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ONE HUNDRED AND FIFTY CASES OF TYPHOID FEVER.¹

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THE object of this paper is to offer some practical observations on one hundred and fifty cases of typhoid fever treated in the beds on the south side of the medical wards of the City Hospital during the last three months in each of seven years ending with the 31st December, 1877. It is hoped that they may have some interest for others beside the observer, although there is little new to be noted in traversing ground so well trodden; and the number of cases is too small for generalization of much value. The experience will be given, uninflated by fancies or quotations, for what it is worth.

Some of these cases entered in the last five or ten days of my predecessor's term, but have been considered here if the patient were mainly treated by me. The few subjects of this disease who enter in December have been reckoned if the height of the fever were passed before my relief came on duty.

The *causes* of typhoid fever cannot be studied in these examples, which come from every part of the city and from all sorts and conditions of men. They are often poor people whose friends and doctor are worn out with the incessant care needed by the sufferer, and which cannot be given. Many have frightened all who have to do with them by the fury of their delirium, and are sent to the hospital to die; while some come from crowded hovels, which contribute more than one case. Others are clerks, mechanics, or servants of houses in the best situations. One maid came from Nahant, from a family who of course paid their taxes in Boston. Of late years tramps furnish an increasing contingent, as would be expected from their growing numbers. The source of the disease influences the result but little.

It is denied by the best authorities that fatigue, emotion, or destitution have to do with the ætiology of the disease, and the custom of the day is to class it among "filth diseases." From the vague stories gath-

¹ Read before the Boston Society for Medical Observation, May, 1878.

ered from hospital patients and their friends, it is impossible for the physician to form an idea of the origin in most of the cases admitted. In other than hospital patients it has not been made plain to me that all cases are to be referred to the poisoning of air and water with excrementitious matters. In London, increase of typhoid was contemporaneous with the completion of the main drainage scheme in 1865-1870. (Murchison.) As has been remarked in this society, typhoid fever was seldom seen in Dorchester (where the writer lives) except in the southern border, along the Neponset River, and our cases of this disease were almost all imported. There was something of an epidemic when Cohituate water was introduced without any system of drainage, and the old roads were dug up in all directions. Since that time, six or seven years ago, the tendency to fever has lessened, and last year there were scarcely any cases.

Contagion is not a cause of the fever. One fatal case was that of a woman who had nursed a sister through the sickness. On the other hand, in these seven years there are found among the one hundred and fifty but four hospital servants with the disease, and only one of these (Ferris, aged fifty) was in attendance on fever patients. In five years at least no house physician or surgeon has taken fever. This disease resembles most contagious disorders in usually exempting from subsequent attacks, and when a feverish patient says he has had just such an illness before he is closely examined for evidence of tuberculosis or other malady. Large families are known in which fever seems never to occur, but it is a sickness which almost every one in New England has in childhood or youth, and its causes, except in certain epidemics, are yet to be determined.

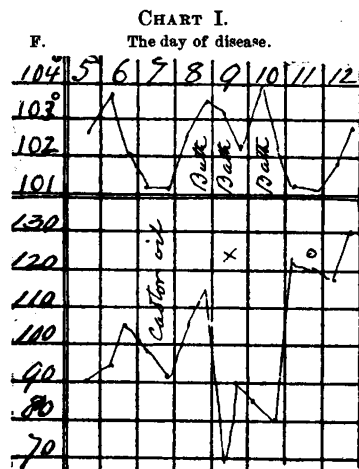
We consider that long, hot, dry summers keep the doctors busy. We know that long, cold winters breed sickness, as mild winters do not, as most of us have found to our cost in making up last quarters' accounts. The weather records do not conform to our ideas as they should in regard to the relation between hot, dry summers and fever. The greatest number of typhoid patients admitted to the hospital was one hundred and sixty-three in 1872, when (according to tables furnished me by my friend, Dr. E. T. Caswell, of Providence) the summer was hot and wet; the smallest number, eighty-seven in 1876, which year will be remembered as hot in June and July, and cool in August and September, while the rain-fall was about the usual average. One hundred and fifty-eight were admitted in 1873, which was cool, with average rain-fall. It is not impertinent to note that patients and their friends often ascribe the illness to a definite cause: exposure to foul gases, as in opening a cess-pool, exceeding anxiety, but especially to heat, cold, or wet, sleeping out-of-doors, or watching at night.

CASE I. D. F., ward-master, aged fifty, was devoted to the fever patients. Five days ago, tired, pains, chills, fever, headache, slight abdominal pains, slight cough, mucous expectoration. *Now*, bad headache, pain in joints, tympany, gurgling. Urine normal. Sixth day, better. Seventh, "decidedly" better. One doubtful rose spot. Constipated four days. Oleum ricini, one drachm, every four hours till operation. Milk. Sponge bath. Dover's powder. Eighth, three dejections. Soreness of abdomen. Sherry, three ounces. Ninth, tremulous. Tenth, Cheyne-Stokes respiration. Eleventh, retention. Twelfth, died. No autopsy.

The incubation of the disease we of course have no chance to watch. The writer remembers his own wretchedness for nearly a month with the prodromata of the fever. In the case of the ward-master Ferris, he affirmed that he was

well till four days before he was put to bed. Our patients have to keep about their work usually a week or more before going to bed. All of us have seen cases so mild that the patient could walk about, and even do business. I saw a young man two years ago who could be kept at home only a day or two, and went to his store daily with a high temperature, headache, and diarrhoea. It is thus difficult to appreciate the length of the fever. In these cases we have tried to reckon from the initial chill, when one was reported.

