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**Experiences**  
*of*  
**TYPHOID FEVER,**

**From a Study**

*of*

**250 CASES,**

*by*

**John Highet,**

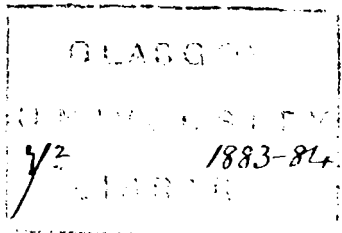
**M.B. L.F.P. & S. GLASGOW.**

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*Langlands, Troon,* }  
*March, 12th 1884.* }

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The subject of the following Thesis is Typhoid Fever. Its practical importance is unquestionable, interesting as it undoubtedly does, the whole body of our profession, and day by day we see that interest increasing, as light from all sides pours upon us, and opens up new trains of thought on the etiology, pathology, and treatment of the disease. Personally I am led to write a thesis on this subject, not only because it is one of such importance, interest, and magnitude, and a field which one may wander

-over and cull the blow us.  
 of Knowledge with solid  
 pleasure, but because  
 during the last twelve years.  
 of an active practical life,  
 it has been my lot to treat  
 many Cases of Endemic Typhoid,  
 and two winters ago to manage  
 with gratifying success, an  
 Epidemic of Typhoid where  
 the Cases numbered about  
 250 or more. In the  
 following paper I will  
 refer very much to the  
 Cases which came under  
 my personal observation  
 during the Epidemic.  
 Should there be a want  
 of regularity in the  
 arrangement of the paper  
 it is to be hoped that

Consideration will be allowed for naturalness in the writing of the description of the Cases; that we wrote a good deal from memory, and that in the description of Signs of the disease, these are frequently classified with treatment, and the treatment of certain symptoms noted just as they happened to strike the writer.

We first give a definition of Typhoid Fever, and would call it a Continued fever, of a duration which may (according to the experience of the writer) be twenty one days, or two or three months, very often attended by diarrhoea, and an eruption of small red spots, having

a fla. bit appearance; there are also changes in the spleen principally enlargement.

Concerning the Origin. of the infecting material, two different views have been advanced: One that the poison is of a specific character and another? that it may arise from the decomposition of animal matter, more especially sewage.

Judging of the Causes which operated in the production of the epidemic, which occurred in FROON, in January 1882, the month in which the tide entered the town, and was unfortunately (one might write culpably) allowed to remain for forty-eight hours. Firstly

One Case (under my care) existed in the town previous to the tide entering the town. Here we have the specific poison on the spot, ready to be wafted about by the following Conditions which existed.

The drains were not of sufficient capacity, to allow of the speedy removal of the water: as a consequence the sewage was diverted from its proper Channels, and was thrown back, and allowed not only to decompose, on the surface, but was allowed to soak under the basements of the floors in the houses, and remained for a considerable time decomposing there.

The only Conclusion judging

From these facts which one would arrive at, there being as noted, above, evidence of a specific origin, was, that the disease had been propagated from the unsanitary conditions, produced by the decomposition of the sewage, and other animal matters. Once the poison was at hand, predisposing causes existed abundantly; persons were already suffering from the effects of cold and damp, the consequence of the sea-water having entered the houses and saturated every portion of these houses: the beds on which they lay were damp, and the walls of these



his sanitary arrangements  
 peculiar to Scotland; Con-  
 cealed beds; in many in-  
 stances the moisture was  
 running down the walls.  
 Add to all these Causes,  
 the stinking emanations  
 of an impure coal gas  
 (the gas works being flooded)  
 then there existed a state  
 of things which brought  
 the body to a low point  
 of infective receptivity.  
 And as at the beginning of all  
 epidemics the people were  
 not prepared; many of  
 my patients had pursued  
 their various callings for many  
 days after receiving the  
 fever poison into the system.  
 Many on the other hand

