
 Murchison's  
 average  
 average 22.1 days 27 days  
 .. 8.5 .. 11.76 ..  
 .. 19.5 .. 18.4 ..  
 Interval lasted for  
 & 16 days.  
 children under 15. &  
 males.  
 e females, aged two & 30.  
 attacks where single  
 critical than the first  
 ly rather milder.  
 so the first two attacks  
 he other, all three attacks  
 ity, etc. increased till

MIXED INFECTION appeared to exist in nine cases, of which six died.  
 As examples, typhoid occurred in a puerperal case; or supervened on an  
 attack of gastro-enteritis; Scarlet fever, tubercle, syphilis, pyaemia,  
 septicæmia, etc. appeared to complicate the normal typhoid course.

NAME *Mr. Tubbery* No. 11  
 ADDRESS *Cowpen Village*  
 OCCUPATION  
 AGE *30* SEX  
 DISEASE *Interic Fever with two relapses*  
 RESULT *Recovered*

TREATMENT  
 of the typhous mat-  
 separating sloughs.  
 nee favors relapse.  
 cases be the spleen.  
 ,but possibly in some  
 ezed. A long interval  
 oth.  
 who feeds well,  
 3%. Dr. Shattuck A

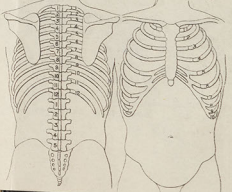
Case 23. - Ethel Haggarty, age 11. - Cowpen Village.



Date of onset of fever uncertain  
 Always cheerful & laughing. Often declared she felt quite well.  
 Spleen never enlarged. No vom. c. op. found in mictions.

NURSES INSTRUCTIONS, DIETARY &c.  
 Milk with delirium.  
 Sep. 15 - 5i wheaten every 4 hrs.  
 White of egg walls.  
 Sep. 29 - Broths.  
 Oct. 5 - Breadcrumbs added.  
 Oct. 7 - Puddings, butter, &c.  
 Oct. 13 - Returns to milk,  
 white of egg, &c.  
 Later, as there was no diarrhoea,  
 liquid diet, including broths,  
 gruels, &c.

METHOD OF INDICATING PHYSICAL SIGNS  
 Capitus C. Rales R. Friction: Cavities III. Consolidation III. Fluid III.  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible @



death occurred.

MIXED INFECTION appeared to exist in nine cases, of which six died.  
 As examples, typhoid occurred in a dussereal case; or supervened on an  
 attack of gastro-enteritis: Scarlet fever, tubercle, syphilis, pyaemia,  
 septicaemia, etc. appeared to complicate the normal typhoid course.

THIS MARGIN FOR FASTENING IN HARD BOOK.

HISTORY OF CASE.

For a fortnight before Sep 11/97, pain & stiffness of neck, swollen glands under right sternum-mastoid for over a week.

Sep 11 - Vomited & off food.

Sep 13 - Stools, no pain, a headache. No nose-bleed. Neck better tonight.

Sep 14 - Stools greenish & frequent. After calomel on 13<sup>th</sup>.

Sep 15 - Bright & intelligent, tongue dry & brown. Some faint spots on abdomen.

Sep 20 - Mouth greenish yellow, but no so much swollen, and thicker on corners. Tongue brown, dry, & cracked. Numerous spots on abdomen for a few days.

Sep 25 - Still rather loose, yellow mouth. Tongue mottled brown edges.

Oct 2 - Tongue moist & red, etc. cleared.

Oct 6 - Urine pale: no albumen.

Oct 12 - Dull, pink & temp. raised. Only just began to take light solids - fish etc.

Oct 15 - Always cheerful & laughing. Bore the illness well, reads a deal. Clean tongue.

Oct 27 - Does not compare to feeling ill.

TREATMENT.

Sep 13 - Calomel, 2 grs. every 4 hrs for 3 doses.

Sep 14 - Saldol, 4 grs t.i.d.

Oct. Plumb. i. gr. as aperient for diarrhoea.

Sep 26 - Miss. Orel, Caliche & 2. Opri

Oct 13 - Resume Saldol t.i.d. 4 grs doses. afterwards every 4 hrs.

Oct 27 - Continue Saldol t.i.d.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

OCCUPATION \_\_\_\_\_

AGE \_\_\_\_\_ SEX \_\_\_\_\_

DISEASE \_\_\_\_\_

RESULT \_\_\_\_\_

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TREATMENT.

NAME *Mrs Sudbury* No 11

ADDRESS *Cropton Village.*

OCCUPATION \_\_\_\_\_

AGE *30.* SEX \_\_\_\_\_

DISEASE *Intense Fever with two relapses.*

RESULT *Recovery.*

No doubt the patient disobeyed orders as to how long she should remain up after decline of the fever, & as to Diet. On one occasion I found potatoes & gravy for her consumption the day after "the turn" at the end of the first relapse. It is not surprising that a 2<sup>nd</sup> relapse followed.

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TREATMENT.

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3%. Dr. Shattuck ^  
while Osler had 40  
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Of 83 cases, relapse  
single, & two were double  
us, & nervous symptoms.  
Murchison's  
average  
Average 22.1 days 27 days  
.. 6.5 .. 11.76 ..  
.. 19.5 .. 16.4 ..  
Interval lasted for  
16 days.

children under 15. &  
In the two cases of double relapse, both were females, aged two & 30. ^

In regard to the comparative severity of the attacks where single relapse occurred:-  
In three cases the relapse was markedly more critical than the first attack. In four cases the relapse was certainly rather milder.  
In one case, both attacks were mild.

Where double relapse occurred. In one case the first two attacks were moderately severe, & the third mild. In the other, all three attacks were mild, but marasmus, emaciation, tremors, rigidity, etc. increased till death occurred.

MIXED INFECTION appeared to exist in nine cases, of which six died. As examples, typhoid occurred in a diphtheria case; or supervened on an attack of gastro-enteritis; Scarlet fever, tubercle, syphilis, pyaemia, septicaemia, etc. appeared to complicate the normal typhoid course.







TREATMENT.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
OCCUPATION \_\_\_\_\_  
AGE \_\_\_\_\_ SEX \_\_\_\_\_  
DISEASE \_\_\_\_\_  
RESULT \_\_\_\_\_

PART II

RELAPSE is believed to be due to "reabsorption of the typhous material" so that healthy glands are inoculated from separating sloughs. Some believe that constipation during convalescence favors relapse. It is possible the source of relapses may in some cases be the spleen. The exciting cause of relapse is often unknown, but possibly in some cases excitement, premature feeding, etc. can be alleged. A long interval may intervene between attacks, even 24 days or a month.

Murchison says true relapse is rare, & gives 3%. Dr. Shattuck <sup>who "feels well,"</sup> <sub>^</sub> on the other hand gives the proportion as 16.25%; while Osler had 40 relapses out of 500 cases, or 8%. Osler says there may be double, rarely ~~four~~ triple, & very rarely four or five relapses. Of 83 cases, relapse occurred in 10 cases, or 12%. Eight cases were single, & two were double relapses: of the latter, one (a child) died of marasmus, & nervous symptoms. after 112 days illness.

The first attack continued for 12 to 32 days.	average 22.1 days	27 days
The interval	.. .. 2 .. 13 .. ..	6.5 .. 11.76 ..
The second attack	.. .. 14 .. 30 .. ..	19.5 .. 16.4 ..

Of two cases of double relapse, the second interval lasted for 6 & 11 days, & the third attack continued for 14 & 16 days.

Of the 10 cases of relapse, four occurred in children under 15. & six in adults. Five were in males, & five in females.

In the two cases of double relapse, both were females, aged two & 30. <sup>N<sup>o</sup> 11</sup> <sub>^</sub>

In regard to the comparative severity of the attacks where single relapse occurred:-

In three cases the relapse was markedly more critical than the first attack. In four cases the relapse was certainly rather milder.

In one case, both attacks were mild

Where double relapse occurred.- In one case the first two attacks were moderately severe, & the third mild. In the other, all three attacks were mild, but marasmus, emaciation, tremors, rigidity, etc. increased till death occurred.

MIXED INFECTION appeared to exist in nine cases, of which six died. As examples, typhoid occurred in a puerperal case, or supervened on an attack of gastro-enteritis: Scarlet fever, tubercle, syphilis, pyaemia, septicaemia, etc. appeared to complicate the normal typhoid course.

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PART II.

SEQUELAE. - Beyond protracted emaciation & weakness, I can only recollect one sequela of importance, viz. the occurrence of spinal affection in the case of a young man after a long period of convalescence: "typhoid spine" is described as an inflammatory affection of the periosteum & other fibrous structures of the spine: here there was also distinct lateral <sup>displacement</sup> ~~development~~ of the spinal process of the second lumbar vertebra.

DURATION OF ATTACK. - The ordinary attack lasts for three or four weeks. Of 44 ~~relapses, the average duration of the attack lasted 24 days.~~ cases of recovery, exclusive of very prolonged recrudescences & a relapses, the average duration of the attack lasted 24 days. Moore gives 24.3 days as Murchison's average, (21 to 28 days) of recoveries. One case <sup>in recovery</sup> terminated in 8 days.

5 cases terminated in 12 to 14 days

15 .. .. 15 to 21 .. undoubtedly Typhoid.

26 .. .. 22 to 28 .. afterwards. In all, 8 out of

11 .. .. 29 to 35 ..

7 .. .. 36 to 58 ..

(In these 65 cases, I include the first attacks of cases which afterwards relapsed)

Of 13 fatal cases the average duration was 29.08 days; of 112 fatal cases Moore gives the mean as 27.67 days. The shortest duration was about five days in an infant 7 Mos. old. The longest was 112 days in a girl of 2 years who had a double relapse, & died with marasmus, tremors & rigidity. (Both these cases are doubtful).

The percentage mortality was 15.66% (13 fatal out of 83). Of the 13 fatal cases:-

1 proved fatal in 5 days

1 .. .. 6 ..

2 .. .. 14 ..

3 .. .. 17 ..

1 .. .. 26 ..

1 .. .. 29 ..

1 .. .. 32 ..

1 .. .. 37 ..

1 .. .. 42 ..

1 .. .. 112 ..

## PART II.

DIAGNOSIS. - In the diagnosis of Enteric Fever, it is necessary to have regard to all the symptoms individually as well as collectively.

Very often it is only by a process of "exclusion" that the disease is finally diagnosed as Typhoid.