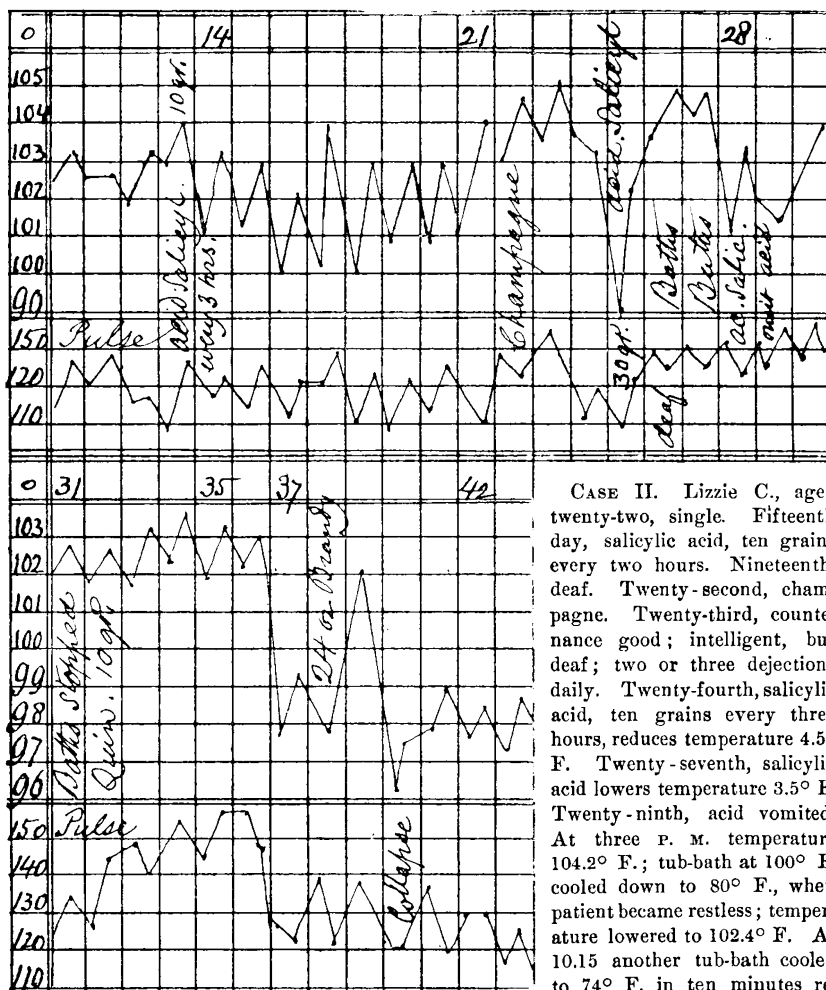
Diagnosis is not touched upon in this paper. Our patients are mostly admitted after five, seven, or more days' illness, when its character is generally settled. Acute tuberculosis and meningitis simulate typhoid oftenest. The *age* of patients does not differ from the usual observations, adults and old people being less liable to this fever, because, for one reason, so many have had it once, even perhaps so mildly that it was not recognized. *Diarrhoea* is recorded in but thirty-five per cent. of all the cases, and in nearly all the fatal ones. This rate is lower than is generally quoted; the writer's experience would make it about fifty per cent. in this neighborhood. *Vomiting* happened in twenty per cent. of the cases, and has no special significance as an early sign; but when it comes on in the course of the fever, it must be questioned if it means over-feeding, peritonitis, or nephritis. *Cough* was noted in only eighteen per cent., the physical signs, if any, being those of bronchitis; pneumonia, pleurisy, and cardiac disease have representation in small proportion. *Delirium* was present in the fatal cases, and in nineteen per cent. of the recoveries. *Rose spots* are recorded in thirty-two per cent. (They have been observed in diphtheria, in non-febrile cases, and Jaccoud reports them in a case of acute tuberculosis.) Children and elderly people, as a rule, do not have them. Blue maculae



* Fall of pulse while temperature ascends.
o Fall of temperature while pulse ascends.

(*tâches bleuâtres*) in three cases, one fatal. *Sweating* in ten per cent. *Rachitic pains* in fifty per cent. *Epistaxis* in twenty-one per cent. The highest pulse recorded in a case of recovery is 160 on the fourteenth day, the fever turning eight days after. The highest temperature was in a man (aged forty-four), of 107° F. on the eleventh day, when his pulse was 109, the fever abating on the thirty-eighth day. The usual termination of the febrile action is by gradual fall, as is well known, but in a large majority of cases there is some day when the temperature drops two or three degrees to the normal standard, and you will see in some of the charts a fall which may be termed a crisis or defervescence, in one severe case of eight degrees.

CHART II.



CASE II. Lizzie C., aged twenty-two, single. Fifteenth day, salicylic acid, ten grains every two hours. Nineteenth, deaf. Twenty-second, champagne. Twenty-third, countenance good; intelligent, but deaf; two or three dejections daily. Twenty-fourth, salicylic acid, ten grains every three hours, reduces temperature 4.5° F. Twenty-seventh, salicylic acid lowers temperature 3.5° F. Twenty-ninth, acid vomited. At three P. M. temperature 104.2° F.; tub-bath at 100° F. cooled down to 80° F., when patient became restless; temperature lowered to 102.4° F. At 10.15 another tub-bath cooled to 74° F. in ten minutes reduced temperature from 103.6° F. to 102° F. At 2.10 temperature 104° F., pulse 130; reduced by bath to 102.2° F. and 120. At 5.15 temperature 104.4° F., reduced by bath at 7.20 o'clock to 100.9° F. Thirty-first, stopped baths. Quinine, ten grains at one dose.

