Observations on Fever

Illustrated by cases which have occurred in the Royal Infirmary during the present session 1851-52

by James Macaw
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Observations on Fever

The present memoir contains an account of the more interesting cases of Syphus which have occurred in the clinical wards of the Royal Infirmary during the session 1831-32, and as far as I can ascertain all the cases of Intermittent Typhus which have occurred in Edinburgh during the same period. These cases present several points of great interest, especially in regard to the distinctions between these two forms of fever and the eumptions, said to be pathognomonic of each; questions which of late have excited great interest among Physicians both in these countries and on the Continent; and which I hope the following series of facts may assist in elucidating.

The Pathology of fever has in all ages occupied a large share of the attention of Physicians; and the importance of the subject may well excuse this; whether we look to the influence which its epidemic invasions have exercised on the progress of human affairs; the amount of bodily and
Mental suffering, caused by more isolated attacks, or the extent to which the treatment of other diseases, has in all ages been influenced, by the prevailing theories concerning fever.

Two opposite systems of Pathology, the Humoral and the Spectral, have been stoutly maintained by their respective advocates since the earliest records of Medicine and recently, Palitannusky of Vienna has advanced the idea of a typhous dyscrasia similar in character to the Cancerous and Vægglous, & characterized by the deposition of a peculiar infective product, into this subject; how, it is not my intention to enter as the Physiology and Pathology of the organs chiefly involved, are now undergoing investigation by one who is eminently qualified for the task.

A short account however of the several doctrines which have prevailed during the present century, may serve as an introduction by showing the changes which have led to the present state of opinion.
During the early part of the present century the doctrines of Tinel were almost universally received in France; he divided fevers into six classes founded partly on his theories of their nature, but chiefly on the grouping together of the more prominent symptoms presented by different cases:

1° Inflammatory fever. La fièvre anginale.
2° Bilious or Gastric fever. La fièvre hémorragique.
3° Portal or Mucous fever. La fièvre heures hémorragique.
4° Putrid or adynamic fever. La fièvre adynamique.
5° Malignant or Ataxic fever. La fièvre ataxique.
6° The Plague. La fièvre hémorragique.

This artificial classification was supplanted by the doctrine of the Physiological school founded by Broussais in 1816, according to him all fevers the phthis exanthematique included, present after death manifest traces of local inflammatory action. The anatomical character of Typhus being according to him inflammation of the gastric intestinal canal, he gave it the title of Gastroenteritis, including under this term, the first five varieties of Tinel's classification, thus Gastroenteric theory was for a long time extensively received.

New modern and more accurate investigations however have shown that Gastroenteric inflammation is neither an invariable nor essential concomitant of Typhus; and to Broussais's
There is due the merit of pointing out the real site and nature of the intestinal affection, he showed that it was confined to the solitary and agminate glands of the small intestine, that it only occurred in the course of continued fever and that it accompanied but did not cause the disease, to which from this its chief anatomical character he gave the name of Dohmerentitis.

Louis next in his turn modified the views of Barthelemy-he agreed with him as to the site, nature of the intestinal lesion, but finding it present in all those dead of typhus whom he dissected, and trusting to his own observations alone, he was naturally led to regard this as an essential character of the disease, and treating those instances recorded where no intestinal affection existed as so many inaccurate observations, he included all the varieties of his predecessors under one head, his "afferent typhoid". Like all other opinions founded on individual observation alone and rejecting recorded facts, this doctrine soon underwent a change; its author, when visiting Great Britain sometime after publishing his opinions, had the opportunity of seeing in Edinburgh; Typhus unaccompanied by any fixed anatomical character whatever; he was thus convinced of the insufficiency of his previous observations and in a second edition of his work published in 1842 he makes a distinction between Typhus and the "afferent typhoid", the former presenting no fixed anatomical
character, (and according to him exclusively of British origin) the latter having as its fixed anatomical characteristic liberation of Fey's glands. He admits the probability of a primary affection of the blood, and a change in its character of the precise nature of which we are ignorant, thus far leaning towards the humoral pathology.

Revenue, like Broussais, is a Solivagant, he ascribes fevers to irritation or inflammation of the circulatory system, the blood undergoing certain changes secondarily, and the phenomena of the disease modified by various local affections such as inflammation of the alimentary mucous membrane and its follicles and glands; irritation of the cerebral spinal system and sometimes by the introduction of putrid substances into the blood, he divides fevers into two classes 1st. Putrid intermittent or filious fever. 2nd. Putrid intermittent or Typhoid fever.

Professor Retzius of Vienna as already stated has advanced the idea of a dyscrasia characterized by the separation of a peculiar morbid product, which putrifies undergoes a distinct series of morbid changes. "The seat of this process is variable and depends on the specific relation of the poison of typhus to certain organs. The tissue most subject to..."
This deposition are the mucous membranes especially the space between the mucous and muscular coat, and the mucinere glands, the mucous membrane of the stomac is most frequently affected, but it also occurs in the bronchi and lungs, and although very rarely in the colon. This typhoous deposit, according to M. Vogel, usually appears as a more or less firm saraceous mass, of a yellowish or whitish colour which is deposited in greater or less abundance amongst the normal tissues, gradually softens, and as the normal elements of the region become also involved in the process, forms ulcers, which either heal by cicatrisation, or continue until the death of the patient. In many cases, however, death takes place before the commencement of the softening. The typhoous matter under the microscope appears to consist of three elements: an amorphous semi-transparent struma; very minute molecular granules, and large corporcles, which seem to be imperfect cells and castellae.

Nason Lethig, on the other hand, takes a chemical view of the subject, and ascribes the phenomena of fever to the action of a morbid principle which when introduced into the blood, produces a series of changes in its constituent parts, called febrinosis whereby the original poison is indefinitely reproduced, the following are his views as given by M. Simon of London, who has to a considerable
extent adopted Lellis' view.

By morbid poison we mean a product which is the supposed specific cause of certain specific diseases, a product which has many striking differences from all other poisons but chiefly these: first, that while other poisons, act directly in proportion to their dose, the morbid poison produces its characteristic results when given in the minutest conceivable dose, just as surely, and just as deadly, as when the system is saturated with it; — and secondly, that while common poisons diminish from the body, or at the most remain stationary, during the production of their effects, morbid poisons apparently undergo within the body on which they act, a striking and singular increase.

But there is probably a material in the system or in the blood upon which the morbid poison may act.

What this material, the principle of infective disorders in the human subject, may originally, have been, we are totally unable to say, but whatever may have been its first method of generation, we can now confidently speak of it as a possible product of the human body; we know that it is liable to develop itself out of some constituent of the human blood.

What are these constituents? Observation and argument sufficiently show, that the blood corpuscles and albumen can hardly be the constituents in question; first because after
death by agnatie disease, they are found without any evident alteration, and no considerable change in them could escape notice; Secondly because they are indispensable to life, and their even temporary transformation (if complete) would of necessity be fatal; Thirdly because immunity could never be obtained by one attack of any particular disease, if it were requisite to exhaust those products: re-exposure to infection would ensure a return of the disease and a reappearance of its phenomena.

For somewhat similar reasons, we may enucleate, that the salts are not the elements concerned. Fibrine and the so-called extractive matters are what remain—can these be the ingredients in question? Substituting for the chemical phrase "extractive matters" the physiological one "waste of the tissues" I am strongly disposed to think an affirmative answer to that question; or at all events, unhesitatingly to point here as the direction in which accurate pathological investigation may be made with the most prospect of success.

For, in the first place, they are matters already in process of decay, and therefore eminently susceptible of new modification. In the second place, they are in-essential to the nutritive processes; in the third place, only of such matters as these can it be said that they occur only once in life; fourthly, notice that the surfaces and organs most prone to affection in
the diseases under consideration are those which are eliminative and dejecting; those whose normal products can hardly be retained for any time within the body, much less out of it without undergoing a fatal decomposition; and fifthly, whereas the normal and healthy discharge of these substances commonly tends to occur in the highest attainable form of oxidation, and whereas under a variety of atmospheric circumstances, interfering with their efficient oxidation, they must tend to accumulate in forms more susceptible of fatal decomposition; as it is peculiarly under such circumstances—where ventilation is defective—that epidemic diseases tend to affect the system either through a new generation of their poison, or through some vast increase of susceptibility thus engendered.

Thus each of the leading authorities on the continent has formed his own theory and classification of fevers, and like all other subjects which are continually disputed on theoretical grounds, little advance has been made as yet in elucidating the real nature of the disease.

In this country the majority of Physicians, have held and still do hold the doctrines of the humoral system.
Considering the blood to be primarily affected, and the disorder of the nerves and other systems as due to some
improper fluid or animal poison circulating with the blood.

The principal advocate of the non-essentialist or solidist
school in this country was Dr. Blumenbach, he considered
fever not to be a primary affection, but entirely dependent
on inflammation of the brain, a view to which the results
of post-mortem examinations are certainly opposed, thus
Chenault gives as the result of 88 fatal cases carefully
examined by him; in 15 he made appearances of the
brain whatever, in 13 some serous fluid in the lateral ventricles
and in 7 oedema of the meninges. This doctrine how-
ever gained few adherents, and the corresponding treatment
by early and copious bleeding still fever although perhaps
too many.

The classification of Dr. Cullen is that which has been
almost universally adopted in this country, up to a recent
period viz. 1st Typhus or inflammatory fever, and which
has since been called: Relapsing fever = 2nd Typhus or
adynamic fever = 3rd Typhus or mixed fever.

And perhaps there is no other classification whether the
fine drawn distinctions of Pinel, or the all including
Gastric-entire of Broussais, more accurate or more
useful practically than this division into two separate classes for he does not insist on Typhus being a distinct form of the disease, but arising from the same contagion as Typhus and modified by existing circumstances, especially by the prevailing epidemic constitution.

But although the accuracy of the distinction drawn by Burton must be acknowledged by every candid observer; later pathological observations have shown that cases of Typhus arising apparently from the same contagion may differ widely from each other, in the post-mortem appearances. Thus some cases exhibit the usual febrile symptoms, commencing with rigors, followed by, hot skin, rapid pulse, with great prostration of strength and rapid sinking, and after death the most careful investigation fails to discover any structural change whatever beyond congestion of the Spleen and some of the other organs, quite inadequate to account for death.