The Ehrlich or "diazo" urine test is not sufficiently reliable; though it is said to be quite uniformly present in Enteric fever yet it is also found in many other diseases. But in Widal's test, we undoubtedly now possess a diagnostic method of great importance: from over 4000 cases the test proved positive & satisfactory in 95%. It is said that too much reliance must not be placed upon a negative result, but a positive result is to be depended on in high dilution of the serum.

I have recently had ten samples of blood examined through the Northumberland County M.O.H.'s department. One case gave a negative reaction & was certainly not Typhoid.

One case gave a negative reaction & was undoubtedly Typhoid.

One . . . <sup>no</sup> reaction <sup>at</sup> first, but positive afterwards. ~~But~~ In all, 8 out of 9 Enteric fever cases gave a positive reaction.

*I also sent my own blood for examination <sup>in Sep. 1900</sup> having had a protracted attack nearly three years ago: a negative reaction was obtained.)*

PART II  
TREATMENT.

DIETARY TREATMENT DURING THE ATTACK. - I invariably insist very strongly on the importance of milk only, diluted with soda or lime water or barley water. I often add albumen water, & lemon water, & occasionally Armour's Beef Juice. In cases where digestion is poor, so that curded milk is vomited or appears in the motions, I advise peptonising the milk with Fairchild's peptonising powders. I also sometimes use Carnick's Liquid peptonoids.

For thirst, I would allow soda or potash water, cold spring water, lemon water etc. in small quantities often: also ice to suck when obtainable: glycerine is very grateful & comforting when the mouth & tongue are parched. I believe glycerine pastilles helped greatly in keeping my tongue moist, otherwise I fail to understand why it had never the characteristic appearance.

In prostrating & severe cases, I recommend stimulants in moderate amount, But stimulants are only required in severe cases, where the powers are failing.

Samuel West attributes the occurrence of many relapses to the too early feeding with food other than milk (B.M.J. 1897).

A.G. Barrs favors early feeding: he gives ordinary mixed diet when the temperature falls to 100°, & does not wait for convalescence to be fully established. He even allows solid food during the acute stage, if not too severe, when the patient craves for it. Dr. Shattuck suggests more latitude in feeding, giving a great variety of easily-assimilable articles of diet. Purely milk diet, it is asserted, causes starvation & emaciation, hence the need for other easily assimilated foods.

It has even been recommended to feed typhoid patients exclusively by rectal enemata to rest the ulcerated bowels, & by boric acid washings per rectum to prevent auto-toxic action. (Prof. Quierolo of Pisa).

But, speaking for myself, if I ordered a diet other than liquid to be taken during the febrile stage & for some time after, I should feel blameworthy if defervescence was unduly delayed, or if diarrhoea became severe or some intestinal complication ensued. Indeed, I believe, in diluted milk, especially peptonised, albumen water, & Beef Juice, we possess a nourishing & very easily assimilated food, quite sufficient to carry even a severe case over the worst. I am strongly disposed to give Wyeth's beef juice the credit, along with peptonised milk & champagne, of rescuing me from the portals of death when in a condition of extreme prostration; brandy, freely administered, was only effectual in increasing

## PART II.

tissue waste by accelerating the heart's action to 120, 130 & I fancied sometimes even 140 per minute, while the temperature was depressed below 100'

DIET IN CONVALESCENCE.- However much disposed we may feel to yield to the patient's pleadings for "something to eat," it is absolutely necessary to adhere to fluids, chiefly milk diluted, for many days after fever has completely subsided. Indeed it is wise to allow no change from the strict fever diet for at least a week, when weak clear broths (chicken, mutton, veal, beef, bovril, Liebig's Extract) & gruels may be added: followed by thin milk puddings. After 10 days convalescence it will be safe to allow some very light solid food, - tripe, white fish, eggs lightly cooked, boiled chicken, tea, coffee or cocoa, with toast or biscuits.

The above scale of diet may not be so liberal as is allowed by most text-books, but when I have yielded to give some light food earlier, I have sometimes had occasion to regret it. Of course it is impossible to ascertain truly how far the patient or friends have trespassed, on their own responsibility. I have found a plate of potatoes & gravy being sent in to a patient the day after the temperature had reached normal after a relapse: it is not surprising that this patient suffered a second relapse, while her daughter also had a relapse.

MEDICINAL TREATMENT.- Since reading Yeo's arguments for the anti-septic treatment in Typhoid fever, I have almost invariably given some form of intestinal antiseptic in my cases. It may be true that fully 80% of cases probably recover, regardless of treatment; while mild cases also occur in every epidemic, & more so in some than in others. Yet I am convinced that, beginning in the early stage with three to five grains of calomel, & persisting in the use of Salol, carbolic acid in keratin-coated pills, Yeo's chlorinated quinine solution, or other efficient anti-septics, a much more favorable death-rate would be obtained, rivalling that ascribed to the cold bath treatment. Even where other forms of treatment, such as Barr's continuous immersion or a modified cold bath method, are adopted, it would be very advantageous to aim at intestinal antiseptics also. In fact I believe Dr. Barr does strongly advocate giving Salol, with the addition of Bismuth salicylate in diarrhoea, & of minute doses of calomel in constipation.

"Antiseptic methods may act either by preventing the formation of the poisonous animal alkaloids or ptomaines, to which pathogenic organisms seem or are believed to give rise: or by destroying these ptomaines when

PART II.

formed; or lastly by promoting their discharge from the body " (Moore)  
Dr. Simon says the object of the treatment is not "germicidal";  
"not to kill the typhoid bacillus, but only to render its influence less  
hurtful by improving the condition of the bowel, & by diminishing the  
risk of a secondary fever from putrefaction & development of ptomaines".

As typhoid fever is an acute infective disease of proved microbic origin, it is quite a logical form of treatment to endeavour to counteract the action of the specific micro-organisms by the use of general & intestinal antiseptics, instead of observing a simply expectant attitude.

Latham's sarcastic remark is certainly unjustifiable: "By treating patients in various ways by antiseptic remedies, the result has been that the patient, and not the bacillus has succumbed "

Many antiseptics have <sup>been</sup> employed, formerly in an empirical manner, but latterly as "an application of a principle or guiding idea" in the treatment.

Dr. Wilks was very successful with sulphurous acid solution (3 to 20 m. every 4 hours) & claimed that it was "an ~~antidote~~ antidote," shortening the attack by "arresting the further development of the fever-poison". Simon preferred Turpentine, 15 m. every 4 hours. Quill used Calvert's purest carbolic acid (3 m. every 2 or 3 hours) combined with Sp. Chloroformi & Aq. Chloroform. Charteris advocated pure carbolic acid (with a melting point of 40' C. as having no toxic effects) to be given in keratin-coated pills. Yeo strongly recommends Quinine (a general antiseptic) given in a solution of chlorine (an intestinal antiseptic) & makes the following claims for this treatment: (1) The temperature is modified & lowered: (2) The fever is abbreviated: (3) The strength maintained, the mind remains clear, & stimulants are unnecessary: (4) Food is assimilated better: (5) The tongue cleans: (6) Deodorisation of the evacuations takes place: (7) there is rapid & complete convalescence.

In my own practice I almost always begin with one or more aperient doses of calomel, which produce green evacuations, & also have an antiseptic effect on <sup>the</sup> bowel contents. For headache & general aching pains, Antifebrin & a mixture containing Sod. Salicylat, are often given at the beginning: or an acid mixture as a placebo. But as soon as the diagnosis is reasonably sure, I employ an intestinal antiseptic, & would now hesitate to treat a case of Typhoid fever without. Of course symptomatic treatment is also adopted where necessary & it is taken for granted that dietary & nursing will be as well carried out as it is possible, in the absence of trained attendants

## PART II.

For the most part, after securing evacuation of the bowels with Calomel, I give Salol every four hours (3 to 10 grain doses according to age) usually in milk. If there is diarrhoea, I often add the Salol to a mixture containing Catechu. Tr. Opū, & Mist. Cretae. For undue constipation, I give small repeated doses of Calomel occasionally, or a moderate dose of Castor Oil, or Pulv. Glycyrrhiz. Co. or employ <sup>soap</sup> & water enemata.

For sleeplessness a bedtime dose of Dover's powder is usually effectual. For prostration, Quinine or Strychnine & Digitalis may be necessary as well as stimulants in repeated moderate doses. For bronchitis & congestion of the lungs in later stages, Amm. Carb., Tolu., & Camphor water assists free expectoration. If haemorrhage should threaten, repeated doses of Turpentine (5-15m) are valuable. If sickness & vomiting prove troublesome, Bismuth is most useful: but if the evacuations contain curded milk, even when only a moderate amount is consumed, I would recommend peptonisation of the milk with Fairchild's powder, or by some other process. Some have even advocated the treatment of Typhoid with pepsin.

Of course, tepid sponging, attention to the body of the patient, & to the condition of body-linen, & bed-linen, to cleanliness, ventilation, & temperature of the sick-room etc. are all pre-supposed. The articles by Byrom Bramwell in his "Studies in Clinical Medicine" are the best I have read on the way to manage Typhoid cases: he does not, however, deal with antiseptic treatment at all.

When the temperature has reached normal, it is well to continue the Salol in two or three <sup>daily</sup> doses for 5 or 6 days.

Other antiseptics which I have employed with good results are Chlorinated quinine solution, keratin-coated (2½ grain), Carbolic pills, B naphthol, Quinine & acid (with or without Digitalis).

In some cases I have varied the antiseptic. Yeo's solution is too nauseous for children. pills are not suitable, so I invariably give them Salol. For effectiveness, however, I would not hesitate to give Yeo's chlorinated quinine solution, or Charteris's keratin-coated carbolic pills, to adults, instead of Salol.

## PART II.

The following antiseptics also have their advocates.- corrosive sublimate, oil of eucalyptus, camphor, creasote, thymol etc. in addition to those already referred to.

I ~~have~~ noticed that lactic acid is recommended by some one: probably good butter-milk would be a welcome means of administering it. That also reminds one that various ~~ways~~ kinds of whey would prove valuable as a thirst-quenching & nourishing agent.

The following <sup>list</sup> shows generally what antiseptic remedies were employed, in how many cases, & with what results. But in another table I shall try to shew how in some fatal cases the antiseptic method had not a fair trial, & how in other fatal cases complications existed from an early period of the illness.