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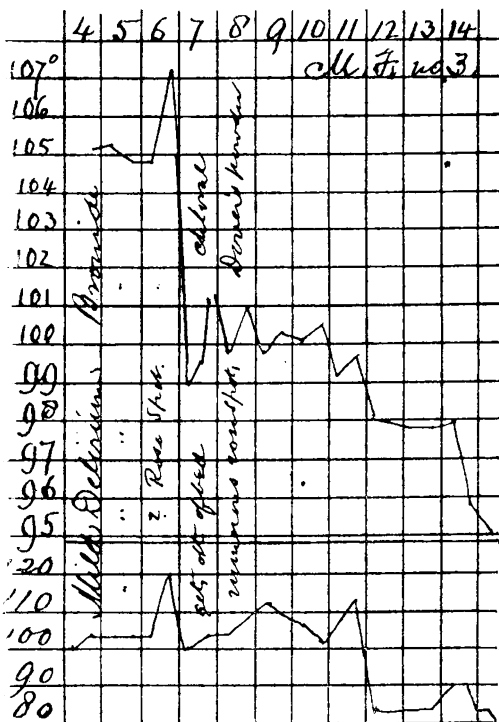
November 4th. Taking brandy, sixteen ounces daily. Involuntary micturition. Thirty eighth, subsultus. Last night collapsed; heaters to body; brandy subcutaneously. Has eighteen pints of milk and twenty-four ounces of brandy daily. Urine, specific gravity 1024; urea increased; no albumen. Discharged well on the one hundred and tenth day.

In the case of Lizzie C., this crisis was denoted by a fall of four and a half degrees, accompanied by collapse, when her life was saved by the indefatigable attention of Dr. Otis, then the house physician. The abatement of the fever happened in one case (with rose spots) on the seventh day.

The same fall is shown in Case III., M. F., aged seventeen, a private patient, where the fall was over eight degrees; in another, on the fifty-third day, while others had still longer duration. The range is so great that striking an average gives no idea of the truth, and the popular notion that "slow fever runs three weeks" is as nearly right as may be; but in telling the family of a patient the probable duration of the disease we have to guard against disappointment in those cases that exceed due bounds.

CASE III. May F. (private patient), aged seventeen. High temperature, low pulse. Fever ended on the twelfth day.

CHART III.



Quite a number of patients had tonsillitis. One fatal case resembled diphtheria. Dr. Green has examined the ears of the deaf patients, and has found all stages of inflammation in different cases. The proportion of these complications and of those having retention has not been noted.

A point worth mentioning is the frequency with which highest pulse and temperature occur in the milder cases at the time of or the day after admission; often the highest temperature on the day of entrance, and highest pulse the next day. This is owing to the moving and excitement of the patient, and points a moral in the need of quiet for a fever case. The length of time patients stay in hospital is a matter of no value to us, except as taxpayers, although given in some tables, for so many are retained days and weeks after recovery because they have no homes to go to, or can be useful by light work in the wards.

The question of *mortality* now claims our attention. Of the 884 cases of typhoid fever admitted to this hospital in seven years, 154 died, or 17.42 per cent. Murchison's tables give the average fatality in the London Fever Hospital for twenty-three years as 17.26 per cent.; in fifteen other hospitals 17.45 per cent., that is, one in every $5\frac{3}{4}$ patients died, and this seems to be about the usual average in large hospitals. There are also reported 195 cases of febricula and a few of simple continued fever for these years, and if any or most of these can be considered mild or aborted typhoid (if there be such a thing) the results would be modified. In 1876, when typhoid was infrequent, only ten per cent. died. In 1872, which shows the most cases, the mortality was twenty per cent., confirming the dogma that when typhoid rages widest it rages worst. In the years when diarrhoea is most often a symptom are the most deaths. Some years it happens, in allotting patients, one physician gets most of the fever cases with diarrhoea, while his colleague is assigned the constipated ones, who furnish few mortal issues. But these inequalities balance in a few years.

In our 150 cases there are 19 deaths, or one in $7\frac{1}{2}$, or 12.6 per cent. The discrepancy between this table and that of all the cases treated in the hospital is owing to the small number of observations, as the results would be nearly evened in the multiplication of cases. Again, the last three months of the year (the writer's usual service), though furnishing most fever patients, is not the fatal season; as in all epidemics the worst comes first, and we notice that the cases in the hotter months of July and August, though fewer, are shorter and more intractable. Thus in 1871, during a service of four and a half months from the middle of August, there were eight deaths out of the thirty-seven cases on the south side, of which six were between the 15th of August and the 1st of October. Again, in 1874, there were twenty-four cases and three deaths, two in September and one on the 24th of October; but the term of service was only eight weeks, from 15th of September to 15th of November, when Dr. Borland refunded time loaned. Eleven more cases entered before 1st of January, and all of these recovered. The showing would of course be much more favorable if we could evade the numeration of patients moribund when admitted.

CASE IV. Michael L., laborer, had a chill on being put to bed on entrance. Livid. Abdomen distended, painful in right side; roused quickly when addressed. Said he had been ill four weeks; then incoherent. Twelve m. Groaning; subsultus; two involuntary thin stools; crying out wildly; hand seeks right iliac region; when on side lies with knees retracted. Three p. m. Less congestion in face, and left hand and arm, but still in right; pulse less strong in latter. Lungs: backs flat at bases on percussion; crepitant râles. Front: right apex dull, loud sibilant and sonorous râles pervading. Right side: fine râles. Heart sounds distant, muffled. When addressed, wild, incoherent cries; decubitus dorsal. Cannot swallow. Four p. m. Congestion greater. More quiet. Died at two a. m.