In another class of cases, quite the same symptoms are present, together with diarrhea, the stools presenting a peculiar appearance resembling pea soup, there is tendene of the abdomen, especially on pressure in the right Flank region; and in these cases there is found liberation of both the solitary and agminated glands in the small intestines and frequently liberation of the solitary glands in the large
intestines also; and this is found to be one of the most
fatal complications, which attends the course of Typhus.
This abdominal lesion is of such frequent occurrence
on the Continent, in proportion to the cases without it, that
the French pathologists as formerly mentioned, had entirely
overlooked the latter, and trusting entirely to their own
observations, they denied entirely for a time the existence of
Typhus free from intestinal ulceration; further observation
has however accrued to convince them of the existence of typhus
as distinguished from their "affection typhoide"; the former
they maintain to be exclusively of British origin, thus
establishing Typhus & Typhoid fevers, as diseases totally distinct
in their origin and locality, this view has since gained
several adherents in this country, in particular Dr. Jenner
who has published a monograph, stating for its object the
establishing of the following classification

1st. Felicula. 2nd. Relapsing fever. 3rd. Typhus
4th. Typhoid fever. and especially to prove the non identity
of Typhus & Typhoid fever, as shown by difference in the
ruptures, the presence of the intestinal lesion and their origin
in as he thinks different contagions.

Most British Physicians however continue to consider the
two diseases identical, arising from the same contagion and look
upon the intestinal affection as merely an occasional complication.
The following are some of the chief arguments on either side of the question, and the statements accompanying them seem to show that however important the uterine ulceration may be as regards prognosis and treatment, still the two affections are identical, arising from the same contagion and capable respectively of reproducing one another.

As regards locality, the French pathologists, as one great distinction, maintain typhus to be exclusively of British origin. Now, André reports various fatal cases of fever where no intestinal lesion could be found, his 63, 64, 65, observations were fatal cases of fever without any appreciable lesion, except enlarged and softened spleen. Barthéz and Billiet also state that they have observed patients who after having presented the greater part of the symptoms of the affection typhoïde have not presented after death the anatomical character of that disease. Still also in his classification mentions La fièvre Meningo-Spastique & La fièvre adénite Meningée supposed to depend on irritation, in the digestive organ and mucous membrane of the alimentary canal, whilst in another class, in contradiction, as it were to these he places La fièvre adynamique, consisting in a diminution of general sensibility, and La fièvre atavique manifesting disorder of

1 Anatomie pathologique
2 Archiv. gén. de Méd.
the nervous system. The existence of the enteric affection in Great Britain is now admitted even by those who maintain it to be a distinct disease, and Dr. Jenner states that it occurs indiscriminately with typhus in the London fever hospitals.

2. Relapse. The occurrence of a relapse or recurrence of the "affection typhoid" was formerly much insisted on as distinguishing it from typhus, but Andral, Louis J. Blumine, all agree that the typhoid affection can only occur once; indeed when once the glands have suffered they are so completely destroyed, that a return of the disease is impossible, a false relapse may however take place, the fever like any other exanthem having run its course the local (cutaneous) lesion may and may light up an irritative fever, with abdominal tenderness, and tympanitis, simulating a relapse: This is the period at which perforation is apt to occur, as in the case of John Anderson.

The similarity of the two affections as to their general geographical distribution and the rarity of a relapse in either is admitted by Dr. Jenner, he however maintains their dissimilarity in the following particulars: 1. 4th eruption 3. Symptoms 5. The production of the one disease by the other. The occurrence of either form of disease in a person who had previously suffered from the other.
The eruption which, according to Dr. Jenner, is present in almost every case of Typhus & Typhoid fever, and which when present is certainly very different in the two affections is one of the strongest arguments in favour of the bare identity doctrine, the rose coloured papular eruption of cutaneous typhus may however, be merely sympathetic with the intestinal affection. 1. Because it is not present in all cases of cutaneous fever, only two of the 5 cases here reported, presented any eruption. 2. Because fresh crops of papules may come out after subsidence of the fever, as in the case of W. Anderson (1815). The eruption in cutaneous typhus consists of rose coloured spots scattered over the chest & abdomen few in number rarely exceeding 30 or 40, these are slightly elevated papules, uncommonly acuminate but invariably rounded, no trace of vesicle can be detected on them, they fade insensibly into the surrounding skin, disappear completely on pressure and never pass into pustulec, they are about a line in diameter, and come out in successive crops each of which continues three or four days. The cutaneous eruption is never papular, the spots are flat-topped on the surface, irregular in outline, disappear completely on pressure, and vary in size from a point to 3 or 4 lines in diameter, they have no well defined margin, but fade insensibly into the hue of the surrounding skin, in 2 or 3 days their spots become darker, and at length, their centre become dark purple.
Not disappearing on pressure, and either the centre alone or the whole spot, becomes changed into a true petechia, presenting the following character—Almost crimson or purple colour quite unaffected by pressure, a well defined margin, and total want of elevation, above the level of the cuticle.

Neither of the ejections known is at all a fixed character of the disease; in the ten cases of typhus here reported, there was no eruption whatever in five of them; four had the measles or miliary rash, and one had an eruption which was petechial from the first; the measles eruption appeared on the 6th day in 3; on the 12th in 1; and in one case John Craig it did not appear until the 13th day. Of the 5 cases of enteric typhus, the rose coloured papules were seen in one only today. Anderson, another John Anderson, came in the account of peritonitis from perforation following the fever, and too late to ascertain whether any eruption had existed or not, but in none of the Howison family, was any eruption seen although carefully looked for and they undoubtedly had the intestinal ulceration, as shown by the diarrhea, tenderness of abdomen on pressure, intestinal hemorrhage during life, and the post mortem appearances in the little girl who died in the Infirmary.
The symptoms are said to be different in the two affections.
Dr. Jenner contrasts the affections thus: (1)

"Typhoid fever - Rigors, chilliness, headache, successive crops of rose spots, frequent pulse, nervous €ale, diarrhea, fulness, resonance and tenderness of the abdomen, gurgling in the right upper flesa, increased splenic dulness, delirium, dry and brown tongue, and prostration; and terminating by the 30th day.

Typhus fever - Rigors, chilliness, headache, muttering rash, frequent pulse, delirium, dry brown tongue, and prostration, and terminating by the 21st day."

This summary of the symptoms shows the great similarity in the two affections, the only differences being in those indicative of the local disease, and in the eruptions. Their similarity is further shown by the experience of M. Lombard of Geneva; when visiting Great Britain he was unable to distinguish, the simple typhus from the entire typhus which he had seen in France and Geneva, and expresses his astonishment that he was unable to find any trace, of mortality alteration in any part of the digestive canal. "Mon étonnement fut extrême de ne pouvoir, découvrir le plus léger trace de cette altération indolide dans aucune partie des voies digestives, qui étaient parfaitement intacts. Les traits extérieurs de la maladie sont les mêmes, la douleur du tete, la douleur lombarie, la prostration des forces, les mêmes complications, ataxie, du poumon et de l'encephale."”

(1) Medical Times. March 22nd 1837
The chief difficulty of proving that, the one disease may produce the other, lies in the opinion, that although contagious, they may originate spontaneously. The simultaneous occurrence of the two forms of disease in the same class of patients and in the same institution is admitted by Dr Jenner, and in Mr. Dr. Talmud's essay, the occurrence of the intestinal lesion in campy typhus is distinctly proved, but it is not shown that it exists in all or even in a majority of the cases.

When however either form of the disease appears in a locality where it has not previously existed, and in patients who had not been exposed to any of the usual predisposing causes, such as, fatigue, destitution, or badly ventilated dwellings; and had been exposed to the contagion of the other variety, it seems rather difficult to avoid the conclusion that the one has reproduced the other.

The boy Fred. Anderson was in good health previous to the attack of fever, he had not been exposed to fatigue, and had a sufficiency of food; he was living at the Victoria lodging house, a place sufficiently ventilated, and he had been exposed to contagion, as typhus always prevails in that neighbourhood, and he had not for several weeks been further from the city than Leith; yet in his instance the rose-coloured papules were very distinct, he had also tenderness in the right iliac region and diarrhea, although the stools did not present the pea soup character.
John Anderson had been at Alexandria where he may have caught the disease so that no argument can be drawn from his case. The Hewson family were not exposed to any of the usual predisposing causes in a marked degree but they had been exposed to the contagion of simple typhus, which existed in the locality where they lived. Another family residing in the same house suffered from simple typhus at the same time without any marks of the enteric affection, so that here there would seem to be an idiosyncrasy to the enteric disease. Dr. Christie also states he first observed the intestinal affection in fever, to prevail at a time when dysentery also prevailed, and diseases of general assumed an enteric character.

Whether the same person may have both forms of fever successively, is a question which scarcely admits of direct proof. Indeed the question whether the same person may suffer two attacks of typhus is still unsettled, but the weight of facts are in favour of the assertion that the one disease confers an immunity from the other, on this point. A Bertonneau says: "In 1814 at Lune five boys were affected with typhus in the military hospital, from what I learned I cannot doubt that the typhus of this epoch was not the enteric typhus. Subsequently the inaptitude of these young men to contract the enteric typhus, inaptitude which I had opportunity to observe confirms me in the opinion that they
had in 1814 paid their tribute to the peculiar eruption of the digestive canal. Again the immunity from typhus enjoyed by patients in the primary convalescent from Dothenurensis, contrasts strongly with the well known liability to typhus of patients convalescent from Pneumonia; and whilst during this session five ordinary patients caught fever from incautious communication with fever patients, I. Anderson whom I have frequently seen in close contact with other fever patients and often sitting on the bed talking with them escaped. This is however a solitary instance.

These facts therefore tend to show that Typhus fever is identical with Dothenurensis or Typhoid fever, the latter differing only in the presence of the intestinal lesion which ought to be viewed as an occasional complication of typhus. That this abdominal complication gives rise to the following symptoms by which it may be recognized during life:

1. An eruption of rose coloured papules, scattered over the chest and abdomen, probably dependent on an affection of the skin sympathetic with the intestinal affection.

2. A peculiar discharge of feculent matter, compared to pea soup, from the bowels; frequently also haemorrhage from
the fluids, which may be so profuse as to prove fatal of itself.
2. Tenderness and pain on pressure of abdomen, especially in the right iliac region.

These symptoms immediately dependent on the cutaneous affection may serve to point out the cases as complicated, and may serve to justify the use of the word Typhoid applied to distinguish practically such cases. The similarity of the two affections in the following important points seems however pretty certain. 1. That both affections are equally contagious. 2. That the one disease may be propagated by the other. 3. That they recur almost indiscriminately, the cutaneous affection being prevalent on the Continent and in America, much less frequent in these countries and exceedingly rare in Edinburgh.
1st Case — Typhus nearly eruption

Isabella Adamson at 30 servant admitted into ward
at under Jefferson Bennett in Dec. 1837, on account of an
irritation affecting the side of the head, and for which she was
advised to take

\[ \text{May 1552, on the afternoon of which day she had a pain which lasted about 10 minutes was followed by pains in her limbs and body, she had another pain next day, but no great heat of skin or thirst, pulse 88, full & strong. Tongue clean & moist, no appetite, pain in limbs continues.} \]

Sany 7th — Pains in limbs continue, Tongue loaded with a white coating, great thirst, Pulse 100, complains of headache, she is dull & heavy but answers rationally when aroused. Head to be shared.