<u>Method of Treatment</u>	<u>No. of cases</u>	<u>Recoveries</u>	<u>Deaths.</u>
Symptomatic treatment	5	3	2
Salol treatment chiefly	32	27	5
Quinine & Acid	11	11	-
Quinine & Acid: Salol	8	6	2
Keratin-coated carbolic pills	6	6	-
<i>pills.</i>			
Chlorinated Quinine	4	4	-
Carbolic pills & Quinine	1	1	-
Bnaphthol	2	1	1
Salol & B naphthol	2	1	1
Thymol & Salol & Quinine	1	1	-
Thymol pills	1	1	-
B naphthol pills & carbolic pills & Salol	1	-	1
Chlor. Quinine & carbolic pills & Salol	1	1	-
Chlor. Quinine & Salol	2	2	-
Glyc. Ac. Carbolic & Quinine.	2	1	1
Glyc. Ac. Carbolic & Salol	2	2	-
	81	68	13.

PART II		PART II.	
Death	Name	Complications etc.	Treatment Treated by
1	Mrs Q'Donnell.	29 Puerperal case, probably tubercular: ab- minuria, <u>diagnosis uncertain.</u>	Symptomatic treatment, no antiseptic Locum tenens.
2	- Whitton	11 very acute illness 6 days: not diagnosed: presumably Typhoid.	Symptomatic, no antiseptic. .. ..
3	Mrs Miller	26 Undoubted typhoid: cerebral symptoms pro- bably toxic: Hyperpyrexia.	Glyc. Ac. Carbol. first: then Chlorin <sup>d</sup> . Quinine: taken badly. myself
4	Jas. Tanny	29 Undoubted Typhoid: ambulatory. severe Typ- hoid state. Latent haemorrhage.	Salomet: B naphthol. pills: carbol. pills: taken badly ..
5	Edith Dickenson	5 Undoubted Typhoid, severe typhoid state, Purpura & ecchymoses. Cerebral symptoms.	Salol. Diarrhoea Mixture. ..
6	Jahn Crosby	64 Influenza debility, severe typhoid symptoms. Purpuric spots. Age & unfavorable.	Quinine & Acid. Salol. \$\$
7	Robt. Routledge	8 Undoubted Typhoid. Haemorrhage from bowels. acute haemophilia.	Probably Salol Locum Tenens
8	Mrs Tweddie	58 <u>Doubtful typhoid</u> , Pyaemic symptoms, from ear suppuration. Periodical haemorrhages from bowel & retinal haemorrhages pre- vious to this illness, age unfavorable. Death sudden in the fourth week.	Quinine & Phenacetine. Quinine, strych. & Digitalis. Salol four days <del>myself</del> before death.
9	Jane Buckham	2 <u>Very doubtfully Typhoid</u> , commenced with meningeal symptoms: (continued fever: ) constipation throughout: no abdominal symptoms whatever. Relapses. Marasmus, tremors, & rigidity: probably tubercle. duration of illness 112 days.	Pot. Brom. & Iod. Salol in first relapse, only notified in second relapse. died of inanition. ..
10	John G Walker	3 "Fit", cerebral symptoms. Pneumonia on fifth day. Clear typhoid symptoms also. Progress- ive lung disease, probably tubercular. tremors, loss of speech, etc. Pulmonary thrombosis in six weeks.	B naphthol. Ammon. Carb. mixture: Pot. Brom. & Iod. <i>Died suddenly after temp became normal.</i> ..
11	Mary Snow	4 Preliminary deafness & impaired speech (syphilitic ? ): clear typhoid symptoms. died of inanition after decline of fever. in fourth week.	Salol: Pot. Iod. & Brom: Bismuth & B naphthol. ..
12	Geo. Tungate	14. Pulmonary catarrh chronic: undoubted Typhoid: only four days under my care. Died in Hospital.	Salol for three days, <sup>under my care</sup> then hospital treatment myself & in Hospital
13	Thos C. Summers.	7 mos. <u>Castro</u> Enteritis for three weeks: ear suppuration, high fever for five days be- fore death, most probably septic & <u>not</u> Typhoid, Severe Enteric fever next door. Tender age unfavorable.	Astringents for diarrhoea: Salol for two days. myself

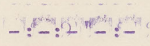
PART II.

Out of the above 13 fatal cases, four are almost more than doubtfully typhoid: One typhoid died in Hospital (only four days under <sup>Care:</sup> ~~my~~): One Typhoid died under Locum (symptomatic treatment). One typhoid died under locum (Salol): While in two typhoid cases other serious diseases existed as well as Typhoid & probably contributed more to the fatal results than the fever.

Only four were fair cases of ~~the~~ Typhoid fever to begin with, <sup>as far as my treatment is concerned</sup> one being over fifty years of age.

Deducting nine deaths, & seven hospital & other cases, <sup>which recovered,</sup> from the total of 83, 67 cases remain with four deaths. A mortality of 6%.

T



The cold bath treatment I have had no experience of: in fact such a method would not be tolerated, & at any rate could not be carried out in Colliery practice.

Dr. Hare of Brisbane in 1896 gives the following percentage mortality during the evolution of the cold bath treatment in his own experience.

Expectancy	-	14.82.
Incomplete bathing	-	12.28.
Strict bathing	-	7.08.

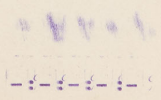
Under strict bathing, the patient is subjected to the cold bath whenever the temperature exceeds 102.2'.

In 1897 Dr. Hare gives 7.5% mortality among 1902 cases.

Dr. Barr of Liverpool reports remarkable success by the continuous immersion of the patient in a warm bath. His mortality at 1891 was two deaths in 71 cases.

The Woodbridge method is an American eliminative antiseptic method; if reports are to be credited, it would appear that no case of Enteric fever, if treated in time, should ever die.

The eliminative treatment by saline aperients does not seem to have been successful in the treatment of Enteric Fever among the troops in So. Africa.



PART III

PART III  
NOTES OF SELECTED CASES.

-t-t-t-t-

## PART III.

Case 1 . Mrs O'Donnell, aged 28 . Cowpen Village-(fatal case). At the time when this patient's illness began no case of Enteric fever was known to exist in the district in which I practise. Her ~~the~~ confinement took place naturally on June 27th 1897. A rigor occurred on the fifth day & <sup>irregular</sup> fever continued till death five weeks later (July 30th), on which date only the case was notified as Typhoid fever. My locum tenens at first considered it a case of Puerperal Septicaemia, but latterly decided that it was probably typhoid in nature. In the course of the illness an irregular fever prevailed, left Pneumonia developed, severe diarrhoea, profuse sweatings, rapid emaciation; the tongue became brown & parched, the pulse weak & rapid, there was vomiting of bilious fluid, practically, no abdominal pain or distension, & only a few doubtful spots on the day on death. On July 27th Pleuritic friction & fine crepitations, were discovered on the right side: There was marked albuminuria. Delirium, uncontrollable diarrhoea, & Maniacal struggling, closed the scene.

In all probability this was not a true case of Enteric fever, but Puerperal Septicaemia, with a suspicion of tuberculosis in the lungs. No other case developed in the family.

-:-:-:-:-

CASE 2. - Whitton, aged 11. Kitty Brewster (fatal case). On July 11th 1897. this girl walked a distance of several miles, & on July 12th was seized with acute illness which terminated fatally, in six days. My locum tenens who attended, certified the cause of death as acute Pneumonia, although my own information points to acute Abdominal symptoms. I have no doubt this was a genuine case of acute Typhoid fever; for it was followed by three cases of Typhoid fever in the same house, & two cases in the downstairs house, all in children.

It seems that this family collected & ate shell-fish gathered in the river Blyth, but probably after cooking.

An offensive ashpit & privy, into which the evacuations from the first case would be thrown, was situated quite near.

No other cases of Enteric fever developed in Kitty Brewster during ~~the~~ 1897, except these six.

NAME *Mrs J. Miller.* No *4*  
 ADDRESS *Cowpen Village.*  
 OCCUPATION \_\_\_\_\_  
 AGE *26.* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever*  
 RESULT *Died about 14<sup>th</sup> day*

NAME *James Jamy* No *14.*  
 ADDRESS *Cowpen Village.*  
 OCCUPATION *Mines.*  
 AGE *29.* SEX \_\_\_\_\_  
 DISEASE *Typhoid Fever*  
*(Latent haemorrhage)*  
 RESULT *Died about 17<sup>th</sup> day.*

PART III.

aged 26, Cowpen Village. (fatal case).  
 acute Tonsillitis, this patient went for a  
 but returned in a week feeling ill. This  
 genuine Typhoid fever, with Epistaxis,  
 diarrhoea, characteristic rose-spots,  
 first week delirium set in, with incontinen-  
 opening to coma, with unequal pupils, & hyper-  
 end of the second week.  
 ard was very offensive. The drinking-  
 n Cowpen pump.  
 minims glyc. ac. Carbolic were given every  
 er's powder at night: when delirium began  
 orine water was substituted.

aged 29, Cowpen Village) (fatal case).  
 symptoms for a week before being seen:  
 ne & was rather relaxed, Calomel was given  
 rice daily; (he was unable to take these on  
 Keratin-coated carbolic pills, (2½ grs.)  
 s unable to swallow; so, five grains Salol  
 At the beginning of the third week  
 arked, & rapid collapse took place on the  
 of his death he passed a small quantity  
 re appears to have been a profuse discharge  
 habit of eating mussels obtained at public-  
 e Cowpen pump water for drinking purposes.

NAME *Wm J. Miller.* No. *4*

ADDRESS *Cowpen Village.*

OCCUPATION

AGE *26.* SEX

DISEASE *Typhoid Fever*

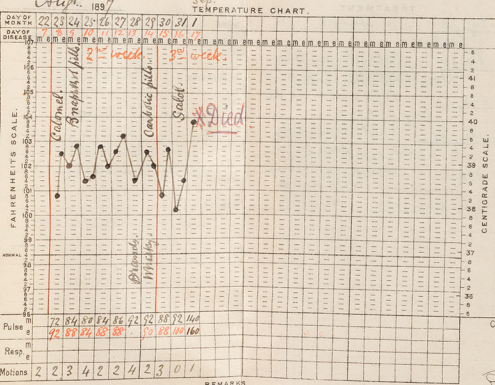
RESULT *Died about 14<sup>th</sup> day*

PART III.

aged 26, Cowpen Villare, (fatal case).  
acute Tonsillitis, this patient went for a  
but returned in a week feeling ill. This  
genuine Typhoid fever, with Eolstaxis,  
diarrhoea, characteristic rose-spots,  
first week delirium set in, with incontinen-  
opening to coma, with unequal pupils, & hyper-  
end of the second week.  
ard was very offensive. The drinking-  
m Cowpen pump.  
minims glyc. ac. Carbolic were given every  
hr's powder at night: when delirium began  
urine water was substituted.

-:-:-:-

Case 14. - James Jamy, age 29, Miner. Cowpen Village.