Autopsy. Both lungs very firmly adherent. At right apex thickening and a few specks of cheesy degeneration. Both lungs, but mostly the left, congested posteriorly at the bases;

parts of both lungs float. One ounce and a half of serum in pericardium; over right auricle roughness from old deposit. Abdomen, eighteen to twenty ounces sero-pus; much gas; surface of small intestine and colon much congested. Lymph on liver and abdominal walls; some fæces in abdominal cavity. In lower part of small intestine, for three and a half to four feet, Peyer's patches and solitary glands enlarged and in places ulcerated; one ulcer had eaten through all the coats, and the base was covered by peritonæum only. Another ulcer at very uppermost limit of disease had perforated, and fæces escaped through a hole one eighth of an inch in diameter.

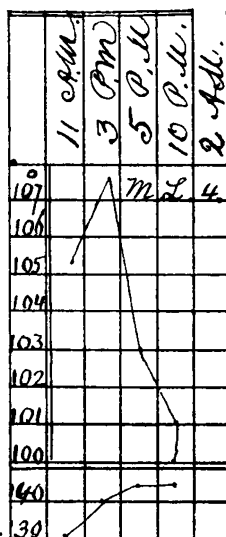
I am compelled to pass over the consideration of relapses, which have been few, none fatal (the writer has never seen in hospital or other practice a patient dying in relapse of typhoid fever); nor is there space for consideration of complications and other most interesting questions. I call attention to a few cases, remarking that the number of autopsies is very small, and no attempt will be made to discuss the pathological appearances.

The history of the H. family is worthy of record. In 1871 the traveler on the line of the New York and New England railroad saw to the east, on the marsh, just after crossing the arm of the bay over which the track runs, several lines of two-story houses, innocent of a horizontal or vertical line in their dilapidation. Their foundations were laid in trenches two feet deep, in which planks were lowered; on these planks the underpinning was laid, and the structures reared. These tenements drained into open ditches, where the tide ebbed and flowed; in a heavy rain or high tide the cellars were filled. The city had forbidden these cabins to be used for habitation, but in September, 1871, there were brought to the hospital from this place Mr. and Mrs. H. (New Englanders) and five children, sick with fever; all recovered but Ella Jane and Laura Etta, whose cases I give. Charts were not in common use in the hospital at that time:—

Typhoid Fever: Ulceration of Gall-Bladder.—Ella Jane, aged thirteen. September 19, 1871. Four weeks ago, headache, backache, tinnitus, diarrhoea. Took to her bed two days ago from cramps caused by baked beans, which pains have continued; cough began the same day; tender abdomen; rapid emaciation. On entrance, pinched and pale; eyes sunken; skin warm; abdomen dusky, tympanitic, distended, its superficial veins swollen. Hacking cough. Lies on back; knees drawn up, but she can extend them. September 21st. Diarrhoea less, abdomen not so tender, no cramps. September 22d. Died.

Autopsy in six hours, by Dr. Webber. . . . Abdomen holds a pint and a half of yellowish serum, with much lymph; liver large, fatty, anæmic; intestines covered with lymph and loosely glued together; omentum much congested; mesenteric glands enlarged. . . . In large intestine, solitary glands congested, and at upper part ulcerated; in small intestine, considerable ulceration of Peyer's patches, as also in lower three or four feet. Most inflammatory action in region of the gall-bladder, which was glued to the colon at junction of ascending and transverse portion. Fundus of the gall-bladder ulcerated, and small sacs

CHART IV.



seen, with bridges of mucous membrane dividing them; the adhesions being torn away, one sac was found ruptured, but it was hard to say whether this happened or not during life. No gall-stones, but thick bile in the sacs.

Laura Etta, aged six. September 22, 1871. Well till six days ago, when she began to mope, and vomited at intervals; slight diarrhoea for a day or two. Abdomen tympanitic. Vomiting continued; no rose spots; now no diarrhoea. Pulse from 120 to 138; highest temperature 101° F. Died on the 10th of October.

Autopsy. Extensive adhesion of peritonæum to the liver and gall-bladder, through which were three ulcerations, as well as ulceration of its whole inside lining. One pint of seropus in the peritonæum. Liver pale yellow, fatty. Mesenteric glands enlarged. Peyer's patches of two and a half feet of small intestine not at all ulcerated and very little enlarged. Solitary glands not enlarged. Kidneys normal. Spleen firm.

In this connection note the case of James, aged sixteen. Returned well from a visit to Portland three weeks ago. One week after he began to feel sick; chilliness, vomiting, headache, tinnitus. On admission, diarrhoea. The liver enlarged, and below it a rounded tumor in the region of the gall-bladder, where only there is marked tenderness. Next day, pulse in the evening 104, respiration 36, temperature 104° F. Fourteen days after admission the record runs: "The tenderness in region of the gall-bladder is considerably diminished, but as other members of the family have died with perforation of the gall-bladder there is reason for anxiety." But the patient made a good recovery, and was discharged well. Similar cases are reported by Murchison (patient aged nineteen), Barthel and Rilliet (aged twelve), Budd, and others.

I submit the charts and fatal cases of (V.) F. Whall; (VI.) Mary E. T.; (VII.) Mary C.; (VIII.) T. J. D., showing short durations after admittance; (IX.) Fred M., high pulse, and not remarkable temperature at first; (X.) Frank D. W., who appeared to die without known complication.

CHART V.