had assumed their illness to be a bilious attack, and with the idea of removing this condition had partaken freely of purgatives. I observed in the course of my study of the cases during the epidemic, that this class of patients suffered severely. I had an opportunity fortunately, for observing the anatomical characters of the lesions, in this disease. I can only corroborate what one reads in the text books concerning these lesions; the changes in the agminated glands which are present from an early period of the disease, and to these progressive changes in Peyer's Patches,

in the mesenteric glands corresponding to the patches; and to the disturbance in the intestinal secretion and action. Consequent on these changes, the abdominal pain, and looseness of the bowels proper, in the fever are due. The lesions consisted to all appearance of a simple inflammatory development of the glandular elements, in consequence of which, the organs evidently undergo rapid enlargement, and then either slowly subside, going back to their normal condition or they undergo, softening, suppuration, ulceration or even gangrene. In a case observed by ourselves we noticed the Ileum and the large intestine very

vascular; the Peyer's glands were enlarged, of a deep blue colour, passing on to purple, some of them having tubercles of the size of a pea; there were also purple sloughs followed by eroded penetrating ulcers which had an irregular form. The pathological changes were most advanced, and distinctly marked about the lower end of the Ileum. The mesenteric glands connected with the lower part of the Ileum had also undergone inflammatory enlargement and had nearly attained the size of a small plum, being besides soft and pulsy. The spleen as is frequently noticed, was much enlarged; it was dark in colour and soft. This organ

in most of the cases which came under my observation although enlarged; yet it was only by careful palpation, and percussion of its anterior surface, and in a direction downwards that I determined to my satisfaction its real condition. I will now

consider the Signs of Typhoid Fever, with some observations on its Invasion in relation to the cases which came under my own notice. The

period of incubation one can not definitely determine. We know it to be long, most probably at the shortest twenty one days. It is difficult to ascertain this point definitely as the date of

exposure can not always  
 be readily learned. I noted  
 that the invasion of the illness  
 was almost always insidious.  
 Generally the patient felt a little  
 out of sorts, had anorexia, &  
 he cared not for his ordinary  
 duties. Epistaxis occurred  
 more frequently about the end  
 of the first week, or beginning  
 of the second, than at the  
 commencement of the illness,  
 although we see it sometimes  
 in a run of cases, occur-  
 ing as an early symptom.  
 Frontal headache and sleep-  
 lessness were two signs  
 in the early stage of the  
 fever, which demanded  
 my constant attention.  
 The sensation so generally

noted in other febrile complaints of cold water being poured down the back, alternating with heat and flushing, was also an early sign frequently present. The tongue had generally at first a whitish or yellowish coat. The bowels were sometimes confined, sometimes relaxed, altho many were confined when first seen. The urine generally presented normal characters at first; scanty, and high in colour. The pulse was increased in frequency, and the patients, whose appearance was languid and heavy. The abdomen was usually swollen and the patient often complained of pain when pressure was

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made over the right iliac region.  
The Temperature, however  
is the sign which was to me  
of the greatest diagnostic  
value. I observed it closely,  
and it afforded me often very  
early evidence of the disease;  
it rose with great regularity  
day after day, and was from  
one to two degrees higher in  
the Evening than in the  
Morning. As a fairly  
general rule, it attained its  
maximum between the hours  
of 8 P. M. and Mid-night.  
After which it gradually  
fell, and the lowest point  
was usually attained  
between 6 and 8. A. M.

The rise in most cases  
began at the commencement



of the illness, and gradually increased, until at the end of the first week, it had attained its greatest elevation, which varied in different Cases between  $104^{\circ}2$  and  $105^{\circ}8$ . From this period up till the eleventh or twelfth day there was not much change, and in the mild Cases, and those which were uncomplicated, the morning falls became lower and of longer duration; after this period the evening temperatures also fell.

As the Patient improved and approached convalescence, the temperatures of the evening and morning approximated, and the normal level was

gradually obtained. I will introduce for purposes of temperature illustration the case of Hugh Patrick aet 10 years. Froom. Harbour.