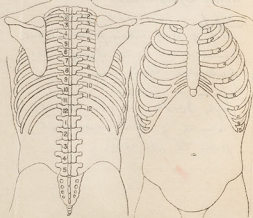


NURSES INSTRUCTIONS, DIETARY, &c.

Aug. 23 - Milk & Filberts.  
Aug. 28 - A desiccated  
bread, every 4 hrs.  
Aug. 28 - 3/4 Whisky every 4 hrs  
albumen water.  
Aug. 30 - Whisky every 2 hrs.  
in milk. Sparging. Powd  
temp a month with Pyrexia.

case),  
ng seen:  
was given  
ke these on  
(2 1/2 grs.)  
ins Salol  
ird week  
ce on the  
quantity  
use discharge  
ed at public-  
g purposes.

METHOD OF INDICATING PHYSICAL SIGNS.  
Crepitus C. Rales R. Friction F. Cardes H. Condensation M. Fluid M.  
CARDIAC MURMURS  
Point of greatest intensity M. Area over which it is audible M.



NAME *Mrs J. Miller.* No 4  
 ADDRESS *Cowpen Village.*  
 OCCUPATION  
 AGE *26.* SEX  
 DISEASE *Typhoid Fever*  
 RESULT *Died about 14th day*

## PART III.

aged 26, Cowpen Village. (fatal case).  
 acute Typhoid fever, this patient went for a  
 but returned in a week feeling ill. This  
 genuine Typhoid fever, with Eistaxis,  
 diarrhoea, characteristic rose-spots,  
 first week delirium set in, with incontin-  
 ening to coma, with unequal pupils, & hyper-  
 end of the second week.  
 ard was very offensive. The drinking-  
 m Cowpen pump.  
 minims glyc. ac. Carbolic were given every  
 er's powder at night: when delirium began  
 loric water was substituted.

aged 29, Cowpen Village (fatal case).  
 symptoms for a week before being seen:  
 ne & was rather relaxed, Calomel was given  
 rice daily, he was unable to take these on  
 Keratin-coated carbolic pills, (2½ grs.)

POCKET CHART. No 1  
 FOR BEDSIDE CASE TAKING  
 Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.  
 John Wright & Co. Publishers, Bristol.  
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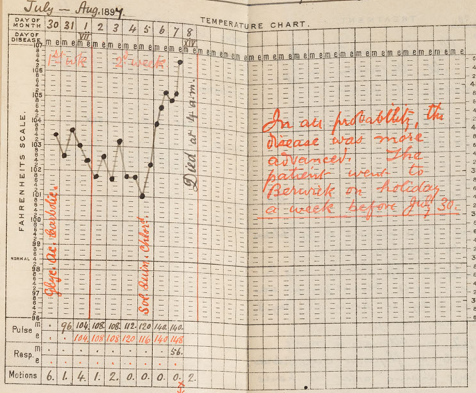
these he was unable to swallow; so five grains Salol  
 every six hours were tried. At the beginning of the third week  
 the "Typhoid state" was well marked, & rapid collapse took place on the  
 16th & 17th days: on the day of his death he passed a small quantity  
 of blood; but after death there appears to have been a profuse discharge  
 of "blood & corruption".  
 This patient was in the habit of eating mussels obtained at public-  
 houses. He would also use Cowpen pump water for drinking purposes.

## HISTORY OF CASE.

Feeling ill for about a  
 week before Aug. 23. —  
 Occipital headache, anorexia,  
 acting paving, prostration, &c.  
 Aug. 23 — Sitting up, & feels  
 as above. Some white, clean  
 edges of tip. Has taken Siegel's Syrup.  
 Aug. 24 — Some brownish white  
 & more dry. Headache.  
 Aug. 25 — Some looseness —  
 mucus ochrey, bad smelling.  
 Aug. 28 — Some brown, dry.  
 29 — Drowsy: not  
 taking milk so well. Mouth  
 feels closed. Some brown & dry.  
 Aug. 30 — Slight delirium during  
 night. Some dry & brown, &  
 not nearly fetid. Stools.  
 Some Typhoid.  
 Sep. 1 — Passed a small  
 clot of blood when passing urine.  
 Swallowing badly. Typhoid,  
 Subcutaneous tenderness.  
 Sep. 2 — Died.  
 After death, a considerable  
 quantity of blood escaped  
 from the bowels.

## TREATMENT.

Aug. 23 — 5 grs Antipb. for  
 headache.  
 Aug. 24 — Calomel, 5 grs, twice.  
 Sphraphthal pills 6 i. d.  
 Aug. 25 — 23 grs Carbolic in pill  
 every 8 hours.  
 Aug. 31 — Sald. 5 grs. evn  
 6 hours. Dover 10 gr  
 Sep. 1 — Bismar contains  
 Yarnic acid & Dover's  
 after passage of a blood clot

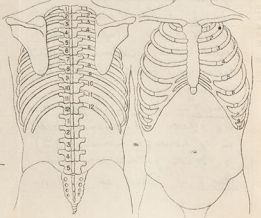


NURSES INSTRUCTIONS, DIETARY ETC.

Diet: - Milk, Whites with粥, lime water, or barley water.  
For thirst: - Cold water; lemon water.  
 Rubbing down, or sponging with tepid water, & changing, after sweating.  
 Aug 3 - Brandy, ʒii every 4 hrs. (This was not faithfully obeyed)  
 Aug 6 - Cold to head. Ice to neck. Brandy - ʒf every 2 hours.

case).  
 at went for a  
 ill. This  
 distaxis.  
 rose-spots.  
 with incontin-  
 pils, & hyper-  
 the drinking-  
 given every  
 trium began

METHOD OF INDICATING PHYSICAL SIGNS  
 Cephalic C. Paler R. Friction II. Cervical III. Cardiac Murmurs IIII  
 Point of greatest intensity M. Area over which it is audible M



case),  
 ing seen:  
 was given  
 like these on  
 (2½ grs.)

During the last 3 days, no food was taken; fluids lay in the mouth till a spasmodic jerk occurred. There was no vomiting. Incoherent talking, busy delirium, followed by coma; passing of urine in bed; 4 of mictus after excreta; 4 dilated condition of right pupil; all seemed to indicate cerebral meningitis. Upper half of thoracic centre was involved with, as indicated by hyper-reflexia

very o  
 Aug 31 - Sald. ʒ. po. eve  
 6 hours. Dover. 10 p  
 Sep. 1 - Vienna containing  
 Tartaric acid & Dover's p  
 app. passage of a blood clot

... then given; these he was unable to swallow; so, five grains Salol every six hours were tried. At the beginning of the third week the "Typhoid state" was well marked, & rapid collapse took place on the 16th & 17th days; on the day of his death he passed a small quantity of blood; but after death there appears to have been a profuse discharge of "blood & corruption".

This patient was in the habit of eating mussels obtained at public-houses. He would also use Cowpen pump water for drinking purposes.

## HISTORY OF CASE.

6 weeks before visit in July 30<sup>th</sup>, severe attack of acute tonsillitis. Has not quite recovered strength. Had gone to Berwick-on-Tweed a week ago for change.

July 26. - Chills, headache, malaise.

July 29. - Splenitis.

July 30. - Tenderness in right side of splenic region. Tongue moist, thick white creamy coating, red at tip & edges.

July 31. - Four rose spots

Aug. 1. - " " " "

Aug 2 and 3. - Delirium; talks in incoherent fashion.

Aug. 4. - Increasing delirium.

Aug. 5. - 20 rose spots. Urine passed unconsciously.

Aug. 6. - Passed urine in bed several times. Stupor. Incoherent replies. Abdomen tympanitic. Right pupil much dilated. No vomiting.

Aug. 7. - Two glyc. suppos. had no effect. An enema acted in 4 hours (on morning of 8<sup>th</sup>) & death followed soon after.

Aug. 8. - Died at 4 a.m.

## TREATMENT.

July 30.

glyc. ac. carbolic m. x  
Mg. Chlorophos. ad 3/4  
every 4 hours.

10 grs Dover's powder at night for sleep.

Aug. 5. -

Stop Carbolic medicine.  
It causes delirium?  
Give 2 grs Quinine in 3/4 Calomel  
water every 4 hours.

Aug. 6. - 3/4 Brand; every 4 hours. (A Decasulphurum ovis every 4 hours on 6<sup>th</sup> but not given.)

Aug. 7. - attempt to move bowels by Glycerine suppos. Large enema acted 4 hours; followed soon after death.

On Aug. 6<sup>th</sup> - Consultation with Dr Manners of Blyth, could make no fresh suggestion & considered the case hopeless & apparently in the 3<sup>rd</sup> week.

Aug. 31. - Saltd. 5 grs. evc  
6 hours. Dover. 10 p

Sept. - Mamma contains  
Yersinia coli & Dover's/  
after passage of a blood clot

## PART III.

CASE 4. - Mrs Miller, aged 26, Cowpen Village. (fatal case).

After a severe attack of acute Tonsillitis, this patient went for a change to Berwick-on-Tweed, but returned in a week feeling ill. This turned out to be a case of genuine Typhoid fever, with Epistaxis. Abdominal pain & distension. The diarrhoea, characteristic rose-spots, & continued fever. After the first week delirium set in, with incontinence of urine, & stupor deepening to coma, with unequal pupils, & hyperpyrexia before death, at the end of the second week.

The sink in the back yard was very offensive. The drinking-water would be obtained from Cowpen pump.

For the first week ten minims glyc. ac. Carbolic were given every four hours, & ten grains Dover's powder at night: when delirium began a solution of Quinine in Chlorine water was substituted.

-:-:-:-

CASE 14. - James Tanny, aged 29, Cowpen Village (fatal case).

He had the usual invasion symptoms for a week before being seen: He had taken aperient medicine & was rather relaxed, Calomel was given & B naphthol pills (5 grs.) thrice daily, he was unable to take these on account of their size. Keratin-coated carbolic pills. (2 1/2 grs.) were then given; these he was unable to swallow; so five grains Salol every six hours were tried. At the beginning of the third week the "Typhoid state" was well marked, & rapid collapse took place on the 16th & 17th days: on the day of his death he passed a small quantity of blood but after death there appears to have been a profuse discharge of "blood & corruption".

This patient was in the habit of eating mussels obtained at public-houses. He would also use Cowpen pump water for drinking purposes.