Sany 8th (5th) Day — Complains of headache, Tongue loaded, Pulse 108. Skin presents a mottled appearance, she is preparing.

Sany 9th — Headache worse, great thirst, urine scanty, bowels confined, pulse 108, dark colored, measles eruption disappearing on pressure & arranged crescentically is apparent to day on the chest. 1st dose of quina 10 grs each one to be taken every 2 hr.

Sany 10th (7th) Day — First dose of quina was given at 6 a.m., this morning at 8 a.m. Pulse 100, full & compressible, no headache, 3rd powder now given & immediately after Pulse 102 at 9 a.m. Pulse the same at 10 a.m. Pulse 92, full & compressible, headache only when moved, no sweating does not hear so well. 3rd powder was now given.
three minutes after the pulse did not exhibit any alteration. 10 1/2 A.M. Pulse 82. Suffer no ringing in the ears, no lacrimation. 12 o'clock noon. Has vomited. Pulse 94. Complains of noises in her ears. 1 0. P.M. Pulse rose to 104, other symptoms the same. 1 1/2 P.M. Had another dose vomited it within 10 minutes. Pulse 102.

Pain. 2 P.M. Took a sixth dose pulse soft, ringing in the ears, pain only when her head is moved. Pulse 96. Other symptoms precisely the same. Keep her ordered 3/4 of Vini Rubi.

8' o'clock 9 A.M. Pulse 100 full & compressible. She did not sleep well, ringing in the ears quite gone, bowels have been moved. Tongue more furred; thirst severe, no pain on pressure of abdomen.

11 P.M. Pulse 100, thirst abated, did not sleep well last night. Ordered 3/4 of H. Hyoscyami, 3/4 of Must Camph. 3/4 of Stat haurtes, two convenia asemis.

11 A.M. (11th day) Pulse 110 weak, tongue furred & cracked brown in the centre. Some swells on teeth & lips, slight subcutaneous tenderness. Complains of giddiness, & great weakness, also of some tenderness over the abdomen, not increased on firm pressure. Eruption still present and presenting the shaggy character.

16th P.M. Pain in the head is rather increased, no delirium or stupor. Pulse 112 weak. Ordered a blister 3 x 4 to be applied to the back of the neck, the bowels are regular.

17th P.M. (14th day) Headache is easier since application of the blister, other symptoms unchanged.
Pany 31st (18th day) Pulse 100, Tongue furred white, Lords on teeth & lips remain, eruption somewhat faded, no critical evacuation as yet.

Pany 32nd (19th day) Pulse 100 Tongue moist & white, no critical evacuation.

Pany 34th (21st day) Pulse 80 left, Tongue moist, sordes cleanly away, eruption gone, appetite returning.
Case 21Typhus no eruption
Jane Divine aged 17, servant admitted into ward XI
under Dr. Jenner, 19th Dec, 1837, labouring under an attack of acute rheumatism for which she was successfully treated by injection of Jaborandi, and continued improving till Jan 4th on which day she was seized with rigors & severe pains all over her body, but not in the joints, she was ordered an enema in the evening which acted efficiently, but did not short the disease

Jan 5th Pains continue in her body joints, which she can move freely without pain. Tongue loaded, appetite none, Bowels regular pulse 80 natural, has had a slight bellows murmur with the first sound. Complained of pain on drawing a long breath but, auscultation and percussion are normal. nervous system healthy, urine which on 3rd was 1009 has today risen to 1019. By 1st Barnett Ammon 3.5

Dr. Apperian 3p
Aqua 3f 3m

Sig. Lumat 3i. ten inches

Jan 6th (2nd day) No change in the symptoms except a slight amount of expectoration, general sensibility unaffected, is sweating, no eruption, no cough, urine clear, has had one or two hysterical attacks caught from a girl in the ward

Jan 10th (6th day) continues in the same state, ordered to get five doses of Ivrana 10 gr each. First dose was given at half past ten o'clock, pulse being then 92, full and bounding, at two
8 Clock it had risen to 100 but was much weaker, at 8 p.m. the second powder was given Pulse 94, full & regular, at 11 p.m. Pulse 104 but weaker. After, she is always complains of ringing in the ears & headache is slightly deaf, 3 more powders were administered in the course of the evening but were almost immediately rejected, at half past seven she still complained of limitation aurium and headache and her pulse was 105 B. left.

27th - an opiate pill at night

May 11" Pulse 84 left, slept pretty well last night, a little powder of quina was given at 11:00 p.m. without any effect, quina contains a considerable quantity of quinine with some phosphates, p. 1024. - Repose. Had another powder at 5 a.m. Which she immediately vomited, severe headache great deafness, thin hot & dry, no sweating as yet Pulse 94 firm & resisting

May 11" Pulse 100 left, Headache continues but there has been no ringing the ears for last 2 days, the pains in her limbs continue, sleeps well, 9 to 10 a little is now taking 31/2. Vini daily, she took 65 gr. Dioscor powder last night which increased the perspiration

May 18" The perspiration excessively last night, Headache quite gone Pulse 84 full & soft, thirst relieved, tongue has still a white coating, no appetite, pains in her back & limbs continue
Case (3) Typhus febrifuga

Bridget M. Tudden at 30. Labouring woman admitted into No. XI under Dr. Bennett 17 Dec. 1837 on account of Pneumia for which she was treated to 1" early on which day she was seized with rigor, followed by pain in her head and great thirst.

Damy 2" Complains of severe pain in the head, Pulse 100 full & strong, Tongue furled, no appetite, ordered an emetic this evening.

Damy 3" She took the emetic last night which acts efficiently, but without relieving the symptoms, the sweat came the night, Pulse 100 full, Tongue furled, Anoxia, Skin hot. Complains a good deal of pain in the head.
January 11th (8 day of fever) I am somewhat delirious, to-day did not sleep well last night; pulse 120 full, strong, respiration easy no cough, skin hot & seems congested but there is no eruption. Special sense unimpaired, Tongue has a brown fur in the centre, lip red; great thirst, no pain on pressure of abdomen, bowels regular, no deposit in urine which is high coloured.

January 15th Continues in the same state, and now lies chiefly on her back, moaning constantly, has been coughing a good deal for the last 2 days.

January 15th (12th day) Continues in the same state, Cough most severe. Pulse 110 strong; Bacteriæm. 3 1/4, Inferior sterni.

January 17th Cough relieved, respiration easy, expectorates some frothy sputum, Pulse 120 soft; she is quite delirious to-day and lies on her back moaning constantly, and unconscious of what is going on around her. Head to be shaved and a blister 1 x 4 to be applied to the scalp.

January 18th (15th day) She is less delirious, does not sneeze so much, Pulse 110 rather weak, to have viini rubri 312 daily.

January 21st (18th day) Still delirious lies on her back moaning, but no complaint of pain. Pulse 110 soft, tongue furred brown no pain on pressure of abdomen, has sweating, no deposit in urine.

January 25th (21st day) Is more sensible, but still moaning slept tolerably well last night. Pulse 108 soft, skin hot, considerable deposit of saltates in the urine, no sweating.
June 26th (23rd day). More sensible today. To-day pulse 86 full.
Fever, Coughs a good deal. expectorates a quantity of frothy mucus.
Tongue moist & cleaner. Takes a little food with relish. No sweats.
No increase in deposit as considerable quantity of lithate.

She continued to improve from this date, a swelling found on
the scalp about the 36th day, which threatened to slough, but
ended in suppuration. She has since been under treatment for
the ophthalmia, which is also getting better slowly, under the
use of lumber soap.

These three girls caught fever in the wards, all at the
same period and apparently from incautious intercourse
with another patient, yet the fever presented very different
characters in each, in the first two mild, with little or no delirium,
and terminating in the one case on the 14th in the other on the 18th day. The third patient had
a pretty severe attack, with considerable delirium and
stupor which continued to the 21st day.

Only one presented the eruption, Amanda; she had a
copious, purpuric eruption which came out on the 6th day of the disease, but in neither of the others could any
eruption ever be observed although carefully looked for.
Case (4) Exanthem, Jaundice
Georges Johnson, age 31, Boot Close, admitted into No. 1 ward, Dr. Keen. 8th Dec. 1859

History: He was exposed to severe cold on 29th Nov., & in the evening had a very severe chill, followed by sweating.

On admission: General System Normal. Pulse 108 full

Diet: System - Tongue friable & coated in centre, no appetite, intense thirst, no pain on pressure of abdomen, bowel movements regular.
Complaints of pain in the head, often dizzy & confused.

Skin hot and dry, no eruption - Urine pale, no deposit sp. grav. 1008, = General system normal, except a slight cough.

Dec. 9th (11th day.) Symptoms, as yesterday, Pulse 120 full, he slept badly, ordered beli Ricini 50 of solution, after the action of which, day 7 P.M commences giving Sulph. Binaque g x every 2 hours. = Breakfast 7 P.M. Bowels were freely moved, there is a sense of improvement, skin hot, Pulse 120 full.

First powder was now given, at 8 P.M. Pulse 112 weaker, at 9 P.M. Pulse 112.

Diet: Dieting in the case. Second powder at 9 P.M. at half past nine Pulse 105 full, feels more comfortable & inclined to sleep.
At 11 P.M. Pulse 110 full. = Third powder at 11 P.M. at half past eleven Pulse 110 full. A powder was now given every 2 hours to 5 A.M., in all 6 powders - 60 grains.

Dec 10th (12th day) Slept well, slight headache and deafness and some ringing in the ears, special senses unaffected, Skin moister.
no eruption, Tongue dry & brown at centre, Pulse 88 full & of good strength, to get 3 more powders of Quina & grains each tisue. First powder was given at 9 A.M. pulse being 88.5 of good strength, a few minutes after it had fallen to 76. Soft.

Decr 11th (13th day) Slept well, the Quina was regularly given, Pulse 84 full, slight headache & deafness. Tongue dry & brown, great thirst, no eruption, no deposit in the Urine.

Decr 12th (14th day) Slept tolerably well, slight headache, Pulse 86 full & soft, Tongue, white & moist, took some breakfast this morning, less thirst, thin coat & moist, urine clear, deposit in urine.