This case occurred since the epidemic, and I use it, as from a temperature point of view it is interesting, especially when we consider the severity of it. On

May 26<sup>th</sup> at the morning visit the temperature was 105°. E. 105.6.  
 May 27. M. 105. E. 105.8. 28<sup>th</sup> M. 105. E. 105.6  
 29<sup>th</sup> M. 105. E. 105.4. 30<sup>th</sup> 105. E. 106.  
 31<sup>st</sup> M. 104. E. 105. June 1<sup>st</sup> 103. E. 104.  
 2<sup>d</sup> M. 103. E. 104. " 3<sup>d</sup> 102.8. E. 104.  
 4<sup>th</sup> M. 103. E. 103. " 5<sup>th</sup> 103. E. 104.  
 6<sup>th</sup> M. 102.8. E. 103. " 7<sup>th</sup> 104.4. E. 104.6.  
 8<sup>th</sup> M. 103. E. 104. " 9<sup>th</sup> 102.4. E. 103.  
 10<sup>th</sup> M. 102. E. 103. " 11<sup>th</sup> 101. E. 103.

12<sup>th</sup> 102.4. E. 102.4. 13<sup>th</sup> 100. E. 101.  
 14<sup>th</sup> 100. E. 101. 15<sup>th</sup> 99.6 E. 101.2  
 16<sup>th</sup> 99.8 E. 100. 17<sup>th</sup> 99. E. 99.4.

After the 17<sup>th</sup> June the temperature did not rise.

### The Tongue.

This organ's appearance varied much. In a small percentage of the cases, the tongue presented an almost normal appearance during the course of the illness: in most cases however the fur was represented by a thin whitish brown streak down the centre; the margins being red and glazed; occasionally transverse cracks were seen, often deeply marked. The tonsils and mucous lining of the mouth were often congested and sore. Sickness was a common early sign; it was

often very severe and persistent. The abdomen in most cases was tumid and swollen, and on pressure being made in the right iliac region, tenderness was complained of by the patient. One could always make out the gurgling of liquid and gas. In a few cases general pain was felt over the abdomen. This gurgling I did not observe, where there was constipation.

I often attributed the constipation to the lime which is abundantly present in Troon water supply. Filtered water I may observe in passing. I allowed my patients to have freely, as I believe it checks thirst, more readily than any other fluid, and when it is freely absorbed it passes

away by the Kidneys, Skin, and lungs, and is of much service as a depurating agent.

The chief causes of diarrhoea in excess of that due to the intestinal specific changes in Typhoid Fever are, Error in diet e.g. the use of solid food; the presence of particles of undigested food in the bowels; the abuse of milk, and of pure animal broths.

I remember in the case of William Adam (who worked in Troon, but who resided some two miles distant.) The evil of partaking of an injudicious meal. I saw him at Troon on Feb'y 10<sup>th</sup> 1882, when in the third week of the fever he was doing well. In the face of careful warning, before I had got to my residence,

his wife gave him some potato-soup. When I saw him again that afternoon, he was in the chief agony. Fortunately perforation did not occur; the man ultimately recovers, but it proves to me the terrible danger of giving food of a solid character.

I will refer further on, to the state of the bowels when writing of treatment. Concerning the pulse; the respiration, skin, and Rash: As to the pulse it varied greatly; in many of my mild cases, throughout the whole course of my illness it did not much exceed the normal: in other cases however it rose to 90 or 100, and from this up even to 140

or more; I observed that when it was very high it was very feeble, and quieter at night than in the morning. The Respirations were usually increased, and this followed; as a consequence of the Pneumonia and Bronchial Complications which were frequently present. The Skin, was hot and dry, and thin as it were; imparting to ones finger the idea of pushing against tightly drawn tissue paper. During the latter part of the Second, and in the Third week; many of my patients had profuse perspirations. The Rash appeared sometimes as early as the fourth or fifth day, but I did not generally