No. *24*

NAME *Edith Dickinson.*

ADDRESS *Cowpen Village.*

OCCUPATION

AGE *5-* SEX

DISEASE *Typhoid fever  
(purpuric).*

RESULT *Died on Sep. 28/97.  
at 10 a.m.  
on 17<sup>th</sup> day*

## PART III.

n. aged 5. Cowpen Village. (fatal case).  
 was preceded by two cases, (one fatal),  
 the 12th day drowsiness & prostration set in.  
 ic spots on the legs & body, ecchymosed  
 left cheek, spreading gradually & becoming  
 & Cheyne-Stokes' breathing, coma, with  
 h. Epistaxis occurred but no other hæ-  
 closed on Sept. 4th; (& the first symptoms  
 later. Only two more cases occurred in  
 e during 1897, my own case being the last

aged 54. Bebside Furnace. (fatal case).  
 debility, probably of Influenzal origin.  
 e onset of Typhoid symptoms, the temperature  
 100°; (constipation prevailed. By Oct.  
 the beginning of the second week), he present-  
 ce, with tympanites but no diarrhoea; at  
 ek he was prostrate & delirious; (Purpuric  
 arms - (perhaps really flea-bites); (coma  
 llowed by death on the 17th day.  
 every four hours, & also 8 grs. Salol  
 omfort were inferior. A foul sink, which  
 ted just under the window.

No. *26.*

NAME *John Crosby.*

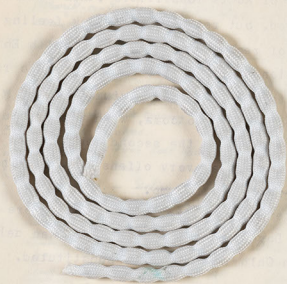
ADDRESS *Bebside Furnace.*

OCCUPATION *Pitman.*

AGE *54* SEX

DISEASE *Typhoid fever  
following Influenzal  
debility.*

RESULT *Died on Oct. 19/97.  
probably 17<sup>th</sup> day of Typhoid.*



No 24.

NAME *Edith Dickenson*  
 ADDRESS *Cowpen Village.*

PART III.

OCCUPATION

*named E. Cowpen Village. (fatal case).*

AGE *5-* SEX

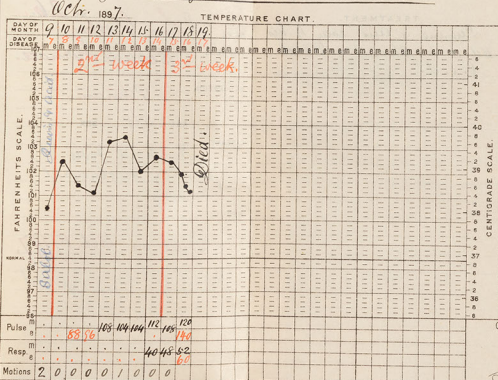
DISEASE *Typhoid fever  
(purpuric).*

was preceded by two cases, (one fatal),  
 the 12th day drowsiness & prostration set in.  
 spots on the legs & body, ecchymosed  
 left cheek, spreading gradually & becoming  
 & Cheyne-Stokes breathing, coma, with  
 Epistaxis occurred but no other haemorrhages.

RESULT *Died on Sep. 28/97  
at 10 a.m.  
on 17<sup>th</sup> day.*

closed on Sept. 4th: & the first symptoms  
 later. Only two more cases occurred in  
 the village during 1897, my own case being the last

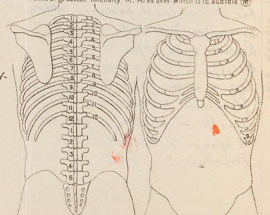
Case 26 — *John Crosby, age 54 — Beside Furnace.*

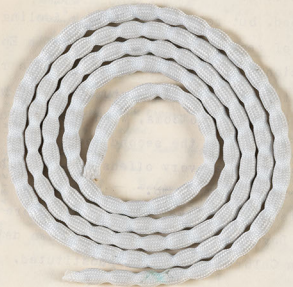


REMARKS.  
*A foul smelling, unflushed, untrapped sink, directly under the living room window. Domestic cleanliness & comfort inferior.*

NURSES INSTRUCTIONS, DIETARY & CASE).  
 milk & diluents. Althorpes  
 water. 3p Whiskey every 4 hrs.  
 Coffee or cocoa.  
 Oct. 16 — Whisky or brandy  
 every 2 hours.

By Oct. 16, he present-  
 thoea & at  
 (Purpuric  
 tes); coma  
 Salol  
 sink, which





THIS MARGIN FOR FASTENING IN GUARD BOOK.

HISTORY OF CASE.

Has been acting for 5 weeks before Oct. 9. Complained of weakness, no appetite, pains all over. Temp. found occasionally 99° or 100°. Supposed to have had Influenza, Croup. Has been in bed about a fortnight before Oct. 9, when his temp. was found elevated.

Oct. 10 - Temp. 84 & brown. Fœcal decubities.

Oct. 11 - Temp. coated but moist. Very weak. Deaf.

Oct. 16 - Temp. coated & 84 in middle. For some days, jerking of hands & wrists. Speech high-toned and stiff. But has all his senses except hearing. Abdom. somewhat distended. Cough. Respiration more rapid.

Oct. 17. - Purpuric spots on legs & arms. (Are they due to flea-bites + deteriorated blood?)

Oct. 18 - Unable to put out temp. Quickly delirious. Breathing very quick. Sinking.

TREATMENT.

Quinine & Acid every 4 hrs  
Oct. 10 - Alor, 8 grs Salol  
C. i. d.

NAME *Edith Dickenson* <sup>no 24</sup>  
ADDRESS *Cowpen Village*  
OCCUPATION \_\_\_\_\_  
AGE *5-* SEX \_\_\_\_\_  
DISEASE *Typhoid fever (purpuric).*  
RESULT *Died on Sep. 28/97.  
at 10 a.m.  
on 17<sup>th</sup> day*

POCKET CHART FOR BESIDE CASE TAKING.  
Compiled by ROBERT SIMPSON, L.R.C.P. L.R.C.S.  
John Wright & Co. Publishers, Bristol.  
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PART III.

aged 5. Cowpen Village. (fatal case).  
was preceded by two cases, (one fatal),  
the 12th day drowsiness & prostration set in.  
tic spots on the legs & body, ecchymosed  
left cheek, spreading gradually & becoming  
& Cheyne-Stokes' breathing, coma, with  
Epistaxis occurred but no other hæ-  
closed on Sept. 4th; & the first symptoms  
later. Only two more cases occurred in  
during 1897, my own case being the last  
aged 54. Bobside Furnace. (fatal case).  
debility, probably of Influenzal origin.  
onset of Typhoid symptoms, the temperature  
100°; (constipation prevailed). By Oct.  
the beginning of the second week, he present-  
ed, with tympanites but no diarrhoea; at  
the beginning of the third week he was prostrate & delirious; (Purpuric  
spots appeared on the legs & arms - (perhaps really flea-bites); coma  
& "nervous" breathing were followed by death on the 17th day.  
Quinine & Acid was given every four hours, & also 8 grs. Salol  
thrice daily.  
Domestic cleanliness & comfort were inferior. A foul sink, which  
was never flushed, was situated just under the window.

## HISTORY OF CASE.

Has been ailing for 5 weeks before Oct. 9. Complains of weakness, no appetite, pains all over. Temp. found occasionally 99° or 100°. Supposes to have had Influenza, Costive. Has been in bed about a fortnight before Oct. 9, when his temp. was found elevated.

Oct. 10 - Tongue dry & brown. Several decubitus.

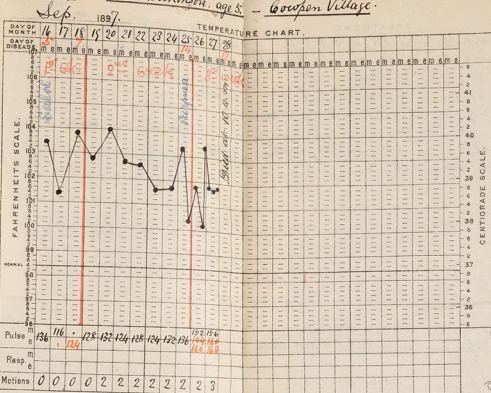
Oct. 11 - Tongue coated but moist. Very weak. Deaf.

Oct. 16 - Tongue coated & dry in middle. For some days, jerking of hands & wrists. Speech high-toned and stiff. But has all his senses except hearing. Abdom. somewhat distended. Cough. Respiration more rapid.

Oct. 17 - Purpuric spots on legs & arms. (Are they due to flea bites + deteriorated blood?)

Oct. 18 - Temp. 101°. Delirious. Breathing very quick. Sinking.

Case 28. - Edith Dickinson, age 5 - Cowson Village.



## NURSES INSTRUCTIONS, DIETARY &amp;c.

Milk & Blunts. White & Egg water. Cold water. Lemon water.

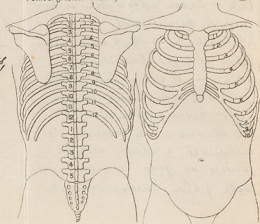
Sept. 22 - 3i Whiskey every 3 hrs. then every 2 hrs. at intervals.

Sept. 26 - 11 p.m. Whiskey every half hour!

## METHOD OF INDICATING PHYSICAL SIGNS.

Crepitus C. Rales R. Friction F. Convulsions III. Consolidation  Fluid

Point of greatest intensity M. Area over which it is audible IIII



al case).  
e fatal),  
ration set in.  
oedymosed  
y & becoming  
oma, with  
no other hæ-  
  
st symptoms  
occurred in  
ng the last

case).  
izal origin.  
ne temperature  
By Oct.  
sk), he present-  
choea; at

the beginning of the third week he was prostrate & delirious: (Purpuric spots appeared on the legs & arms - (perhaps really flea-bites); coma & "nervous" breathing were followed by death on the 17th day.

Quinine & Acid was given every four hours, & also 3 grs. Salol thrice daily.

Domestic cleanliness & comfort were inferior. A foul sink, which was never flushed, was situated just under the window.

## PART III.

CASE 24.- Edith Dickenson, aged 5, Cowpen Village. (fatal case).

This case of Typhoid fever was preceded by two cases, (one fatal), in neighboring houses. On the 12th day drowsiness & prostration set in, with the appearance of Purpuric spots on the legs & body, ecchymosed blisters over the clavicles & left cheek, spreading gradually & becoming gangrenous. Jactitation & Cheyne-Stokes breathing, coma, with unequal pupils, preceded death. Epistaxis occurred but no other hæmorrhages.

Cowpen Village pump was closed on Sept. 4th; & the first symptoms in this case appeared a week later. Only two more cases occurred in Cowpen Village after this one during 1897, my own case being the last to develop.

- - - - -

CASE 26.- John Crosby, aged 54, Babside Furnace. (fatal case).