Decr 15th Sleeps well, appetite greatly improved, thin coat. Tongue, moist, white fur in centre, his cough, bowels regular. Continued to improve and was discharged well 6 Jan 1852.

5th Case Typhus, nearly eruption on 15th day = Quina

John Fraise at 28 Blacksmith admitted into No 1 under Dr. Bennett 5th Jan 1852.

History = After exposure to wet on 28 Dec, he had severe signs during the night, next morning he had severe pain in the back & limbs, followed by, pain in the head, intense thirst & prostration of strength, he has since had occasional
régis, chiefly at night. A few days after the régis he began to complain of severe cough, with much expectoration, he has always enjoyed good health. He is temperate in his habits.

On examination. Resp. System. No feeling on percussion, a few dull antilat rates, are heard anteriorly, posteriorly some mucous rates, most abundant at bases of lungs. Severe cough with muco-purulent expectoration, with a few streaks of blood.

Circ. System. Heart, normal, Pulse 80 of good strength.

Dig. System. Tongue red, moist; no pain in abdomen, nor on pressure, no appetite; Bowels have been constive, for some time past.

Urinary Scanty, natural in appearance. Considerable pain in the head, Intelligence unimpaired. Skin felt dry, no eruption on any part of the surface. Blood - 2 doses of ipecacuan.

On 7th (10th day.) Bowels have been freely opened, cough very severe, Sputa profuse tinged with blood. Dr. Vini Greene 3f.

St. Reg. Phosphoric 3f.

Mist. Lactis 3f.

Sumpt 3p. ten in die.

Vividator 3 X 3. to be applied front of chest.

On 8th (11th day.) The blister was applied last night 2500 and the cough is much less severe, Pulse 110 weak, he is slightly delirious very drowsy this morning I could with difficulty be kept in bed last night, to get 3 doses of Quina 10 grains each. This afternoon - First powder was given at 3 P.M. Pulse 128 soft 10 minutes after it had fallen to 113 soft, continued 1/2 an hour after.
And some of the powder was observed in the expectoration. Second powder
was given at 7:15 past 1 a.m., pulse 110 full, immediately after it had
fallen to 104 just before. Third powder at 6 a.m., pulse 112
immediately after 106 softer, ho head ache or ringing in the ears.
Fourth powder at 8 a.m., pulse 110 weak, slight deafness ringing
in the eams, with some excitement, muttering. Fifth powder at
10 a.m., pulse 104 full, thin hot & dry, considerable ringing in the
ears, between 8 to 10 a.m., there was manifest excitement & slight
delirium, muttering & did not understand questions, there is also great
deafness. 11 p.m. Pulse 112, face flushed, some delirium

Day 9 (12th day). After the sixth dose at 12 o'clock he slept well.
6.40 heat, skin cool, tongue moist & red, extreme deafness.

Day 10 (13th day). He began to be better today. Pulse 90 soft, does not
complain of pain anywhere, cough continues but much less severe.
Slept well last night. Tongue dry & loose, thirst took a turn, bowel
regular, skin hot & dry. An eruption has appeared today on the
chest & abdomen. It consists of slightly elevated spots, of a dusky red
colour, diffused over surface & giving the surface a mottled
appearance, the spots disappear on pressure.

Day 12. Cough very severe, with a good deal of mucous expectorated,
tinged with blood, expectoration increased & vocal resonance at base
of right lung posteriorly but no dulness on percussion. Continues
delirious, some diarrhea or both, eruption is still present.

Pref. Vin Aminic 3 p. Ag 3 1/2 m. Tamat 3 p. gg. Secunda hora
Sary 13. Cough & expectoration as yesterday. The cough medicine had to be suspended on account of violent diarrhea, a blister 4 X 5 was applied over the lower part of the right lung.


Sary 15. (18th May) Cough much relieved, Tongue dense, coated inspiration disappearing, great thirst, no appetite, Pulse 100 full there is still slight delirium, diarrhea has ceased, no deposit in the urine, eruption less distinct, considerable deafness.

Sary 16. (19th May) No much safer to day, less cough, thirst less violent, delirium gone, Tongue cleaner, no critical evacuation except a slight deposit in the urine.

Sary 30. Continues improving. Thin cool eruption gone, Tongue moist, appetite returning, Cough still continues but is less troublesome.

George Baldewig at 27 labourer admitted into No. 1 under care of Prof. Christian 11th July 1852.

History - He was quite well on 13th but shortly after going to bed that night he was seized with agitis followed next day by headache & pains in the back & limbs.
In admission (7th day) Complains of headache, intelligence unimpaired. Pulse 104 full. Cardiac sounds normal, respiratory system healthy. Tongue moist, white fur in centre, no appetite. Great thirst, bowels regular, no pain of abdomen on pressure. Thin hot, there is a distinct eruption consisting of anchy red spots, irregular in outline & arrangement, from the size of a split pea, downwards, slightly elevated above the surface, disappearing on pressure & giving much the appearance of measles, the eruption covers the whole surface but is most abundant on the chest and arms, urine healthy no deposit.

July 13th Complains a good deal of headache, but is quite sensible. Pulse 104 full & resisting. Ordered Vini Aubri 3/2

July 14th Is quite delirious to day, Pulse 100 full soft, urine healthy. Spgr 1020 no deposit. Continue the wine.

July 16th continues delirious, attempting to get out of bed. Pulse 120 full soft, Tongue dry & brown. Head to be shaved.

July 18th (14th day) The delirium has subsided & he is more intelligent to day, pulse 120 full soft, eruption is still present & disappears on pressure but is much faded, tongue moist, thirst stated no appetite. Continue taking the wine.

July 20th (16th day) He is now quite sensible his appetite is returning, pulse 100 soft, tongue cleaner, eruption disappeared. He continued to improve I was discharged well.
Case. Typhus feverly eruption, severe delirium, Critis 15th day

Christina Swann. At 25. Servant admitted into No. Xi
under Professor Bennett 14th Dec. 1851

History. Was quite well up to 11th Dec. when she was seized with
head ache, perspiration & prostration of strength, she was confined
to bed suffering, great headache & thirst to 11th Dec. on which day
she had a shivering, next Day 15th Dec. An eruption appeared, after
which she felt much better, the eruption at present is very
like measles, but she has had both measles & small pox

Pulse 120 small, Cardiac sounds normal, Coughs a little &
expectorates some mucous pusulent. Mucis slightly tinged with
blood, chest resonant all over. She is quite sensible. Tongue
slightly furrowed, great thirst, nausea, slight pain on pressure
on epigastrium. Thin hot, eruption consists of dusky red
spots, from the size of a pea downwards, not elevated, disappear
on pressure and arranged in crescentic patches, her eyes are
a good deal suffused and she has some sneezing

Dec 18th. She is rather incoherent in her answers and did not
sleep well last night, Pulse 120 small, Coughs expectoration.

More severe, spotted streaked with blood, No dulness on percussion anterior
occasional dry rales are heard over anterior part of right lung

Certainly no respiratory murmur can be heard at the lower part
of the right lung & there is slight dulness on percussion, the
respiratory murmurs on the left side are loud tubular ordered


Aqua—Zij.

[illegible]...diuretis, Zij, secondo hora.

Purure—Ordered six ounces of wine daily.

Dec. 20. Has been quite delirious for the last two days.

Sleeps very little. Pulse 130. Cough still severe. Respiratory rales as formerly and some vesicular rales on left side in addition.

Slight subsisitit tenuinum. Head to be shaved and leeches to be applied to the temples—the urine is high coloured and deposits a considerable quantity of yellowish sediment.

Dec. 23. The delirium continues very severe, she has slept none for the last four nights. Pulse 110. Tongue dry and smooth, teeth covered with sordes, too weak to allow an examination of the chest. Cough continues, but she does not make any effort to spit. Subsisitit tenuinum. Constant morning, she cannot answer any questions, considerable deposit in the urine.

Dec. 25. Still delirious, has not slept for the last six nights. Cough less severe, breathing easy. Pulse 110 weak. Has been taking 6 ounces wine & 2 ounces brandy daily. Had a blister to the scalp last night; the delirium is less violent to-day.

Dec. 27. Se sensible, Pulse 100 perfect, coughs a little, tongue moist, eruption disappearing, Appetite returning, slight deposit in the urine.
Decr 30° (19th day). As regards her intelligence I answer questions readily. Pulse 80 full, soft. Cough still severe with difficulty of expectoration, some dullness over the lower part of right lung posteriorly, takes food with some relish, urine deposits a large quantity of lithate, filling 1/4 of the glass. There is a painful swelling in the right submaxillary region which commenced two days ago. The swelling continued for some time and threatened to suppurate, this retarded the convalescence but the patient recovered well & was discharged 5th Feb 1852

8th case. Syphusitis eruption, severe delirium, and epileptic convulsions. Death on the 15th day

Mrs. Mc Donald at 50, nurse in the Infirmary, admitted into No XI under Dr. Bennett 10th Nov 1851

On the 1st inst. she was much fatigued, sitting a machine for preparing hair, she was exposed to cold. Next day, had severe pain in her head black and felt like all over, she has since been confined to bed, and has been purged a good deal the last few days by some calomel pills which she took. On examination, intelligence unimpaired, pulse 100 full but resisting complaints of palpitation, sounds healthy. She has considerable cough and expectoration. Chest resonant on percussion all over. Some tubular rales are heard over left lung both anteriorly & posteriorly. Tongue white. Spumum
great thirst, and some nausea, pain in epigastrium, not increased on pressure, urine scanty, but of the natural appearance

A. Bine Specie 34
Ethirus Sulph. 34
Soln. Morphine 34
Agua — 34j

Nov. 11. Pain in head very severe, Pulse 110 strong, cough still troublesome, pain in epigastrium very severe, ordered an emetic and after its action be over to get 10 grains of Quinina every two hours up to 5 doses

Nov. 12. Pain in the head very severe, Pulse 100 strong, tongue dry, aphtha, pain in epigastrium still severe, considerable nausea
She took the five doses of Quinina, the last was vomited, but the others retained, Ordered. 5 more doses of Quinina, and 8 inches to the epigastrium, the cold affusion to the head

Nov. 13. Head ache still severe, she had the cold affusion, without relief Pulse 80 & softer, Pain in epigastrium less severe, She has taken the 5 doses of Quinina & she is very deaf today and confused in her answers, seems rather delirious, Ordered. Hot fomentations to the abdomen and cold affusion to the head to be repeated

A. Bine Specie 9j

Bismuth albi 9j

Confection 9j. At first 1/2 j. Lumin at nunc hora committere est.
Nov. 14th. She is very vague in her answers today, and last night she had a fit, in which her eyes were fixed and her limbs convulsed. Pulse 90 full, cough almost gone, tongue dry & brown, pain in epigastrium much relieved, but tender on pressure, probably from the tooth bites. Skin hot, no eruption. Countenance, suffused & very anxious. Oppressed breathing.