notice the rash until after a week or more of fever. The spots were rose coloured, distinctly elevated, disappeared on pressure, resembled a Glea. bite in some points, and were about a line, in diameter. They were as a rule not numerous, they appeared in successive crops, each crop lasting from two to four days; they were principally seen on the chest, abdomen, and back. I marked the spots in many cases, and noticed the new morning crop as it appeared. In many cases perhaps 30 per cent. I noticed no spots. The urine was scanty and



dark coloured at first,  
 generally free from albumen,  
 although about the end  
 of the third week in a  
 few cases I discovered a  
 small quantity. As the  
 fever advanced the urine became  
 paler and more copious. I  
 now approach the important  
 part of this paper; The  
 General Management and Treatment  
 of this interesting disease,  
 and would observe, that I have  
 omitted purposely, heretofore, any  
 lengthened description of certain  
 signs of the fever e.g. the State of  
 the Bowels, in order that while de-  
 scribing the causes of certain  
 conditions, I might note the best  
 means which according to my  
 experience I have found

alleviated or removed these conditions.

The patients attacked, who had good constitutions, and whose circumstances placed them under good hygienic, and dietetic management did well without medicines. Medicines were used principally for the management of complications.

ely sheet anchors, were good nursing, pure air, and milk.

Each patient's condition required ~~required~~ special study, depending on the state of the various organs.

I will further premise the history of the treatment by mentioning all the fatal cases out of 250.

One may be excused for dilating upon it, judging from the result.

My first Fatal Case

was a young man named John Hardie, who died of Phthisis, four months after he was attacked after his fever had completely gone; his family history was bad and his general health had always been indifferent.

A young woman named Elizabeth Connell also died; she was one of the first attacked, and not knowing her illness, never suspecting fever, she continued her ordinary duties (a draper's assistant) for several days. She also had to walk through the water to her home morning and evening as it had not yet been removed from ~~the~~ streets.

A man named Mr. Smith who was wrecked by

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alcohol, before he was prostrated by the fever also died in the third week. And lastly a girl aet 20, Agnes Leslie, died of Catarrhal Pneumonia in the fourth week. This was the whole mortality out of 250 Cases.

An advantage was also gained in getting my instructions, concerning Rest, diet, hygiene, and nursing carried out, by the fact that I had the patients with very few exceptions under my personal supervision, as a Physician might have the management of the patients in his

particular Ward. The Sanitary authorities were also roused to activity, and measures of cleansing, & speedily adopted. I may here conveniently mention the fact that the tide again came into the town on January 6<sup>th</sup> 1884 and inundated the place quite as badly as before. but owing to its quick removal, and the appliances used for preventing its ingress into the houses, not a single case of fever occurred. Fortunately also the specific agent, was not present as no case of Typhoid existed in the town or immediate vicinity. I would premise any

remarks on Treatment further,  
 by stating that according  
 to my experience of this  
 Epidemic, I do not think  
 that any Case of Typhoid,  
 was stopped short, by  
 any specific Medicine  
 or Agent. The specific  
 disease is limited in its  
 duration, and the more pro-  
 ninent signs, I think, have  
 their regular order of succession,  
 and many their own time  
 of lasting; that is, a time  
 of invasion, and a time  
 of termination, and the  
 natural ending of some  
 sign, has often been ac-  
 credited I doubt not, to  
 the action of the drug  
 or remedy last exhibited.

Many Patients very often at the commencement of the epidemic, treated themselves, imagining they had a cold, and often tried to walk this off by exercise, or by taking purgatives; having the idea that, that much maligned organ the liver was out of order; with the result that the bowels got injured, or the waste products of the body were increased largely. But the thermometer, was always my "guide, philosopher and friend", and my safeguard against the mistaken diagnosis of the patient. The rise of temperature taught me to confine the patient at

once to bed, and thus to  
 conserve his energy. I  
 ordered the air of the Room  
 to be kept as pure as  
 possible, free from draughts,  
 and where practicable a dif-  
 ferent Room was used at night,  
 from that used during the day.  
 From the very Commencement my  
 patients were restricted to liquid  
 and farinaceous food.