This man had suffered from debility, probably of Influenzal origin, for a month before the definite onset of Typhoid symptoms, the temperature was occasionally  $99\frac{1}{2}^{\circ}$  or  $100^{\circ}$ ; constipation prevailed. By Oct. 10th 1897, (Calculated to be the beginning of the second week), he presented a typical Typhoid appearance, with tympanites but no diarrhoea; at the beginning of the third week he was prostrate & delirious; Purpuric spots appeared on the legs & arms - (perhaps really flea-bites); coma & "nervous" breathing were followed by death on the 17th day.

Quinine & Acid was given every four hours, & also 5 grs. Salol thrice daily.

Domestic cleanliness & comfort were inferior. A foul sink, which was never flushed, was situated just under the window.

## HISTORY OF CASE.

Since Sep. 11<sup>th</sup>, listless, tired,  
off food, hot at night, no pain.  
Some epistaxis on 12<sup>th</sup>.  
Sep. 16 - Tongue slightly coated but  
moist.  
Sep. 20 - Tongue white but moist.  
Drowsy. Slept well. No delirium.  
Sep. 23 - Loose yellow mucus. Drowsy.  
Epistaxis.  
Sep. 25 - Tickling at nose. Purpuric  
spots above lips & neck. Spots on  
lips & teeth. Drowsy & moaning.  
No vomiting. Restless during night.  
All together worse.  
Sep. 26 - More small purpuric spots  
on lips chiefly. Nose & lips crusted  
with coagled blood. Abdom. tympanitic.  
Swollen body; picks at neck; vacant  
look. Passes mucus & urine in bed.  
Hair to be cut short.  
Sep. 26 - 11 p.m. - much worse. Jacti-  
tation & Cheyne-Stokes breathing.  
Sep. 27 - A considerable patch  
fist over left clavicle, then over  
right, became a abrasion on 28<sup>th</sup>.  
This became widely vesicular &  
ecchymosed, & almost necrotic.  
Bullae on face. An area on  
side of chin became vesicular

## TREATMENT.

Sep. 16 - Saltd, 3 po. t. i. d  
Sep. 19 - 80 po. Rub. Glyc  
Co. serie. moved on 20<sup>th</sup>.  
Sep. 19 - 4 po Saltd t. i. d  
Sep. 24 - Acid & 2 p. 1  
po. Hair loca.  
Sep. 27 - Ammon. Carb, 5 grs  
5 grs. Amm. Urea, 4 grs.

## History of Case - contd.

and ecchymosed, & spreading.  
Sep. 27 - Right pupil larger  
left.  
Sep. 28 - Died unconscio.  
The areas above mentioned  
spread backward in night.  
No fits. No vomiting.  
Diarrhoea, though motions long  
No blood in motions or urine.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

THIS MARGIN FOR FASTENING IN GUARD BOOK.

472 or 11.  
have had Anglyenza. Costive.  
Has been in bed about  
a fortnight before Oct. 9,  
when his temp. was found  
elevated.  
Oct. 10 - Tongue dry & brown.  
Buccal decubities.  
Oct. 11 - Tongue coated but moist.  
Very weak. Deaf.  
Oct. 16 - Tongue coated & dry in  
middle. For some days jerking  
of hands & wrists. Speech high-  
toned and stiff. But has all  
his senses except hearing. Abdom.  
somewhat distended. Cough.  
Respir<sup>n</sup> more rapid.  
Oct. 17 - Purpuric spots on  
legs & arms. (Are they due to  
flea-bites & hemorrhoidal blood?)  
Oct. 18 - Unable to put out  
tongue. Delir<sup>u</sup> delirious.  
Breathing very quick. Sinking.

NAME *Jane Buckingham.* No. *64.*  
 ADDRESS *Bebside.*  
 OCCUPATION

AGE *2 2/3 yrs* SEX

DISEASE *Doubtfully Typhoid.  
 Probably Tuberculosis.*

RESULT *Died after 112 days  
 from the onset, with  
 cerebral symptoms, about  
 March 12.*

(l case).  
 the beginning of  
 as high as 105°.  
 spleen, or spots;  
 7th weeks, the tem-  
 ough & bronchial  
 an irregular  
 10th week of illness  
 there was entire  
 ontinued; "fainting  
 ntractions of the  
 112<sup>th</sup> day, of Asthenia.  
 xtent, probably the

NAME *John Geo. Walker.* No. *74.*  
 ADDRESS *11 West Row.  
 Bebside.*  
 OCCUPATION

AGE *3 1/4 yrs* SEX *M.*

DISEASE *Typhoid Fever.  
 (Double pneumonia & cerebral  
 symptoms - Tubercular?).*

RESULT *Died, at the end of  
 6 weeks.*

(case).  
 vomiting & head-  
 for 2 1/2 weeks.  
 base was detected;  
 en became distended,  
 restless with  
 olly solid.  
 rregular rise of tem-  
 f five days by a sudden  
 monia. In other  
 inued normal, but with  
 ath occurred rather  
 y thrombosis.  
 almost lost; at one  
 d from both ears:  
 e common about the

ite, the early appearance  
 ally both lungs to a  
 infection also: There



64.

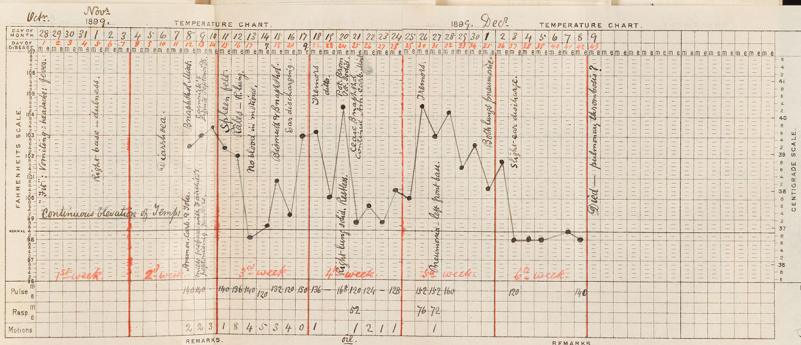
NAME *Jane Buckham.*  
 ADDRESS *Beside.*  
 OCCUPATION  
 AGE *2 3/4 yrs* SEX  
 DISEASE *Doubtful Syphilitic.  
 Probably Tuberculous.*  
 RESULT *Died after 112 days  
 from the onset, with  
 cerebral symptoms, about  
 March 1<sup>st</sup>*

TREATMENT

85

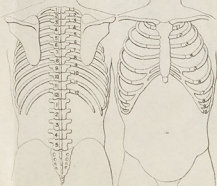
(1 case).

the beginning of  
 ag as high as 105.  
 spleen, or spots;  
 7th weeks, the tem-  
 perature was  
 cough & bronchial  
 an irregular  
 10th week of illness  
 there was entire  
 continued; "fainting  
 attractions of the  
 11<sup>th</sup> day, of Asthenia.  
 extent, probably the



NURSES INSTRUCTIONS DIETARY &

METHOD OF INDICATING PHYSICAL SIGNS  
 Capitus C Rales R Friction Cavity III Consolidation Fluid III  
 CARDIAC MURMURS  
 Point of greatest intensity M. Area over which it is audible





NAME *Jane Buckham.* No. *64.*  
 ADDRESS *Beside.*

OCCUPATION

AGE *2 1/2 yrs* SEX

DISEASE

*Doubtful Typhoid.  
 Probably Tuberculosis.*

RESULT

*Died after 112 days  
 from the onset, with  
 cerebral symptoms, about  
 March 19.*

TREATMENT

85

(case).

the beginning of  
 as high as 105.  
 spleen, or spots;  
 7th weeks, the tem-  
 perature & bronchial  
 cough & irregular  
 at the 10th week of illness  
 there was entire  
 remission; "fainting  
 attacks" of the  
 112<sup>th</sup> day, of Asthenia.  
 The extent, probably the

(case).

vomiting & head-  
 aches for 2 1/2 weeks.

base was detected;  
 when became distended,  
 restless with

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quick respirations, while the right lung became wholly solid.

Between the third & fourth weeks a further irregular rise of tem-  
 perature prevailed, followed after a remission of five days by a sudden  
 rise coinciding with the development of left pneumonia. In other  
 eight days the temperature became normal & continued normal, but with  
 no real improvement in his general state, until death occurred rather  
 suddenly on the 48<sup>th</sup> day, apparently from pulmonary thrombosis.

During the course of the illness speech was almost lost; at one  
 time he appeared to be blind, & a discharge occurred from both ears:  
 twitchings & tremors of the face, head & arms, were common about the  
 middle of the illness.

While the Typhoid symptoms were pretty definite, the early appearance  
 of cerebral symptoms, & of pneumonia involving finally both lungs to a  
 great extent, would seem to point to a tubercular infection also: There  
 is a history of consumption on the paternal side.

HISTORY OF CASE.

TREATMENT.

TREATMENT.

NAME  
 ADDRESS  
 OCCUPATION  
 AGE SEX  
 DISEASE  
 RESULT

NAME

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NAME  
ADDRESS

OCCUPATION

AGE                      SEX

DISEASE

RESULT

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DISEASE

RESULT

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Croydon.

## PART III.

CASE 64.—Jane Buckham, aged 2 years, Berside, (fatal case).

After a "fit", & symptoms of cerebral meningitis, at the beginning of March, continued fever prevailed for 3½ weeks, reaching as high as 105°.

There was no abdominal distension, enlargement of spleen, or spots; constipation was the rule. In the fifth, 6th & 7th weeks, the temperature was again elevated; There was exsiccation, cough & bronchial catarrh. The 8th week was afebrile, but thereafter an irregular fever prevailed with variable pulse-rate. In the 10th week of illness the case was notified as one of "continued fever", but there was entire absence of characteristic Typhoid symptoms. Marasmus continued; "fainting attacks" occurred; tremors followed by rigidity & contractions of the joints manifested themselves & the child died on the 112<sup>nd</sup> day, of Asthenia.

Though there were no local manifestations to any extent, probably the illness was a form of Tuberculosis.

-i-i-i-i-

CASE 74.—Geo. Walker, aged 3, Berside, (fatal case).

On the 28th Oct. 1899, the child took a "fit", with vomiting & head-ache. The temperature was elevated & continued high for 2½ weeks.

On the 5th day of illness Pneumonia at the right base was detected; & on the 10th day diarrhoea commenced. The abdomen became distended, the spleen rather enlarged, pupils dilated, the child restless with quick respirations, while the right lung became wholly solid.

Between the third & fourth weeks a further irregular rise of temperature prevailed, followed after a remission of five days by a sudden rise coinciding with the development of left pneumonia. In other eight days the temperature became normal & continued normal, but with no real improvement in his general state, until death occurred rather suddenly on the 48th day, apparently from pulmonary thrombosis.