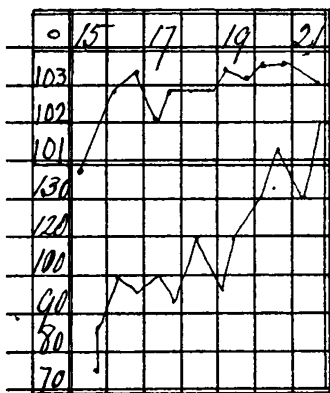
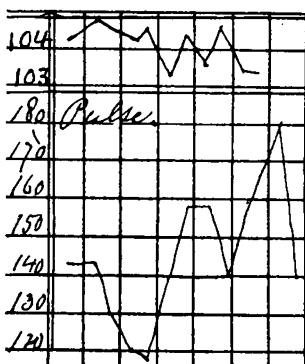


CHART VI.



CASE V. F. W. Typhoid fever; fatal. Two weeks ago, chill; pain in left chest, increased by deep inspiration; cough; no sputa; severe headache; diarrhoea; deaf; dull; abdomen distended, tympanitic, painful; rose spots, *tâches bleuâtres*. Sixteenth day, delirium; more diarrhoea; tympany. Nineteenth, less diarrhoea. Died twenty-first day. No autopsy. (See Chart V.)

CASE VI. Mary E. T., aged nineteen. Duration of disease unknown; fatal. Has been on Calf Island during the summer. Pain in head, *nucha*, spine, and abdomen; no diarrhoea till three days ago; very weak; has come to the city twice during illness; cough; severe pain in left hip and shoulder; emaciated; sordes; anxious; tongue hard and dry. Third day in hospital, delirium; feeds poorly; bears stimulus, but sinks steadily. Died sixth day after admission. No autopsy. (See Chart VI.)

CASE VII. Mary C. Typhoid fever and pneumonia; fatal. Three weeks ago, rachitic pains; epistaxis; cough, without expectoration. Went to bed three days since; no chill, diarrhoea, nor delirium. Now, prostrated, cannot move; respiration 50; face dusky; sordes; ecchymosis of the conjunctiva, right eye; listless; abdomen tender, tympanitic; rose spots. Tub-bath. Brandy, ten ounces. Milk and lime-water. Twenty-third day, singing and talking. After three tub-baths and two pints of champagne more quiet, and inclined to sleep. Tubular respiration; very fine crepitant râles in both backs. Quinine and digitalis; jacket poultice. Twenty-sixth day, died. No autopsy. (See Chart VII.)

CHART VII.

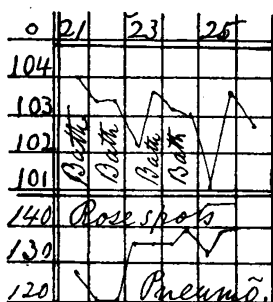
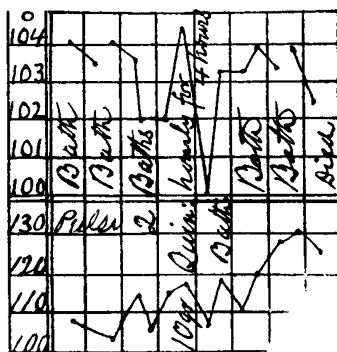


CHART VIII.

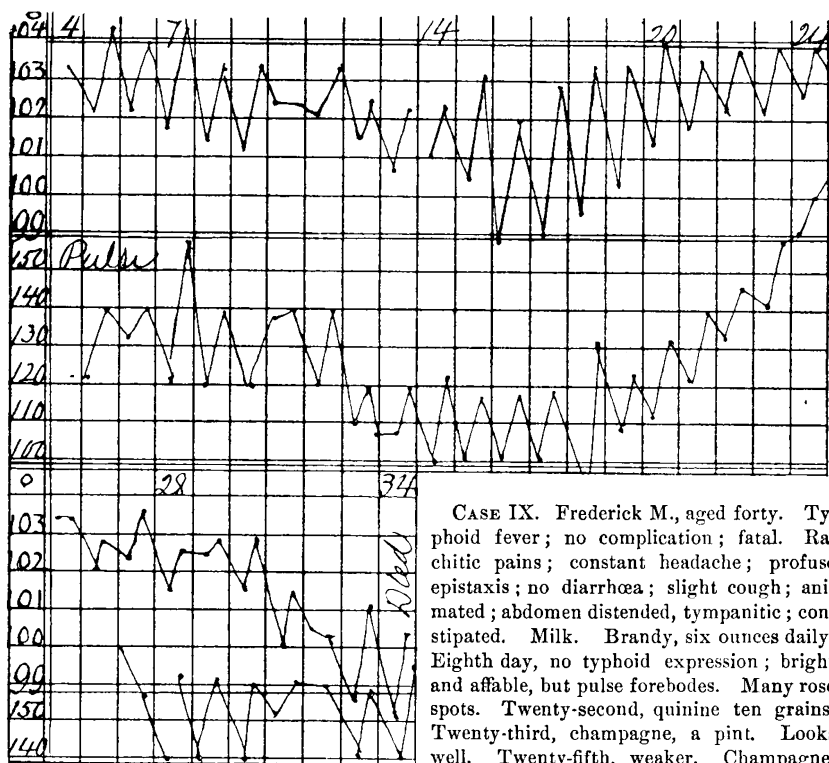


CASE VIII. Thomas J. D. Typhoid fever; cardiac complication; fat^{y8} ago, nausea; chills; rachitic pains. No diarrhoea, cough, epistaxis, nor abdominal pains. Now, tired, hot, thirsty; cracked and dry tongue; mind clear. Milk tub-baths. Sherr^{y8}, six ounces. Eighth day of disease, epistaxis. Ninth, bath out or order. Quinine, ten grains every hour for four hours. Eleventh, worse. Twelfth, dullness at apex; coarse râles; harsh, purring, presystolic murmur taking place of second sound; marked heaving of chest wall, and a distinct thrill perceptible to hand at apex. Thirteenth, died. No autopsy. (See Chart VIII.)