Grapes I did not give owing to  
 the Seeds being apt to cause  
 irritation in the bowels.  
 Milk was my mainstay, as  
 a food, throughout the whole  
 epidemic: and used judiciously  
 it proved a true Friend.  
 I was pleased to read lately  
 a Communication from D<sup>r</sup>  
 Allen of the Belvidere Fever



Hospital, in answer to a query of Dr. Fairdner's Concerning the use by Dr. A. of Milk in the treatment of Typhoid, when the latter Genl. Lenan stated he had nothing to add to what he was taught by Dr. Fairdner, that Milk was the most suitable form of nourishment for Typhoid Patients. It

Must however be borne in mind that the amount of Milk administered must be in accordance with the condition of the patient's digestive organs. Let us consider that the Casein of the Milk has to pass into a solid form before absorption; Curds form, and the digestive power being weak, these Curds may remain undigested, and should they be in considerable quantity, they may accumulate in the bowels, and cause

flatulent distension with pain, & add greatly to the febrile disturbance, as I have often seen.

Should this accumulation of acids take place, I have hitherto given an enema of thin gruel, with the effect of bringing these away, and giving the patient relief. Too often one hears of milk being discredited in the treatment of Typhoid, but I am afraid its injudicious use, has been the cause.

Patients in order to check the burning thirst, will consume fluids in any quantity, and the mere mechanical distension of the stomach and bowels is bad, but the acids prove a source of great irritation also, to the tender-ulcerated

Surface. I always used Disinfectants, (Condy's Fluid & Chloride of Lime principally,) in the Sick Room. Pure Air which fortunately could be had fresh from across the Atlantic, was admitted in a judicious way into the Patients Rooms. When the Headache, was very severe during the first ten days, I used cold applications with benefit: the light was shaded, and absolute quiet enjoined. The Sleeplessness usually disappeared during the second week of the disease but not always, and before any nervous prostration appeared, Bromide of Potassium, Verbane, and Chloral, were in my hands most useful. Tepid sponging I used frequently, not only

to assist in keeping the temperature moderate, but also with the view of inducing sleep. I tried opium as a sleep producer, but often it disordered digestion and checked the secretions. I was nervous also in trying it upon severe cases owing to its action on Brain and Heart. Now again refer to Diarrhoea; and the opposite condition.

The stools were generally of the usual pea-soup character, not only in colour but in consistence. In the early stages of the disease, the stools were generally dark in colour, and later on when not like pea-soup, they had an ashen gray colour. The diarrhoea in addition to causes already noted, may be I think, caused by Catarrhal inflammation of the mucous

Membrane of the bowel: this I should say is often caused by the unhealthy intestinal secretions, and contents: quickly discovered by the ammoniacal odour and alkaline reaction.

I laid down a rule with my patients that were there not more than from three to five motions in the 24 hours, no alarm was to be raised unless the strength of the patient was reduced to a low point.

In treating the diarrhoea, I always thought out first its pathological cause: when curds of milk were present then I used the Guel enema; when the stools were very alkaline, I used diluted Nitric or Sulphuric acids; when stools frequent without any special changes in them, I gave a starch water enema, about 4oz: after the stool.

When the stools were exceedingly offensive, I gave animal Charcoal in drachm doses three times a day. For the Catarrhal inflammation I was gratified by results, after using, Siehaert's liquid bismuth in ℥ij doses every 4 or 6 hours: if the diarrhoea was excessive, I added to this Catechu, or Krameria, and even 10 drop doses of laudanum.