Nov. 18th (14th day). The left side of the face is paralyzed today, and has been since yesterday. The left cheek puffs up, too, with each respiratory act. She is unable to speak. I cannot picture her tongue, the left arm is also paralyzed. Tongue dry & brown.

Nov. 19th. Died this morning. The blisters did not rise and there was no return of the convulsions.

Dictio Badanis at page 44.
9th Case - *Syphilis*, no eruption, severe catarrh, death.

On 12th Day - Onine

Isabella Stevenson, A. 144 Walkerwoman, admitted into ward XI under Dr. Bennett 10th Nov. 1851.

History - She was employed in her usual occupation on the 5th Nov. and in the evening she had severe head ache followed by prostrated perspiration and general weakness. The head ache and prostration of strength have been so severe as to console her to bed all last week. She has had no rigors. On examination 9th Day she complained of intense head ache and is unwilling to answer questions. Her delirium, special senses unimpaired, Pulse 120. Male. Pain in the tongue in the centre, appetite tolerably good and no nausea, no pain in abdomen, bowels constipated, no cough. Breath easy, thin and dry. Although she perspires at night, no eruption. Her skin is somewhat emaciated; ordered a purgative, as the bowels have not been for several days.

Nov. 11 - No change since yesterday; bowels have been opened.

Ordered - Sulph. Quina, 10 grains every 3 hours

Nov. 12 - She has taken the Quina regularly, but without any alleviation of her symptoms. The head ache is much more severe, and there is a considerable degree of stupor. Cold affusion to be applied to her head and repeated, if the head ache be not diminished. Severe, Cold affusion has been three times used but the last application caused her to shiver a great deal. The
head-ache is much less severe, but there is considerable dyspnea. Chest resonant on percussion, but crepitating rales are heard in the lateral region of the left side. 3f. Sph. Tellur. Salicyl. 3f.
Sph. Aconite. 3f.
Aust. Camphora 3f.

Sarmat. 3f. quaque hora.

Nov. 13: Dyspnea increased. The anterior part of the chest full of abnormal sounds, dry and moist coarse and fine. The countenance is pale and anxious, the features pinched, she only complains of pain in the lower part of the abdomen which is tense and hard, she is much weaker than before.

By = Sph. Ammonia. 3f.
Aethus Sulphur. 3f.
Aqua fortis. 3f. + Sarmat. 3f. quaque 2 qua hora.

The above symptoms became gradually aggravated and she died Nov. 15 in the morning.
Section Caudae from page 11
Mr. Mc. Donald at 50. - Emphysema and Atrophy of both lungs lateral deviation of heart. - Slightly emaciated.
Peritoneum, Pleura and Pericardium moist but containing scarcely any free fluid. Several adhesions of both pleura.
Left lung distended and pale, anteriorly its margins very irregular from emphysematous lobules with interposing simply atrophied portions, back part crepita feels flabby.
Right lung contains greatly emphysematous lobules, at several parts but not so much general distention of the air vessels as in the left lung. Both lungs give out from their bronchi, considerable quantities of muco-purulent fluid.
Carbonaceous matter in excess in both lungs, also in tracheal glands; lungs weigh 3 pounds.
Heart, normal weights 6½ ounces, right side loaded with firmly coagulated blood. - Blood examined by microscope normal.
Liver, normal weight 3½ - Spleen small 1¾, firmly adherent, to diaphragm, a cavity on its upper surface contains a small quantity of carbonaceous matter. Pancreas normal.
Kidneys, normal 8 oz. Stomach presents slight softening in the coats of the greater colic liga. Intestinal canal quite healthy. Mesenteric and lumbar glands normal.
Crural contents quite healthy, weight 23½ ounces.
10th Case.- Typhus, petechial eruption, crisis 11th day.

Annie Douie, aged 18. Servant admitted into ward on 10th Dec. 1857

History.—On the afternoon of this day from 3.30 p.m. she was suddenly seized with pain in the head & felt excessively weak & feverish, the headache has now abated but since the first seizure she has suffered great thirst, loss of appetite, and pains in the limbs. Tody she has a slight cough with some frothy expectoration. Examined 11th Dec. 1857

Respiratory system.—Great pain on taking a deep inspiration. Respiration normal per minute. Slight cough with frothy expectoration. Chest resonant on percussion. No increased local resonance. Some dry rales are heard over the upper part of the right lung.

Cardiac System.—Pulse 120 beats, slight palpitation & pain.

Cardiac region since commencement of present illness, position of apex & sounds of heart, normal.

Digestive System.—Tongue dry & fissured, a bowen fur at the back part, great thirst, loss of appetite, some nausea but no vomiting, Bowels constant but opened last night by Castile Soap. System.—Face flushed, thin hot chest, arms, and abdomen covered with numerous petechial spots varying from the size of a large pins head to a mere point, she has observed these for several days, but cannot say how long
Treats a good deal at night

Genito Urinary System = Urine clear, bladders stopped for last six months. Nervous system = Complains of severe pain in the body & limbs but not in the head, no delirium or stupor. Intelligence unaffected.

(9th day of fever 11th Dec) Ordered to take Saffph. Saffina 9 cts.

2nd Dec 9 a.m. First dose given 1.25 p.m. Pulse 120 full at 2.15 p.m. Pulse 146, fuller & stronger, no ringing in the ears. Skin hot at 3.16 p.m. Pulse 110 at 3.50 took second dose of Saffina at 4.30 Pulse 106 No ringing in the ears, is sweating profusely at 8 p.m. Pulse 106, has now taken 3 doses, slight deafness & ringing in the ears. To take another powder and if the deafness be increased after it, to cease taking them altogether.

(12th Dec 10th day) Pulse 84 increased in strength, has taken no Saffina since 10 o'clock last night, having taken in all 60 cts. of the drug. Slept a little last night, her appearance is not at all improved, she is very feeble & lies on her back, slight lumbago tendinitis. Tongue dry, red & cracked, great thirst for water. Headache. Fright the powder I give her is cinchonamine daily.

(13th Dec 11th day) Pulse 84 of good strength, thin moist, empties unchanged, lips Heetche covered with todes, Tongue dry, red and cracked.

14th Dec Pulse 84 full. Has sweat a little last night, complains less of pain, has considerable diarrhea which came on this morning for which ordered
Mistura everts 3 Vp.

Instruction 2 d.

Drink Kino 3 d. s. - Limpet 3 p. q.q. tertiâ hora.

Dec 16" — Diarrhea checked, pulse 80, eruption scarcely perceptible, skin better, tongue, dry and firm, thirst continues, cough troublesome, considerable mucous purulent expectoration. Fever seems now gone, there is a slight deposit in the urine.

Dec 18" (15 day). Cough somewhat relieved, tongue moist, appetite returning, pulse 80 full, soft, skin moist. Eruption has disappeared, urine deposit a considerable quantity of lithate.

Dec 23" — Cough much better, appetite improved, pulse 80 full, the febrile much stronger and sleeps well.

She continued to improve and was discharged well 15 Jan 1852.
11th Case - Typhus Typhus, rose colored papular eruption.
Apparent relapse - Quinine.

Edward Anderson of B. Hawker admitted into No. 1 under Prof. Bennett, 15th Dec. 1851.

He has always enjoyed excellent health with the exception of an attack ofague three years ago. When he awoke in the morning of the 8th inst. he was sweating profusely and during the morning he began to shiver, thus continued during the day and was followed by severe pain in the head and back, hot skin, parched mouth, and thirst, these symptoms have continued since with occasional rigors, perspiration, and great prostration of strength.

He was quite well the previous day and had not been exposed to cold or wet nor had he been drinking. He was sleeping in the Victoria Lodging House. On examination (8th day).

He complains of pain in his head, intelligence & special senses unimpaired. Pulse 70 full soft. Carotid sounds normal. Tongue dry brown and furrowed, great thirst, bowels were confined but have been opened by medicine, no pain of abdomen on pressure, Skin hot & moist, there is an eruption of roundish spots from one to two lines in diameter, slightly elevated, of a bright rose tint disappearing.
in pressure, and insensibly lost in the surrounding skin. They are altogether confined to the chest and abdomen, over which they are thinly scattered, and quite distinct from our other respiratory system normal. No deposit in the urine.

Decr 14. No pain in the head or limbs. Pulse 80 full and tuff. Tongue dry and brown, bowels regular, he pain in pressure of abdomen, the spots are more numerous to day, than being some present on the shoulders upper arms, he is sweating now and has been during the night, no deposit in the urine. No dead. Wine 1/2 p. daily By H. Hyoseami Esq.

R. Nuns — 3 p. a.

Ag. — 3 p. m.

Jan. 3 p. hora somni.


Decr 25. He has continued improving since and is now quite convalesceent.

Decr 29. He went out to day as he is anxious to resume his occupation. The several systems were carefully examined before he went out and nothing abnormal or unusual could be detected, he is still weak but has taken his food for several days past in full quantity and with relish.
He admitted 5 Jan 1852.

He continued well for three days after leaving the hospital and had resumed his occupation when on the 8th Jan (21 days after the first sign) he was suddenly seized with some rigors and acute pain in the epigastrium, with difficulty of swallowing he preferred fluid that night and next morning felt sore all over, with great thirst and hot skin, he retained some that day and has retained occasionally since. An examination 5 Jan Intelligence special senses unimpaired, no headache, Pulse 110 firm. Tongue dry, brown in centre, mucus membrane of fauces greatly congested, acute pain on attempting to swallow, no appetite bowel movements confined but have been opened by castor oil. Complain of pain in abdomen increased by pressure especially in the right iliac region, he has frequent cough with a small quantity of tenacious sputum, chest resonant on percussion, no abnormal respiratory or cardiac sounds, thin hot moist, he sweats a little at night. Another crop of the rose coloured papules is now present; they are few in number and confined to the abdomen and lower part of the chest, there is no deposit in the urine.

5th Jan. - Pulse 100 full and softer, cough presented him sleeping well last night, tongue dry & furrowed, thirst continues. Abdomen still tender on pressure, he has had several liquid stools during the last 24 hours which although greasy in hue do not present exactly the pea soup appearance.
Blended 0.75 fl. oz. arab. ammon. 3½
Spirit. Morphine 3½
Aqua 3½. Sumat 3½. gold liqua bina
Lig. leeches to be applied to the right iliac region.