During the course of the illness speech was almost lost; at one time he appeared to be blind, & discharge occurred from both ears; twitchings & tremors of the face, head & arms, were common about the middle of the illness.

While the Typhoid symptoms were pretty definite, the early appearance of cerebral symptoms, & of pneumonia involving finally both lungs to a great extent, would seem to point to a tubercular infection also: There is a history of consumption on the paternal side.

PART III.

CASE 30. - Robt. Routledge, aged 8. Bebside. (fatal case).

This case was preceded by a severe protracted case & a mild case in the same house: he was attended by my locum tenens, & probably was treated with Salol. After the first week there was profuse intestinal hæmorrhage, then constipation for three weeks, & evidently beginning convalescence; the giving of custard was followed by diarrhoea, great hæmorrhage from the bowels, & from other mucous membranes. He died on the fifth week.

It is curious that he & his brother had a small ischio-rectal abscess during their illness. Their Father states that between the ages 9 & 30 he has suffered from four attacks of Typhoid fever, each time attended by hæmorrhage from the bowels.

NAME *Mrs Tweddle.* No. *61.*

ADDRESS *Bebside Furnace.*

OCCUPATION

AGE *58* SEX

DISEASE *Doubtfully Typhoid.  
Pyæmia from ear disease.*

RESULT *Sudden death.  
in 4<sup>th</sup> week.*

aged 58. Bebside Furnace. (fatal case).

of "mixed infection", doubtfully Typhoid.

moderate attacks of hæmorrhage from the bowels; from retinal hæmorrhages. *No albumen was found in urine.* The onset sore throat & ear-ache & about the end of the first week occurred. In the second week profuse sweatings, & a tendency to delirium: a large abscess on the right arm & smaller one on the ankle, with shiverings & sweatings, pointed out by the pus, from which pus escaped on the 13th day. On the 14th day, the abscess on the right arm being normal. However fever again developed with sweatings, abdominal distension, but no delirium & occasional delirium. A V.S. murmur at the end of the sternum; pupils contracted: cyanosis & gasping sighs. On the 26th day normal. pulse 100: diarrhoea continued during the day, then suddenly at 10 p.m. Syncope or apnoea the cause of death..

Typhoid fever is decidedly obscure, as the case is described.

Quin., Strych., & Digitalis: (diarrhoea) during the last four days, constituted the medical

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atment.



PART III.

CASE 30.- Robt. Routledge, aged 8. Bebside. (fatal case).

This case was preceded by a severe protracted case & a mild case in the same house: he was attended by my locum tenens, & probably was treated with Salol. After the first week there was profuse intestinal haemorrhage, then constipation for three weeks, & evidently beginning convalescence; the giving of custard was followed by diarrhoea, great haemorrhage from the bowels, & from other mucous membranes. He died after the fifth week.

It is curious that he & his brother had a small ischio-rectal abscess during their illness. Their Father states that between the ages of 9 & 30 he has suffered from four attacks of Typhoid fever, each time attended by haemorrhage from the bowels.

-:-:-:-

CASE 61.- Mrs Tweddle, aged 58. Bebside Furnace. (fatal case).

This appears to be a case of "mixed infection", doubtfully Typhoid. The woman was subject to periodical attacks of haemorrhage from the bowels: she was also partially blind from retinal haemorrhages. <sup>No albumen was found in urine.</sup> The onset of illness was attended with sore throat & ear-ache & about the end of the first week a violent shivering occurred. In the second week there was abdominal pain, profuse sweatings, & a tendency to delirium: The formation of a large phlegmonous abscess on the right arm & smaller ones on the left elbow & left ankle, with shiverings & sweatings, pointed to pyaemia from the right ear, from which pus escaped on the 13th day, with marked improvement. On the 14th day, the abscess on the right arm was opened, the temp. being normal. However fever again developed with diarrhoea, shiverings & sweatings, abdominal distension, but no spots, tongue dry & cracked, & occasional delirium. A V.S. murmur was audible over the lower end of the sternum; pupils contracted: tendency to stupor: hiccough & gasping sighs. On the 26th day the temperature was again normal, pulse 100: diarrhoea continued during the afternoon, & she died rather suddenly at 10 p.m. Syncope or Apoplexy might be the immediate cause of death.

The diagnosis of Typhoid fever is decidedly obscure, as the pyaemic symptoms predominated.

Quinine & phenacetin: (Quin., Strych., & Digitalis: (diarrhoea mixture: & Salol during the last four days, constituted the medical treatment.

NAME *Mary Snow.*  
 ADDRESS *10 Beech St.  
 Cowpen New Town*  
 OCCUPATION

*4 1/2* yrs. AGE SEX *F*  
 DISEASE *Typhoid Fever.  
 (Hereditary Syphilis).*

RESULT *22 23 24*

NAME *George Jungate.*  
 ADDRESS *7 Beecher St.  
 Cowpen New Town.*  
 OCCUPATION *Pit lad.*

*14* yrs. AGE SEX *M.*  
 DISEASE *Typhoid fever.*

RESULT

NAME *Thos C. Summers*  
 ADDRESS *14 Wood Row.  
 Bebside Furnace*  
 OCCUPATION

*7* mos. AGE SEX *M.*  
 DISEASE *Gastro-Intestinal  
 finally Typhoid fever, with  
 suspected incipient pneumonia,  
 (No P.M.)*

RESULT *Died - comatose  
 (Febrile - 4 or 5 days).*

*Severe case of Enteric fever next door.*

PART III.

aged 4 years, Cowpen New Town, (fatal case).  
 her illness, the child's hearing & speech probably due to syphilis on the mother's side, the nature of this illness being Typhoid, an, diarrhoea, very few spots, no enlarged into the fourth week. She died at the

tion after the temperature had declined. )  
 lost; constant fretfulness was followed by  
 was by pot. iod. & Brom.; with Salol; Bismuth  
 at the end of the 3rd week & the milk  
 of sickness & vomiting .)

-7-4-4-4-

aged 14, Cowpen New Town, (fatal case).  
 ginning in the season 1900. After a week's  
 ing, delirium set in with abdominal disten-  
 nce of urine, rose spots & enlargement  
 bronchial catarrh especially on the right  
 day; when he was removed to the infectious  
 rature being 102.5°, pulse 104, & mental  
 ed in the Hospital, <sup>under the Medical Officer,</sup> on the 15th day.  
 ater was contaminated from its proximity  
 also case No 75 occurred three doors away.)  
 seized with Typhoid in the end of August,  
 ed in the previous June. )

-7-4-4-4-

aged 7 mos. Bebside Furnace. (fatal case).  
 had been in progress next door for about  
 about the same period suffered from Gastro-  
 but with no special fever. During the  
 re was continuously high & the child died  
 bably septicaemia was really the cause of  
 t partake at all of the nature of Typhoid.)  
 se at hand were offensive & the stone drains











## PART III.

CASE 75.-- Mary Snow, aged 4 years, Cowpen New Town, (fatal case).

For about a month before her illness, the child's hearing & speech became markedly defective; probably due to syphilis on the mother's side.

There was no doubt about the nature of this illness being Typhoid, with distension of the abdomen, diarrhoea, very few spots, no enlarged spleen, & fever continuing into the fourth week. She died at the end of the 4th week, of exhaustion after the temperature had declined.

The power of speech was lost; constant fretfulness was followed by drowsiness & coma.

The medicinal treatment was by pot. iod. & Brom.; with Salol; Bismuth & B naphthol, were substituted at the end of the 3rd week & the milk was peptonised, on account of sickness & vomiting.

- - - - -

CASE 76.-- Geo. Tungate, aged 14, Cowpen New Town, (fatal case).

This was the first case beginning in the season 1900. After a week's malaise with sickness & vomiting, delirium set in with abdominal distension & tenderness, incontinence of urine, rose spots & enlargement of the spleen. There was bronchial catarrh especially on the right side; & diarrhoea on the 11th day; when he was removed to the infectious diseases Hospital, his temperature being 102.5°, pulse 104, & mental condition improved. He died in the Hospital, <sup>under the Medical Officer,</sup> on the 15th day.

Probably the drinking water was contaminated from its proximity to the sinks & house drain: also case No 75 occurred three doors away.

A brother, aged 5, was seized with Typhoid in the end of August, the first case having occurred in the previous June.

- - - - -

CASE 81.-- Thomas C. Summers, aged 7 mos. Bebside Furnace, (fatal case).

A case of Enteric fever had been in progress next door for about three weeks; (this infant for about the same period suffered from Gastro-Enteritis of a severe type, but with no special fever. During the last five days the temperature was continuously high & the child died in a comatose state. Probably septicaemia was really the cause of the fever, & the case did not partake at all of the nature of Typhoid.)

The sinks & ashpits close at hand were offensive & the stone drains were unflushed.

PART III.

CASE 28. Archd. Fairlie, aged 31, Medical Practitioner, Cowpen,  
Personal attack of Enteric Fever - Recovery after a  
 protracted illness: mild Typhoid in the first part,  
 with remission; followed by continued fever apparently  
 of a septic nature.

I had devoted a great deal of time & attention to the Typhoid cases  
 under my care, & was also fully occupied with the usual routine of work.  
 Rather abruptly on Oct. 22nd 1907 I began to feel languid, lost

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NO. 28.

NAME *Archd. Fairlie*

ADDRESS *Cowpen Village.*

OCCUPATION *Medical Practitioner*

AGE *31 1/2* SEX

DISEASE

RESULT *Recovery.*

TREATMENT.

... & abdominal soreness  
 ...ish, I did not wish to  
 ... early, taking two doses  
 ... dy today, in the hope  
 ... n of bowels after calomel:  
 ... symptoms returned with  
 ... the evening.)  
 ... ng caused by a dose of  
 ... risen to 102°.)  
 ... ° still restless & hot  
 ... constipation since Oct.  
 ... I began to take Thymol  
 ... cause Yeo says he would  
 ... r effectiveness as an  
 ... auseous.)  
 ... occasionally intermitt-  
 ... 00° but rose to 103.2°  
 ... : A mixture containing  
 ... ery four hours for irreg-  
 ... ed by ~~by~~ colicky pains  
 ... specially troublesome at

... The diet was strictly milk & soda, with occasional doses  
 brandy on the occurrence of faintness.

During the 3rd week the M. temp. dropped to normal for eight days  
 succession, but invariably rose to 100° in the evening. I had  
 received permission to read a little, but indulged in literature to  
 excessive degree.



HISTORY OF CASE.