Only one of these cases is noted as having *intestinal hæmorrhage*, and the symptom is recorded only two or three times. Of late years no hæmorrhages have been reported. They are said to occur once in two hundred cases (MacLagan). Their fatality is not so great as used to be thought, and the worst case I ever saw was a neighbor of mine, who was blanched and collapsed by loss of blood, but made a good recovery.

Leaving important topics, which the scope of a paper like this will not permit us to glance at, I have a few words to say about the temperature and pulse. In reading cases published at this time one finds sometimes the pulse not even referred to, and the temperature made the indication for treatment, diagnosis, and prognosis. For diagnosis it is invaluable. For guidance during the disease I rely on the pulse.

CHART IX.



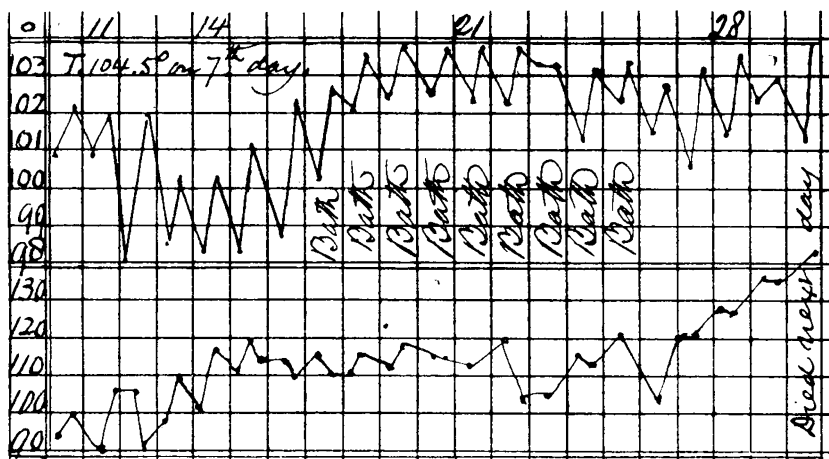
CASE IX. Frederick M., aged forty. Typhoid fever; no complication; fatal. Rachitic pains; constant headache; profuse epistaxis; no diarrhœa; slight cough; animated; abdomen distended, tympanitic; constipated. Milk. Brandy, six ounces daily. Eighth day, no typhoid expression; bright and affable, but pulse forebodes. Many rose spots. Twenty-second, quinine ten grains. Twenty-third, champagne, a pint. Looks well. Twenty-fifth, weaker. Champagne,

two pints. Twenty-sixth, diarrhœa; brandy, eight ounces. Twenty-seventh, muttering delirium; takes milk and beef tea well. Twenty-eighth, thin soup and pap. Thirty-first, no diarrhœa; increasing prostration. Thirty-fourth, died. No autopsy.

In these seven years the pulse has given the warning of approaching trouble, even when the temperature has signified nothing untoward. Patients die of typhoid with a slow pulse, but none of this series of one hundred and fifty has done so, nor have I seen any other case become fatal with a slow pulse. For a practical indication derived from individual experience I have to believe in the signals thrown out by the artery in the wrist above all. I have seen no patient die whose pulse has not reached 120 twenty-four or more hours before death. Cases come in unconscious, who can give no account of themselves, delirious, passing everything under them, with the thermometer in the axilla 105° F., with slight morning remissions, but if the pulse keeps at about 100 to 110 they do well. High morning temperatures are suspicious, but if they mean mischief the pulse creeps up with them. One who has seen much of the disease will anticipate a rise of the pulse as much from other signs as from the temperature. I am by no means depreciating the value of this indication, but am sure that students come to

rely on it too much. The chart well prepared for the morning visit, with temperature, pulse, respirations, and dejections noted, gives assurance to the glance at a patient that is of inestimable usefulness, and saves a world of talk and time in the wards. A range of pulse from 120 upwards, it is needless to say, is often followed by recovery. In 1871, out of twenty-nine cases of recovery seven had the pulse at 120 or more, for a greater or less time. In 1872, when the thermometers appeared particularly well up to their work, the temperature reached 104° F. and 107° F. in eighteen out of twenty-three recoveries; the highest pulse counted from 120 upwards in only four cases. The influence of certain conditions in shooting up temperature and pulse at the beginning of convalescence is odd. Sitting up half an hour in one case raised the needle three or four degrees. Several patients have gone out well with a pulse at 120. One girl lived in a family where I was attending, and I had thus the advantage of watching her for some time. The symptom disappeared as she went on with her work.

CHART X.



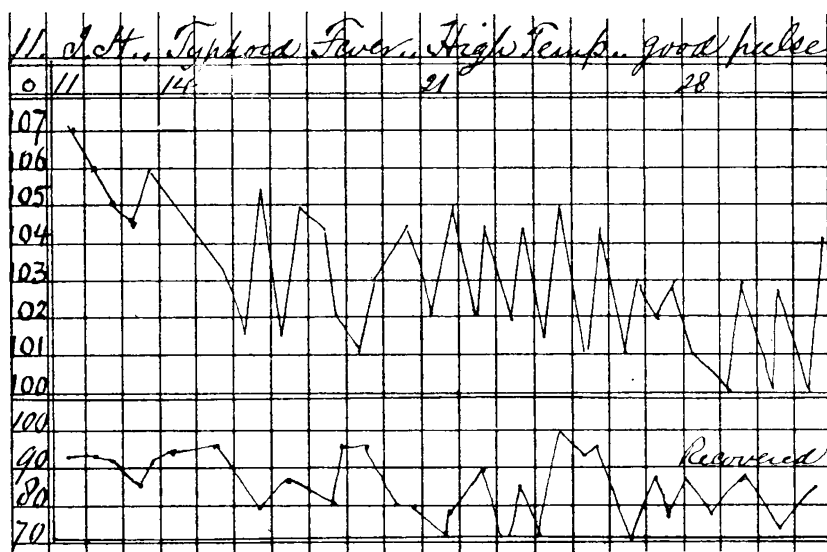
CASE X. Frank D. W., aged twenty-three. Typhoid fever; no known complication; fatal.