Sany. 8° (8th day of present attack; 33° since first sign). He is quite sensible, he sweats a little last night but slept well. Pulse 86 full soft, though easier but complains of pain in his throat. Tongue moist but toasted, no pain on or pressure of any part of abdomen. Only one stool during last 24 hours of same character as formerly.

The eruption is very distinct to-day, still confined to the thorax and abdomen, the throat affection is much better.

Sany. 10° (10th day of 33°). He sleeps well now. Pulse 100 soft. Tongue moist but toasted in centre. Skin warm, moist, the colour of the spots is beginning to fade, he has usually one liquid greyish brown stool daily. Sudden firm pressure in the right iliac region produces slight pain to day.

Sany. 11°. He has continued improving since last report. Pulse 90 full regular, Tongue moist and white but cleaner, appetite slowly improving, bowels usually opened once or twice daily, stools liquid. Eruption has nearly disappeared (12° or 38° day) only a few faint red spots are now present, he sweats a little at night, no deposit in the urine.

Sany. 17°. He is gradually gaining strength, appetite returning and only complains of weakness.
13th Case — Contagious typhus, no eruption, pea soup stools, death on 25th day — extensive ulcerations in both large and small intestines.

Marianne Housinon, aged 11, admitted into No. XI under Prof. Profett, 16th January 1853.

History: She was quite well until 10th January, when she was seized with rigors, followed by severe pain in the head, great thirst, hot skin.

On examination 16th January:

She is very restless and impatient, and complains much of severe headache, but answers questions rationally. No cough nor difficulty of breathing. Pulse 130 full, strong, cardiac sounds normal. Tongue dry and brown, Anaemia and great thirst, bowels confined. Skin hot and moist, no eruption, considerable deposit of lithates in the urine. She has been exposed to contagion as her mother died the same day of fever, it has been ascertained that there was no eruption in either case.

January 17th: Ordered 5 doses of quinine, 60 grains each. Before giving the first dose the pulse was 100 full, the headache intense, the drug produced its usual physiological effects, lowering the pulse, producing tinnitus aurium, but with the addition of considerable diabetes and diminution of the headache.

January 18th: Headache quite gone, 6.94 left thin, moist and cool, urine clear. 30 grains 10.35

January 19th: Pulse 90 full, slept, she prepared copiously during
the night, Bowels opened by an enema, the complains much of flatosis very settles

Day 34 She has been improving since last report.

Cuts infl. Tongue clean firm, takes a little food now, with relish. Bowels regular, Skin cool, no emption.

Day 25 Complains of headache to day, and was very restless during the night. Pulse 95 full & hard. Tongue dry and brown, great thirst, Bowels regular, She complains of a burning heat of skin, no emption.

Day 24 (15th day) She answers questions incoherently, and was wandering a little during the night. Pulse 120 hard & small. Tongue brown and dry, thirst. Skin hot & dry. No deposit in the urine.

Day 25 (16th day) Considerable delirium to day, Pulse 108 hard & small. Tongue dry brown, She has had since diarrhoea for the last twelve hours. She got three full doses of F. Noordi's

T. Helori, Rudiis Radicis and one dose of two drops during the night she retained the two first doses, but vomited after all the other a quantity of green green fluid.

Day 35 There is less delirium to day but she complains of very severe headache. Pulse down to 80 weak only. Tongue dry. GHMD the complains a good deal of pain in the abdomen. The diarrhoea has ceased. Her Bowels are now regular but there is tenderness on pressure in the right Flie region.

Day 37 Headache still severe. Pulse 120 full GhMD. Tongue...
Dry and brown, the pain in the abdomen is much more severe and is greatly increased on pressure, in the right Iliac region.

Fever, low; leeches to right iliac region.

July 29th. Headache still severe, pulse 130 weak, tongue dry, brown, some lines on lips, pain in abdomen less severe but still increased on pressure, diarrhea came on last night and she has had several watery stools of a dark greyish brown colour; presenting the pea soup character, thin hot and dry. Faint.

July 30th. Delirium has returned for the last two days.

Pulse very weak and rapid, tongue dry, lips heated, loosed with some abdominal still seems tender on pressure, diarrhea has ceased, thin cold and moist, she has been taking here for last three days.

July 31st. She is more sensible to day and is able to answer questions, pulse 140 weak, tongue moist, notches on teeth, no diarrhea, abdomen tender on pressure, she rested quietly last night.

July 31st. She is quite incoherent to day, was very restless during the night; suffered considerable loss of blood from bloodletting the night before. Pulse 140 weak and irregular, tongue dry, yellowed, the stools are of the appearance & quantity as formerly, but not very frequent.

July 1st. She has continued quite insensible and very restless since yesterday, pulse 140 very small & thread-like, tongue dry and brown, lips and pillors stained with blood which seems...
to have come from the gums. She had a sallow, shiey, during
the night of dark colour, and watery, consistency and of a very
affectionate smile— She continued, moaning and tossing
her head uneasily to half past seven o'clock when she died
quietly and without any struggle.

Section Cadaverium 4½ hours after death

Nothing particular in the external appearances

Stomach. Scattered over the surface of the mucous membrane
are about a dozen purplish congested spots about 3/6 of an
inch in diameter, in the centre of which the mucous membrane
is superficially eroded to the depth of less than a line, the edge,
being obscurely bevelled off into the centre of the ulcer.

Small Intestines. Jejunum and upper half of ileum
normal except a few faintly marked papular elevations
about 5 feet above the ileo-caecal valve, is a papule from
one to two lines in diameter, its base presenting faint rose
-coloured congestion, its conical apex a yellow-opaque
appearance, about six inches lower, one of Peyrin patches
is slightly elevated, its surface presenting several yellowish
opacities and a little faint rose coloured vascularity. A conghi
thin can be traced into this patch from the intestine borders
and several of the tactile sensae, radiating from it and burying
themselves in the submucous tissue, can be seen abnormally
engaged, and of an opaque yellowish colour. Two inches
below this patch, another whitish papule similar to the former one. In about two-thirds feet below this, the greater number of the Peyry's patches are more or less elevated, presenting very much the same appearance as the former one, the same submucous opacities, less colored vascularity, the tactiles leading from them also presenting the same opaque yellowish color and being similarly engorged, several of these patches however are ulcerated. From this point to the termination of the small intestine, most of the patches present greater elevation sometimes to the extent of 1/8 of an inch, forming fungus like discs, flattened on the surface, with abrupt edges, and attached by less only a line or two broader than their summits. Scattered among the patches are numerous papular elevations. Most of the patches and some of the papular elevations are ulcerated to a greater or less extent; the ulcerated parts present for the most part a greenish yellow opaque color with slight specks of dingy vascularity where the lumens membrane is least destroyed. In among the patches the ulcerated portions are covered with superficial dark olive green sloughs, very soft & friable and in part different. the largest slough covers a patch about 1/4 inch in diameter about one inch above the ileo-cecal valve. The lumens membrane on the upper lip of the valve is pale, extensively worn eaten and having much irregular yellowish deposit.
In its substance, The most congested part of the small intestine is from 4 to 10 inches above the valve.

**Large Intestine**. The solitary glands of the large intestine are elevated in its upper two thirds into papules similar to the solitary papules in the small intestine, but less abruptly elevated. These congested at the edges, and much more numerous in a given space, except near the lower part of the transverse colon where they become more scattered.

The peritoneum - over some of the patches and ulcers present slightly increased vascularity over others it is quite pale.

A few of the Insensitive and Insecticidal glands present at section a deep purple colour with one or two minute points of yellow, friable deposit.
Case 13: Enteric typhus, Peritonitis from perforation occurring on 7th day after recovery and proving fatal in 6 days.

Mr. Anderson, 31 years old, admitted 29th Dec. 1857 into No. 1 Ward by Dr. Bennett.

According to the account of the Captain, he was exposed to severe cold in crossing the North Sea, was seized with chilliness on 21st Dec., followed by diarrhoea and thirst and was confined to bed in this state to Dec. 17th (14 days) when he returned to his work.

On 24th Dec. he again felt languid, had rigors, thirst and diarrhoea. On the afternoon of 28th Dec. he felt much worse (this was the day after his arrival at Leith) he had great pain over all the abdomen followed by vomiting and constipation.

In admission 29th Dec. - Features shrunken and laid Thin cool & clammy - Heart feeble, quick, its sounds normal Pulse 126 feeble and vibrating - Respiration short, hurried and thoracic, slight cough, respiratory sounds normal - Tongue red and furred, no difficulty of swallowing - Great pain over the whole abdomen increased on pressure or deep inspiration, abdomen shrunken, no tympanites, bowels constipated - Inunction easy urine small in quantity; severe griping pain all over the abdomen - Ordered Aruinae 20 gr. to be applied over the abdomen, and our grain of opium to be given every two hours Dec. 30th - Passed a restless night, great pain, no sleep was slightly narcotized. Mind wandering, bowels opened.
this morning without any medicine and without relief, he has taken six grains of opium, pulse very quick and almost imperceptible — Died at 3 o’clock P.M.

Victor Padarinis 34 hours after death.

No remarkable external appearances — Peritoneum contained several ounces of turbid grayish fluid having a slight faecal odour. The entire surface of the peritoneum, covering the intestines of a purplish colour, with minute congestion of the vessels, and in some places flakes of adherent yellow soft lymph which connects some of the coils of intestine with one another and with the abdominal walls.

Both Pleurae presented some adhesions — Pericardium Normal. Heart also normal — Both lungs a little violet colored and collapsed postmortem, and containing one or two concretions, their tissue mostly crepitant and normal.

Liver, Kidneys and Pancreas healthy — Stomach & Duodenum also healthy — About the middle of Jejunum an ulcer about 3/8 by 4/8 of an inch, with smooth edges, extending through the mucous and muscular coats and apparently also through the peritoneum (the latter perhaps torn in removal). On the lower part of the Jejunum and in Oesum the mucous membrane is mottled with slate coloured shadings and dotlings, several of the patches of Peyer prominent, and several elevations the largest about half an inch in diameter, situated in their course, and in
some of the solitary glands, the edges of the ulcers flat
sometimes smooth and sharp in others levelled obliquely into the
ulcer, the floor of which was in three cases nearly smooth; one
of the ulcers in the ileum extended to the serous coat, which
was somewhat violet coloured from congested vessels on its outer
surface opposite the ulcer. Throughout the colon there was a less
slate coloured mottling. The intestines contained very fluid
floces of an ochre grey colour.
12th Case: Taeniasis Hyphae, no eruption, pain in abdomen on pressure.

Andrew Houcan at 9' admitted into No. 5 under Dr. Robertson 2nd June 1852.