TREATMENT.

NAME

ADDRESS

OCCUPATION

AGE

SEX

DISEASE

RESULT

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TREATMENT.

NAME

ADDRESS

OCCUPATION

AGE

DISEASE

RESULT

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TREATMENT.

NAME

ADDRESS

OCCUPATION

AGE

SEX

DISEASE

RESULT

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TREATMENT.

PART III.

CASE 28.- Archd. Fairlie, aged 31, Medical Practitioner, Cowpen, Personal attack of Enteric Fever - Recovery after a protracted illness: mild Typhoid in the first part, with remission; followed by continued fever apparently of a septic nature.

I had devoted a great deal of time & attention to the Typhoid cases under my care, & was also fully occupied with the usual routine of work.

Rather abruptly, on Oct. 28th 1897, I began to feel languid, lost appetite, with headache, back-ache, aching limbs, & abdominal soreness increased on deep inspiration. Though feverish, I did not wish to know the height of my temperature & went to bed early, taking two doses of Calomel, & 5 grs. of antifebrin with hot brandy toddy, in the hope that I had simply contracted a chill.

Oct. 29th.- Morning temp. 98.40, relaxation of bowels after calomel: felt easier on the whole, but towards night the symptoms returned with feverishness, but I did not take the temp. in the evening.

Oct. 30th.- The morning temp., after sweating caused by a dose of antifebrin, was 98.40, but the evening temp. had risen to 102.

Oct. 31st.- M. temp. 101.8: E. temp. 103. still restless & hot at night, suffering from general aching pains; constipation since Oct. 29th.

Nov. 1st.- M. temp. 101.8: E. temp. 101.6. I began to take Thymol pills (2 grs.) thrice daily: I chose Thymol because Yeo says he would place it next to chlorinated Quinine solution for effectiveness as an intestinal antiseptic. The latter is very nauseous.

During the first week the heart's action was occasionally intermittent: on the 7th & 8th days the temp. fell below 100 but rose to 103.2 on the 8th evening.

Nov. 7th.- M. temp. 100.4: E. temp. 102. A mixture containing tinct. Nuc. Vom. & Sp. Ammon. Arom. was given every four hours for irregular heart's action & a tendency to fainting caused by colicky pains due to constipation. A dry cough proved especially troublesome at nights. The diet was strictly milk & soda, with occasional doses of brandy on the occurrence of faintness.

During the 3rd week the M. temp. dropped to normal for eight days in succession, but invariably rose to 100 in the evening. I had received permission to read a little, but indulged in literature to an excessive degree.

## PART III.

The consequence was that in the 4th week a feeling of fatigue was caused, & the temp. on the 23rd evening rose to 102' . . . No change from the milk & potash diet had been made . . . As a rule constipation existed, requiring the use of a Glycerine suppository . . . This always caused colicky pains & a feeling of partial collapse . . .

Nov. 22.—M. temp. 99.9' at 6 p.m. 103.3', pulse 120, E. temp. 101.3' /, pulse 90 . . . On this day I ceased taking thymol . . . 4 grs. Quinine were given in milk every four hours. . . I tried Bovinine in milk but did not like it. . . The dry cough, which had almost gone during the third week again proved troublesome especially at night . . .

Nov. 23.—M. temp. 99.8' at 9 p.m. 102.4' . . . The heart's action became rapid & weak . . . I passed bad nights ;—Feeling very heated up till midnight, with rapid heart's action ( probably 120-130), and with excessive sweatings in the early hours of the morning . . . Digitalis was added to the mixture, the milk was peptonised on account of sickness & vomiting of curdled milk . . . Brandy was freely given to counteract the intense prostration & feeling of approaching death. . .

Nov. 24.—The temp. today never reached 101' & on one occasion fell as low as 99.2' . . . Nevertheless my impression was that I could not live through another such night as the last. . . Dr. Wm. Renton of Chester-le-street came in consultation, found no complication, only cardiac & mental depression, aggravated by undue use of brandy as a stimulant to spur the flagging heart . . . He substituted champagne for brandy, struck digitalis out of the mixture containing nux. vomica & aromatic spirits of Ammonia, ordered Wyeth's Beef Juice, & continued the peptonised milk. . . At the consultation my temp. was only 99.2', but the pulse was quick, & the nerves unstrung. . .

Dr. Manners of Blyth, for whose unremitting attention during my illness I shall ever feel grateful, sat up with me during this night . . . I vomited bilious fluid & had several attacks of retching during the night. . .

The motions were rather relaxed, but scanty, ascribed to the Beef Juice. . . Twitchings about the trunk & limbs I attributed to the action of the nux. Vomica. . .

Nov. 26.—(Nux. & Sp. Am. Arom.) Mixture given night & morning : Salol (7 grs.) every four hours. . .

Nov. 27.—M. temp. 101.2' E. temp. 102.2' . . . A large offensive loose evacuation passed containing Salol grains. Milk not digested so the time of peptonising increased : relished Wyeth's Beef Juice

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in water . . . Troublesome cough somewhat relieved by a mustard blister to throat & chest . . .

Nov. 29th. - Lowest temp. 100.2' : highest temp. 103.6' ; (pulse 84-94) A copious fluid motion , followed by exhaustion ; tendency to diarrhoea checked by lead & opium , or by opium alone. Beef Juice reduced in quantity . . . Every afternoon at this time creepy chills came over me , followed by an uncomfortably feverish feeling up till midnight, after which time drenching sweats occurred , especially during a short nap.\* sometimes I have been changed four or five times in one night. ) Salol & Antifebrin being given: also the nux. Vomica. mixture . . . Feeling better on the whole, in spite of the continued fever: taking peptonised milk very well. )

Dec. 5th. - Temp. now very remittent ; (pulse improved ; (sleeping better but with heavy sweatings . . . taking peptonised milk, potash water, beef juice & champagne . . .

Dec. 6th. - Temp. at 5 a.m. after profuse sweating 97.8' ; but rose to 102' at night . . . The temp. chart shews marked "spikings" , very suggestive of septic absorption . . .

Dec 9th. - Temp. still shews large oscillations . . . At my own request I commenced taking an acid Quinine mixture containing 2 grs. per dose , every 2 hours at first, then every 3 hours , then every 4 hours. ) From the taking of Quinine , the chart shews a distinct lowering of the range of temp. ' )

Dec. 10th. - At 11 a.m. the temp. was 98.2', pulse 95 . . . I was feeling pretty well , but after stretching myself in bed , A sudden feeling of collapse , with rapid heart action (120) , & pallor of face , came on: ) \* this lasted about 1/2 an hour, when the pulse quietened down & became stronger . . . I feared the occurrence of haemorrhage , but no blood appeared in the motion during the day. ) The temp. at 9 p.m. reached 100.2' . . .

Dec. 11th. - Morning temp. normal, pulse 90: E. temp. 99.6' pulse 82. ) I had the satisfaction of getting some chicken broth, a welcome change from milk diet. ) But I relished even more a quantity of salt warm milk in which "Findon Haddocks" had been cooked . . .

Dec. 13th. - M. temp. 97.8' : E. temp. 99.4' pulse 75. ) Got some corn-flour & milk. )

Dec. 14th. - M. temp. 97.6' pulse 70: E. temp. 98.4' pulse 68. ) this is the end of the 7th week of illness , & the temp. hereafter con-

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tinued to oscillate gently for the next 2 weeks between 96' & 99', but ~~the~~ being chiefly below the normal line .)

Dec. 15 -16th .- Beef tea was taken, but caused some griping pains: Burgundy did not agree .) ~~the~~

Dec. 17th .- Quinine now stopped; a half-glass of portwine thrice daily .) Tripe ; Boiled arrowroot-biscuit & milk .)

Dec 18. 19. & 20th.- 'M. temp. as low as 96.4' Dec. 20th.-Beef tea; chicken tea : tripe; (rice pudding .)

Dec. 21 .- 'Got up for the first time & lay for two hours on a couch felt very giddy & weak on trying to walk .)

Dec 23rd. Soft boiled egg & coffee: plaice, etc. .)

Dec 25.- Had roast chicken for my Xmas dinner .)

Dec 26th.- 'On walking about or sitting too long in the erect posture I felt the heart's action becoming rapid, & experienced a feeling of faintness .) The recumbent position was found to be best. .)

Dec 17th.- Stewed apples & cream: etc.

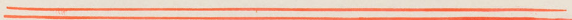
Dec 28 .- 'Did not feel quite so well .) Taking portwine thrice daily & nourishing light diet . On the outside of a hard motion some blood was seen, but probably only came from some small anal laceration .)

Jan. 1st.- Had boiled rabbit for dinner. .) Took 5 minutes outdoor exercise for the first time; (felt very weak on the legs, the ankles & thighs especially feeling stiff & painful on walking. .)

Jan 5 .- Went for change of air into the County of Durham. .) Began to take ordinary diet with portwine, & gentle outdoor exercise. .)

I gradually & steadily gained strength & flesh but my weight did not increase above my normal weight before the illness , viz. about 9½ stone

I resumed practice about the middle of March



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General remarks on my own illness .

Note on the chart, on the 2nd & 3rd mornings, a normal temperature; probably the result of the antipyretic action of antifebrin; undoubtedly the temp. was elevated on the first & second evenings but was intentionally not taken lest a state of "nervous funk" should result from the discovery of a high temp.

Note the remission of the temp. on the 7th & 8th days, & very gradual decline during the second week; peculiar remittent oscillations prevailed during the third week, when immoderate reading was indulged in; then recrudescence at the beginning of the fourth week, & during the 4th, 5th, & 6th weeks, a series of wide movements of alternate remission & elevation, gradually tapering downwards in the 7th week to normal, after Quinine.

The presence of rose spots was very doubtful.

There was very moderate abdominal distension, & a feeling of tenderness in the right iliac region on lying over on the right side of the abdomen.

The course of flatus was frequently felt passing up the ascending colon, across the transverse colon, & down the descending.

A dull cardiac pain was felt at times. The voice became very weak during the illness, & I must confess the temper was very irritable.

Boils formed in both armpits, being probably caused by the heavy sweatings. Sudamina were numerous on the abdomen: desquamation & itching occurred where they had been, during convalescence.

After recrudescence, there was a daily recurrence of creepy chills, about 4 or 5 p.m.; dry fever heat about 7 or 8 p.m.; & profuse sweatings during the night especially during sleep. I cannot help having the opinion that from the fourth week onwards the fever was to a large extent septicaemic.

In conclusion it is with the greatest of pleasure that I ascribe to my wife's devotion & skillful nursing, my recovery from this severe, protracted, & almost fatal illness.