Headache, epistaxis, no cough, bad diarrhoea, much tympany and pain, delirium. Temperature 104.5° F. on seventh day. Seemed to be doing fairly well, although the fever was profound till the twenty-ninth day, when respiration became hurried, with tendency to cyanosis. Responded to treatment, temperature falling from 104.8° to 102° F., and pulse from 144 to 130, but collapsed on thirty-first day of the disease. No autopsy.

In these one hundred and fifty cases the treatment has not been the same, the use of stimulants being invariable in severe cases. In 1871, with its thirty-seven patients and eight deaths, hydrochloric acid was uniformly used, and to some extent in 1872, when cool sponging was employed, with two deaths out of twenty-five cases. In 1873, when there were no deaths in thirteen cases, no fixed line of treatment was

adopted, but sponge baths and stimuli in the worst cases. In 1874 the German plan of cold tub-baths was put in practice with some regularity, which, since the completion of the new wards in the last two years, has been perfected. In 1874 there were three deaths out of twenty-four cases; in 1875 four deaths in twenty-five; in 1876 one death in thirteen; in 1877 one death in fifteen. In these four years the mortality has been 11+ per cent. The two fatal cases in 1876 and 1877 were moribund when admitted, though one lived mysteriously several days longer than was supposed possible. In the years 1871, 1872, 1873, there were seventy-five cases and ten deaths, a percentage of 13½. Three at least of this ten could be fairly described as dying when they came in.

CHART XI.



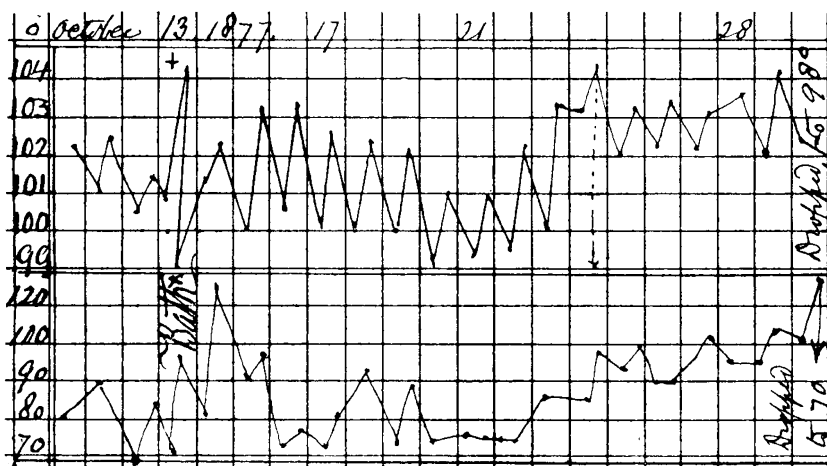
CASE XI. J. H. To show high temperature, with a range of pulse so low as to allay anxiety.

With regard to the use of *cathartics* it is noticeable that most patients who enter the hospital have been purged, very many in a drastic fashion, with no special untoward result. In the case of ward-master Ferris a drachm of castor-oil was given (by his own desire) for constipation, followed by three dejections. The next day he complained of soreness; pulse and temperature rose till the fatal issue in five days after. A grave prognosis from his occupation as ward-master, with his age of fifty, had been made. He never would have recovered, but it is wished that the oil had not been given.

The use of *stimulants* is regulated by the state of the pulse; if the beats are growing in rapidity and losing in strength, if they pass 110, 115, 120, a half ounce of spirits or a glass of champagne is given. If

there be from any cause doubt of the need of alcohol in a rising pulse, the dose is given with the finger on the wrist, and the influence of the drug on the circulation marked. If the pulse steadies or slows, the wine is repeated on its rising. In the case of Lizzie C. you will see that twenty-four ounces of brandy were swallowed daily for days together, during which time the face did not flush, the eyes were not suffused, the speech thickened, the tongue loaded, nor the mind clouded. Some fever patients cannot be made drunk by all the alcohol you can pour into them, while others do not bear champagne in small doses.

CHART XII.