No very accurate account as to when he took ill can be obtained but it would seem that he has been ill for about 10 days. July 1st. Since admission he has complained constantly of pain in abdomen sometimes of his own accord, generally only when pressure was made, he passes usually one or two stools daily, always formed and natural in appearance. Pulse has averaged 120 varying little. Thin has been remarkably dry latterly, he has generally slept a little during the day, but has been very restless during the night either delirious, or complaining and constantly asking drink. Tongue till 2nd July dry and brown subsequently moist, and either clean, or with a white coating in centre. By Tonic Dose.

Hyd. c. lutea ad gr. iij

July 9th. Considerably better, sleeps well at night, no tenderness of abdomen. Habitat. Thea Frangula. 3 gr. in 1/2 tis.

July 11th. Urine. The dose powdered and Hyd. c. lutea.

July 28th. Nearly well. Has omitted, the change in tongue for some days, thin and tongue natural, bowels open, appetite good.
The mother and an older sister of this boy as well as the girl whose case is already quoted, also had the disease; making in all four members of this family who suffered; the particulars of these two cases I have not been able to collect, as they were out door Dispensary patients, but the general course of the disease was the same in all, and in addition in both these patients there was a considerable amount of hemorrhage from the bowels, which did not occur in either of the patients who were in the Infirmary; none of them presented an eruption of any kind, which according to Dr Benn's opinion might have caused a doubt whether the disease was really Dextrorotundus; had the other symptoms and the post-mortem appearances not been so well marked and so characteristic of that form of disease.

The mortality of the disease in this family was very striking—three of the four who had it, having died; and although, typhus prevailed in the same neighbourhood and close in the same house with them, none of the patients in other families, showed any tendency towards the entire affection. Does this not seem to point to some predisposing cause in the circumstances, habits or constitution of the members of this family.
The complications which arise during the course of typhus constitute the chief source of danger, and are the cause of a very large proportion of the mortality of these islands, according to Dr. Grases the deaths from fever in Ireland from 1831 to 1841 constituted one tenth of the whole mortality, in Glasgow one fiftieth, and in London one fiftieth; this however is a much higher rate of mortality than what occurs in the kingdom generally from fever.

The organs most frequently involved secondarily in Edinburgh are the lungs, whilst on the Continent and in America the enteric ulceration is much more frequent, but in all the cerebral symptoms are usually the most frequent and the most alarming, and unhappily they are not the least fatal; the symptoms being such as closely to simulate inflammation of the brain or its membranes, pathologists have naturally searched very carefully for traces of inflammatory action in the brain of persons who have died of typhus with severe head symptoms, yet such traces have been very rarely found, thus Dr. Tredicke reports 521 cases, of which 114 had well marked cerebral symptoms, 54 died but in 15 no marked trace whatever could be
found either in the brain or its membranes. Louis compared the state of the brain in 12 fever patients who had little or no delirium, and in 12 who had severe delirium:

With little or no delirium  
1 Inflammation of thalamus  
1 Slight softening  
6 Brain healthy  

With great delirium  
1 Slight encephalitis  
1 Injection of brain membranes  
5 Brain healthy

Chamblé reports 38 fatal cases in which the appearance of brain in 12 gave clear fluid in the lateral ventricles, in 7 aedema of the meninges, in 6 general but slight diminution of consistence, in 3 some alteration of density in 5 a spotted appearance of the cerebral substance.

Dr. John Reid gives the following as the result of his experience in the Royal Infirmary Edinburgh, in 82 persons dead or fever examined by him; in 27 quantity of fluid only sufficient to moisten the membranes; these were 37 years of age in 21, aged 47 the sulci were slightly separated by the effusion in 10 aged 55 some fluid in the lower part of the Arachnoid in one aged 68 some fluid both in middle and lower part of Arachnoid, showing that the amount of the effusion increases with the age, and this is known to occur naturally as age advances, accompanied with shrinking of the cerebral substance.
Other observers have met with similar results even when aided by the microscope, which has proved of so much service in determining the existence of cerebral softening under different circumstances.

The principal varieties of cerebral affection have been observed by writers 1st. Delirium with gradually increasing stupor ending in coma and 2nd. A convulsive affection allied to epilepsy in its character, and which I have only seen described by Dr. Chetwood in the Library of Medicine.

Delirium rarely occurs during the first week in Typhus and no example of it so early in the disease has occurred this session, when it does occur at such an early period it is usually associated with some headache and great nervous excitement tending to go on to stupor and convulsions and to terminate by coma during the second week; this is almost the only instance in which antiphlogistic treatment is either demanded or tolerated in Typhus and the advocate of this treatment (Dr. Graves) is himself very cautious in recommending its adoption.

But head symptoms more or less rarely fail to show themselves, during the second week unless the fever be very mild the more prominent is Delirium usually associated with a considerable amount of stupor and which may be dependent on a congested state of the capillaries within the
Granivum, similar to what is obtained in those of the skin and mucous membranes. Six of the 15 patients whose cases are here reported became delirious from the 8th to the 12th day; one became delirious after the 12th day except one case of acute typhus, the became delirious on the 15th day, or 32 days after an apparent remission. In two only was the delirium of stupor severe, Swann (No. 7) and Mr. Tadden (No. 3). Swann became delirious on the 8th day having slept soundly the night before, and the continued delirious and sleepless for six nights (according to hyste), the delirium was accompanied with a great deal of stupor, constant moaning, and frequent attempts to get out of bed; yet all these symptoms subsided on the 12th day her strength having been simply maintained by a liberal use of wine and brandy. Mr. Tadden also became delirious on the 8th day and like the former, moaned a great deal, indeed these two patients lying constantly on their backs and moaning and quite indifferent to surrounding objects, presented many characters in common, Mr. Tadden however slept pretty well, a blister was applied to her scalp on the 12th day and after it she certainly moaned less and became quieter, still the delirium continued to the termination of the disease on the 21st day.

In three other cases Braith (No. 5) Baldrick (No. 6) and Stevenson (No. 9) the delirium presented its usual character coming on, the 12th, 15th, and 10th days respectively, and
characterized by a considerable degree of slumber, a tendency
to get out of bed, and occasional muttering, in the latter
it continued till her death which was caused by the pulmonary
affection, and in the two former subsided, with the termi-
nation of the disease in the one on 19th in the other on the
16th day.

A very characteristic example of the "convulsive affection
allied to epilepsy" was presented in the case of Mrs. Mc Donald
No. 8, she suffered very severe headache from the first, with
a strong rapid pulse, and on the 7th day began to wander
that night she had a fit in which her eyes were fixed and
her limbs tossed about convulsively, next day she was quite
delirious, and continued so; on the 13th day, paralysis of the
left side of the face, and left arm was observed, the fits did
not return and she died on the 15th day, 5 days after the fit.
A rare occurrence as death usually occurs within 12 or at
most 24 hours after.

The cause of the central symptoms observed in fever are
very obscure; they may be as above stated, dependent on a languid state
of the capillary circulation within the cranium, or 2° on an unknown
poison circulating with the blood, 3° less in considerable quantity
has been detected in the blood of fever patients, but more particu-
larly in those who have had typhoid. 
The affections of the lungs, which occur so frequently in the fevers of Edinburgh, and are the cause of death in a majority of the cases terminating fatally here, have been ascribed by many writers to Bronchitis and Pneumonia occurring in the course of the disease, but post mortem examination seldom exhibits any traces of inflammatory action in the lungs, when death occurs during the course of the disease; and usually all that can be observed is great congestion of the bronchial mucous membrane, and often engorgement of the pulmonary tissue, with sero-sanguineous fluid, especially in the depending portions; it has been happily called by Professor Christie "congestive catarrh" for the steady improvement which usually follows, an appropriate use of stimulants does away with all ideas of inflammation.

Bronchitis, Pneumonia and Pleurisy are all, however, very frequently sequelae of typhus, and usually caused by direct exposure, at a time when the system is unable to resist even slight exciting causes of disease. They are marked by the usual functional and physical signs and are amenable to the ordinary treatment except that the system is less able to bear the use of specific remedies.

A slight catarrh frequently occurs during the first few days of fever, but it seldom gives rise to any troublesome...
Consequences, nor does it require any special treatment, it was present in three of the cases: Solomun, Mc Donald, and Downe but in all passed off without any treatment.

Pneumonia of a more severe type, however, is a frequent phenomenon of the second week of typhus. Its usual symptoms are hurried breathing, a short, harassing cough, with scanty mucous expectoration, the chest resounding resonant on percussion (until an advanced period when the depending portions of the lungs often become dull on percussion) and on auscultation, both dry and moist rales chiefly accompanying the inspiration, and seldom limited to one side, but usually affecting both sides of the chest. This catarrhal affection was present in four of the cases reported but in three only did it assume a severe character. In the woman Stenham (No. 9) dyspnea with cough came on the 7th day accompanied with expiratory rales heard chiefly on the left side; during the next two days the dyspnea increased, and both dry and moist rales could be heard over both sides of the chest anteriorly; she was too weak to allow examination posteriorly, but as far as could be examined there was no dulness on percussion. She died on the 13th day in a state of coma, apparently increased by the dyspnea. The post mortem examination was permitted.

Mc Padden (No. 5) was attacked with severe cough with mucous expectoration, no dulness on percussion, but much
Aophnea, on the 9th day; on the 12th day a blister was applied over the sternum, and on the 14th the cough had almost gone and did not return. Brack (no. 5) was admitted on the 8th day and had then severe cough with mucous purulent expectoration, bibilial and rumorous rales were heard over the bases of both lungs but no dulness on percussion. On the 16th day he also had a blister applied over the sternum after which the cough was much relieved but continued (less severe) to the end of the fever. Swann was admitted on the 5th day and had cough with mucous-purulent expectoration tinged with blood. Any rales were heard over the chest anteriorly but no dulness on percussion anywhere. On the 7th day there was slight dulness at base of right lung posteriorly, in her case the severity of the head symptoms masked the pulmonary symptoms somewhat, the latter continued up to the 15th day when amendment of the general symptoms began to take place, and with it amendment of the pulmonary affection also.
The cutaneous affection which is fortunately so rare in these countries, being fatal in about one of every three cases presents many points of interest, as the basis on which it has been attempted to separate, Typhoid and Typhus fever into two distinct diseases. Prior to 1846 very few instances of it occurred in Edinburgh, but since that period several cases have occurred, intermixed among the cases presenting no anatomical lesion, and forming as it were small epidemics, one of these minor epidemics has appeared this session and I have been able to collect the particulars of five cases, three of whom were patients in the Clinical wards of the Infirmary.