In many of the patients Constipation was the prevailing condition. I account for this by the large bowel becoming torpid, the fluid contents getting absorbed, the stools becoming hard and dry, producing in some cases great irritation.

The Treatment here was a thin sub  
 Enema small in size, swa way 2 or 3 day.

I often observed how the bowels got blown up, and interfered with the free play of the diaphragm, preventing the full expansion of the lungs, favouring congestion, and impeding the circulation. I also noticed that want of power to expel the flatus, and great excess in the amount formed, reached their height, about the latter half of the third week, or the beginning of the fourth. I used turpentine Stupes, externally for this condition; in some cases with seeming benefit; in many it was of no use. In some fourth week cases, I administered alcohol, first seeing there was no albumen in the urine, and I carefully studied its effects, on temperature, Circulation, and on the urinary

and other Secretions. When I am writing of alcohol, I may finish all I have to say about my use of it, during the Epidemie. I gave in Cases where it was indicated from Six to eight ounces of Whiskey in 24 hours; when I exceeded this, or when through Carelessness in Nursing, more was given, the tongue got dried, and delirium was produced. In treating the Morbidge I had many experiences. One morning I was called out of bed to see Mr. John Campbell, Portland Street, who the night before, in the third week of the fever, was doing well. When I arrived she bled freely from the bowels; a slough had evidently separated, and some large



Vessels been opened. I at once  
 injected a quarter of a grain of  
 ergotine, ordered the patient to  
 be kept strictly in the horizontal  
 position: (I even drew the urine  
 off so as to avoid movement,)  
 and I further prescribed 15 grains  
 of gallic acid in acid water  
 with 5 drops of laudanum every  
 two hours. This was followed  
 in eight hours after by  
 10 drops of turpentine, given  
 three different times. Ice  
 was sucked, Milk given very cau-  
 tiously; acid, all food given in a  
 concentrated form, and every means  
 used to keep the bowel quiet.  
 My friend Dr. H. H. H. of Cyp-  
 saw the patient with me, and he  
 was pleased to approve of the treat-  
 ment: we were both gratified

by the patient's ultimate restoration  
to good health.

often observed the Spleen to be  
enlarged, and tender, more es-  
pecially during the third week;  
a hot fomentation I found  
to be a suitable remedy.

Concerning the management  
of the high temperature I  
was again led to think out  
its Pathological Cause, be-  
fore starting treatment. I  
first considered that it was  
the direct result of excess  
in the destruction of the various  
tissues of the body: also that  
blood infection, and nerve dis-  
turbance also caused its  
rise. I also remembered  
that Congestive Nephritis, and  
Pneumonia, are common

Conditions in typhoid fever,  
 and must therefore be frequent  
 causes of increase of temp-  
 erature. I further thought  
 how the nervous system must  
 influence the rise of temperature,  
 when I remembered how often  
 mental emotion causes it.

Cold Baths as a method of direct-  
 ly lowering it first occupied my  
 mind, but although one read of  
 the success of this method in some  
 hospitals and at home yet  
 he has not the full opportunities  
 of Physicians in that position,  
 having as must be obvious to all,  
 to just overcome the prejudices  
 of the patient's friends in the  
 introduction of anything  
 novel. I had however  
 very pleasing results from

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the use of cold iced cloths applied over the abdomen. In two recent Cases the One a young boy, I reduced the temperature on the thirteenth day from  $105.6$  to  $100$ , where it kept steadily for two days, and then on the twenty first day it came down to Normal and kept there. The boy recovering. The other Case was that of a young lady who had similar treatment on the 17<sup>th</sup> day of the fever when the temperature which had never been under  $102.6$ , during the whole illness, came down and did not go above  $100$ ; for the remainder of the time (the patient was ill, a period of Twenty three days,

Country from the beginning  
 of the attack; I am con-  
 vinced in some cases at least  
 the direct cooling of the body  
 gives the patient his only chance,  
 e.g. a temperature going on to 107°  
 and advancing, unless re-  
 duced will assuredly kill  
 the patient. In many of my  
 cases where the disease was ad-  
 vanced, the skin very dry, hot,  
 the patient low, and internal  
 congestion going on, more  
 especially in the kidneys,  
 a warm pack, was frequently  
 followed by gratifying im-  
 provement. I also used the  
 India-rubber tubing caps, in  
 cases where the temperature  
 kept above 104°, and removed it  
 when the temperature fell.