The first of these Edward Anderson was admitted on the 9th day apparently convalescent from a mild febricula, but the rose-coloured eruption, consisting of a few papules scattered over the arms and chest was well marked, and the stools were loose and frequent, he rapidly got well and left the house on the 31st day the eruption having quite faded, and no pustule having followed it. This case at the time seemed to have been a mere febricula accompanied by rose coloured papules but he was readmitted on the 35th day after the first attack, with a fresh crop of papules covering the chest and abdomen as before, and with distinct tenderness on pressure in right iliac region, and pea soup stools, and a succession of the
while symptoms ushered in by rigors. Seizes was applied to the iliac region, and small doses of morphia given, and under this treatment he gradually improved, the eruption fading from the 10th to the 14th day.

John Anderson had been at St. Kilda where very probably he caught the disease, during the first attack, which occurred at sea he was confined for 12 days, after which he returned to his work; seven days after he again felt ill, with rigors, and intense pain in the abdomen, and when admitted into the Infirmary on the 5th day of the second attack he was in the last stage of acute peritonitis; in a state of collapse and quite unable to give any account of his previous illness. His condition was evidently hopeless, and he died the following day.

The post-mortem appearances were very characteristic. In the lower part of the ileum the greater number of Peyrs patches were prominent, and several ulcerated, one opened into the peritoneal cavity. The mucous membrane was of much darker colour than usual and presented several slate coloured markings. The peritoneum presented undoubted marks of inflammation, great capillary congestion, and numerous flakes of soft yellow lymph, in some instances connecting together coils of intestine. The fluid in the peritoneum had a faecal odour leaving no doubt of one of the peritonitis having been faecal extravasation.
The Sowens family, from whom suffered the disease, lived at Blochbridge in a place where typhus is always prevalent; the first who suffered was a girl; she died, having had severe abdominal pain or pressure, pea soup diarrhoea, and a good deal of haemorrhage from the bowels, the mother next took the disease, and in her it followed pretty nearly the same course, soon afterwards the little girl who died in the Infirmary took it, and next the boy who was the only one of those who took the disease that recovered, and it might be doubted whether in his case any intestinal ulceration existed, inasmuch as he had no great tenderness on pressing the abdomen, no diarrhoea, and stools of the natural appearance; no eruption existed in any of these patients, although it was carefully looked for; yet that they suffered from the cutaneous form of typhus was sufficiently proved by the post-mortem appearances, in the girl who died in the Infirmary, and the distinct tenderness in the iliac region and intestinal haemorrhage, in the brother and sister's cases.
The importance of carefully studying the anatomical position and structure of the Intestinal glandulae, as well as their function in health will be apparent from the lesions presented in the foregoing cases, the following is the description of them given by Dr Carpenter.

The whole mucous surface of the Intestinal Canal is furnished with glandular follicles, of which some approach those of the stomach in complexity of structure whilst others evidently correspond with the crypts of ordinary mucous membrane. An innumerable multitude of pores are easily seen, by the aid of a simple lens to cover the whole internal surface of the large intestine and these are the entrances, to tubular follicles closely resembling those of the stomach, but more simple in structure. These glands probably form the peculiarly thick and tenacious mucous of the large intestines. In the small intestines on the other hand the case are less deep and their apertures smaller. These apertures are for the most part situated around the bases of the villi; in the fetus and newly born child they are so abundant as to be almost in contact; but in the adult the intervals increase so as to occupy more space than the apertures. The glandulae of the small intestine have long been known under the name of the follicles of Lieberkühn, they become particularly evident when the mucous membrane is inflamed being then filled with an opaque whitish secretion, which is
absent in the healthy state. The so-called Peyrier's glands constitute when aggregated together large patches on the mucous membrane of the small intestine, where they are known as the glandula agminata. Similar bodies, however, known as the glandula delitaniae exist separately in the lower part of the small intestine.

The glands of Peyer, when examined in a healthy mucous membrane, present the appearance of circular, white, slightly raised spots, about a line in diameter, over which the membrane is usually less set with villi, and often entirely free from them. Each of these white spots of which a large number are contained in the agminata glands, is surrounded by a zone of openings like those of the follicles of Lieberkühn, which lead (as do those) into tubular ceca; on rupturing the surface of one of the white bodies thus found a cavity corresponding in extent with the spot, but this cavity has usually no excretory orifice, and the tubular follicles by which it is surrounded have no connection with it. In its interior is found a greyish white mucous matter interspersed with cells in various stages of development. There is reason to believe that at a certain period of the existence of these glandulae, an excretory orifice is formed by a sort of deliquescence, in the wall of the cavity, and that through this the product secreted by the contained cells may be forced forth. The membrane which covers in the cavity is extremely
thin, and is very liable to be destroyed by ulceration; hence it is
that after inflammation of the catarrhal mucous membrane, the
patches of Teney are often to be seen as conjugies of shallow open cells
or follicles. Although the particular use of each variety of the
intestinal glandula cannot yet be determined, there seems
little doubt that their general function is to eliminate from
the blood those putrescent matters which would otherwise
accumulate in it; whether as one of the results of the normal
waste of the system, or as produced by various morbid causes
which act as ferment and thus occasion an unusual tendency
to decomposition in the solids and fluids of the body. That the
putrescent elements of the feces are not immediately derived
from the food taken in, as much as from the exerting action
of the intestinal glandula; appears from this consideration among
others; — that the fecal matter is still discharged, even in
considerable quantities, long after the intestinal tube has been
completely emptied of its alimentary contents."

Both the solitary and anterior glands are liable to suffer
in enteric typhus, and the lower part of the ileum and
ileo-caecal valve, the part on which the glandula are most
numerous is the part where ulcerations are most frequently
found. That the solitary glands are ever affected has been
denied by some; but in both the cases examined this session
John Anderson and Mr. Howison; the solitary glands were
affected to as great an extent as the agminate, and the
manner in which both the papules and the ulcers excuding
them, were modified in form by the original of the glandule
was very well marked, presenting in the solitary a distinct
rounded papule and in the agminate glands, a flattened, elevated
patch with abrupt perpendicular edges.
In the healthy state the glandule present the appearance
of white slightly raised spots, on rupturing which there is
found a cavity corresponding in extent with the spot; now
it is into this cavity that the morbid product is poured in
epithus; gradually distending it much beyond its natural
dimension, so that when one of the solitary glands becomes
affected it presents an elevation ranging from the size of a
mustard seed to that of a split pea, and covered by the mucous
membrane which is at first quite healthy.
When one of the clusters or patches of follicles suffers it
presents a flattened elevation, corresponding in extent with
the affected patch, the edges being peculiarly abrupt and
perpendicular, the morbid product has now come to occupy
the place of the normal secretion of the follicles, distending them
in the same manner but to a much greater degree, it is still
covered by the mucous membrane, the cells of which may still
be seen quite healthy, by and by however it comes to assume a
pale hue than the surrounding mucous membrane, its
Nutrition being interfered with by the abnormal product infiltrated beneath, the villi also become broken down and the superficial layer of mucous membrane dies and sloughs either separating alone and leaving the mumbled matter exposed beneath; or the whole separates in one mass leaving an ulcer the floor of which is formed by the fibrous layer of the mucous membrane, or if this also have sloughed by the muscular coat of the intestine.

The presence of this mumbled matter is for a long time borne quietly by the surrounding parts, which show no signs of irritation, until it has so far impaired the nutrition of the mucous membrane covering it, as to cause it to slough; but now when it becomes necessary to separate the dead part action is set up in the surrounding tissues, they pass into the stage of active congestion, and a line of separation is found, this seems the only approach to true inflammation in the whole process. The circumference of the diseased patch now presents a thickened tumid appearance, of a livid colour, and the slough now separates either in whole or in part when only part of it separates the edges of the ulcer present rounded fungoid texture within which the mucous membrane is wanting and a friable, granular deposit, of a dark greenish ochre colour lies exposed. When the whole of the diseased mass has separated the base of the ulcer usually
presents a very smooth surface, formed by the muscular coat of the intestine, or by the fibrinous layer of the mucous membrane, the edges at first are thickened and livid, but when the slough has completely separated, action subsides and the process of repair commences, "if the couche fibrineuse have not been destroyed the mucous membrane will be reproduced but if the muscular coat have been exposed a fibrinous texture supplies its place." If reparative action do not succeed, ulceration may continue leading to perforation, or the original slough may involve the whole of the intestinal wall, which separating in a mass may cause perforation.

The follicles of Lieberkühn are also liable to become the seat of the deposit, and in them follow the same course as in the solitary and aggregative glands.

The glands of the colon usually suffer in the same order as those of the small intestine, most numerous affected near the ileo-caecal valve; they are less frequently affected than the solitary or aggregative glands of the small intestine and their natural excretory orifice is always visible on the surface of the tumour. Both the glands of the colon and the follicles of Lieberkühn were affected in the two cases already mentioned.

Whether the disease be situated in the Ileum or Colon the corresponding glands usually suffer; the Incisurae in the one case, the Mesocolic in the other, and the infiltration
of the matted matter into them is not secondary to, but simultaneous with the first deposit in the intestinal glands. The matted deposits present the same histological elements and seem to follow nearly the same course.

The following are the characters of the deposit examined microscopically, as described by Dr. Waters in his Thesis 1847, and for which I am indebted to Professor Bennett.

1. In the intestines - 1. A molecular stroma - 2. Cells with a clear defined edge varying in size from 1/65 to 1/65 of a millimetre in diameter containing only molecules 3. Cells of larger size than the preceding containing from 1 to 2 or 3 molecules - 4. Cells some of which measure 1/60 of a millimetre in diameter crowded with nuclei 5. Capsules 1/60 of a millimetre and less in diameter with a central nucleus - 6. An amorphous granular matter

1. The molecular stroma is always present. 2. The cells with molecular contents only, were found in some of the Insecticute glands, these glands were rigidly atretic in structure, new of the size of a nutmeg, of a uniform chocolate colour, friable and loosely connected with their capsules. 3. The cells containing 1 to 2 or 3 molecules, were found in considerable number in the faun coloured deposit in the Insecticute glands, in the gelatinous looking glands in the patches of Beye
The cells crowded with nuclei were more rarely found. They existed in considerable numbers in the soft, gelatinous looking mesenteric glands, more sparingly in the friable deposit, they were only observed when the disease was at its height.

5. The small corpusescles were seen in immense numbers in every case in which the mesenteric glands were examined except when they had undergone the chocolate colored degeneration. They resemble those found in unaffected mesenteric glands and are probably the epithelial cells of the lymphatic vessels.

The effect of acetic acid on the above cells was to render them paler and their nuclei more distinct.

6. The amorphous granular mass containing no corpusescles was observed in one case only, all the structure of the deposit were broken up.