I used in some cases, Quinine & Spirits of Wine as a sponging agent; if it did not reduce the temperature, it certainly soothed the patient, and was of much benefit in this way. To some of my patients advanced in years alcohol, was given, with the idea of reducing temperature: I found it steadied the enfeebled quickly beating heart. I gave large doses of Quinine in many cases, with temporary benefit: and have used Salicylate of Soda with a similar result. These latter medicines are apt however to disturb the stomach, which is unfortunate. Febrile-ness of the action of the heart I would say here, may destroy the patient.

either directly by asthenia, or indirectly by weakened vis a tergo, which produces local congestions. To try and prevent death in this way I found alcohol the most suitable remedy, especially if the weakness were also due to defective nerve influence. I remember one patient George Stewart at 22. Temple St. a highly nervous young man, who in the third week of the fever was frequently in a state of fright, the least abdominal pain, or slight disturbance, caused him to start from sleep: the temperature rapidly rose, the pulse rose also and became very irregular. I gave him one ounce of Brandy every hour for four

hours, when the patient whose signs were of the gravest nature before, became quiet and peaceful; the temperature fell, the heart's action became steadier, and it increased in strength. This was the most delirious of all my patients. The majority had the trifling wandering from which they could be recalled, by directing the attention to some common object; a muttering delirium which seems most characteristic. But Stewart was violent. He had no headache. I got his head shaved and applied an ice bag to it. His head was kept cool by water, and his heart steady by alcohol till the desired effect was produced, that



of inducing sleep. This treatment in Stewarts Case was repeated on three different occasions during the progress of the fever. She made a good recovery. In the Case of Elizabeth Cornell I gave alcohol in the same way with the object of increasing the nerve force as Tremor in her Case was a marked sign. But when Tremor, is a prominent sign, the Case according to my experience is terribly bad, and although I had naturally in a private practice very little post mortem work, yet I should think, where you have great tremor you would have sad destruction in the bowels.

will now concisely conclude  
with two or three sentences, and  
write what I have learned from  
the treatment and management  
of 250 Cases of Typhoid.

I think one can guide the  
weakened patient through  
the Typhoid storm: I don't  
think one can directly feel  
the storm: in other words  
to talk of curing Typhoid  
I think is wrong.

To recognize the fundamental prin-  
ciples of early Rest, Pure  
Air, Real fruit, mixed liquid  
food, and bland diluents,  
and to exclude fresh doses  
of poison, is truly to be  
at least well equipped  
for the battle. In  
the management of the

bowel lesion, by careful ex-  
 clusion from the diet of all  
 hard and irritating substances,  
 and the removal from the  
 bowel of any local irritant;  
 these are in the highest degree  
 important points to notice.  
 When in addition to these  
 I used Medicines, it was  
 because special signs de-  
 manded them. I was  
 watchful from hour  
 to hour, always on the  
 outlook for the course which  
 Nature might steer; imitating  
 her, being guided by her warnings,  
 assisting her; this was  
 the path which I treaded  
 studiously and cautiously  
 and with a degree  
 of success which

I humbly hope, will  
be considered fairly good.  
a mortality of less than  
1/2 out of 250 cases.

X /p. 24-26 gives only four  
Why not be exact in this?

The "flea bite" description on  
Wh 4, 22 is not a very good  
one of the vesiculae as  
usually seen. It is a very  
old Hippocratic formula,  
I should not be employed  
as a merely conventional  
word, unless specially  
applicable.