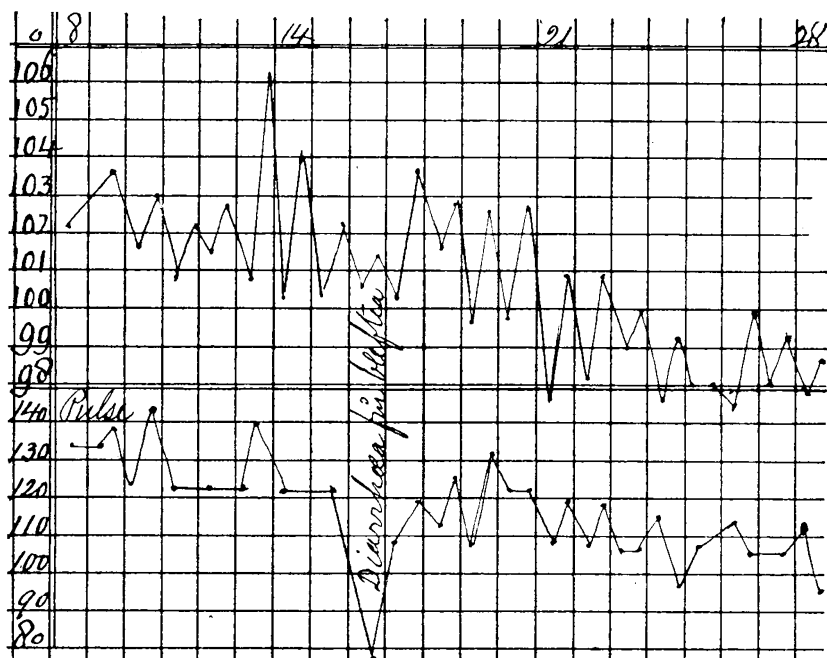


CASE XII. Joseph B., aged twenty-two. Typhoid fever, with alarming nervous symptoms, but good pulse. Admitted October 10, 1877. Unconscious, with no history—Eyes shut; if aroused, refuses food; inclined to indefinite self-accusation; abdomen flat, very tender, gurgling; rose spots. Twelfth day, active delirium. Twentieth, noises in head. Tub, twenty-fourth, reduced temperature from 104.6° to 99° F. Twenty-ninth, delirious; wants to rush about. Camphor one grain, opium half a grain, every four hours. Tub in evening. Looks ghastly. Thirty-first, no delirium. Amount of stimulus not recorded. Not till November 11th did he seem to "take notice."

I know very well that twelve ounces of spirits daily is said to be all that the worst case needs, but this limit is constantly and necessarily exceeded with favorable results. As the fever abates the amount is gradually lessened. The reason hard drinking like this does not make drunkards is that patients so ill as to need this heroic stimulation have their senses so much blunted as not to know whether they are drinking brandy or beef tea. When the need departs the natural indifference or distaste returns. A medical friend tells me that during his fever and convalescence he had a craving for alcohol that could hardly be satiated, and its use never affected his head. One day, on the return of health, he suddenly lost the desire, which never revisited him, except in a normal and decorous manner. Of course stimulus given when it is not needed has its usual effects. A girl was admitted one morning with

high fever and rose spots, whose aspect and history did not agree with the extreme temperature and pulse. She had been treated with stimululi from the onset of the fever. All wine having been withdrawn, the pulse and temperature dropped at once to a range indicating a mild though undoubted course of fever.

CHART XIII.



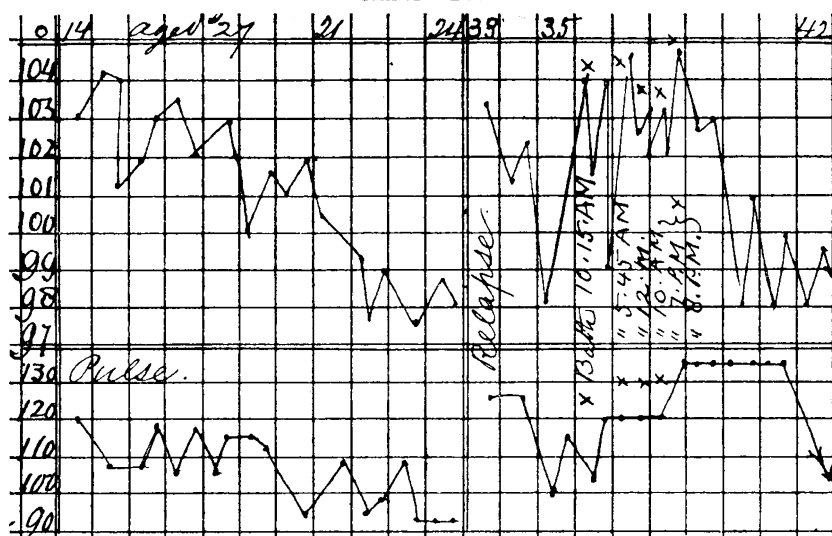
CASE XIII. Alexander M., aged twelve. Typhoid fever, with high delirium. Fought against baths, and was treated by stimulants, — brandy, twelve ounces daily. Recovered, with contraction of right knee and elbow. Beef tea, given on the fifteenth day, produced diarrhoea, which lowered the pulse from 120 to 76. Sixty-three days in hospital.

Quinine and salicylic acid have been used with good effect to lower the temperature and pulse, of which, as you see in the example of Lizzie C. (Chart II.), twenty grains of quinine or thirty grains of salicylic acid are given in two doses, the latter an hour before the usual time of rise of the thermometer and pulse. Either reduces the temperature two or three degrees and the pulse five or ten beats, subtracting so much from the waste going on. I say no more of these drugs, the action of which has been demonstrated, but pass to the experience with the baths.

The tubs in the new wards of the City Hospital are so arranged that a walk round each is afforded, and the labor of giving a bath greatly simplified. The patient's bed can be brought along-side the tub; he is lowered on the sheet into the water if he be feeble, with the minimum

of exertion. The orders are to give a bath when the temperature reaches 103° F. and the pulse is above 110, the water to be at 100° F., and lowered by a bit of hose on the cold-water tap to 80° or 70° F.; ice may be used to effect this. If he shivers, take him out and give him half an ounce of brandy; if he does not, keep him in ten to twenty minutes, when his temperature will have dropped two or three degrees, or will do so in an hour after, and the pulse lowered some ten or twenty beats. If the pulse does not come down, you may doubt if your baths are doing good; but if the patient enjoys them, as he often does, I have seen no harm follow. The febrile action will then begin to increase, and in two hours more another bath will be needed, and perhaps another. Some patients fight the baths so as to antagonize their benefit, when they are relinquished, and we have our alcohol to fall back on, with good results, as in the case of Alexander M., 1877. See Chart XIII.

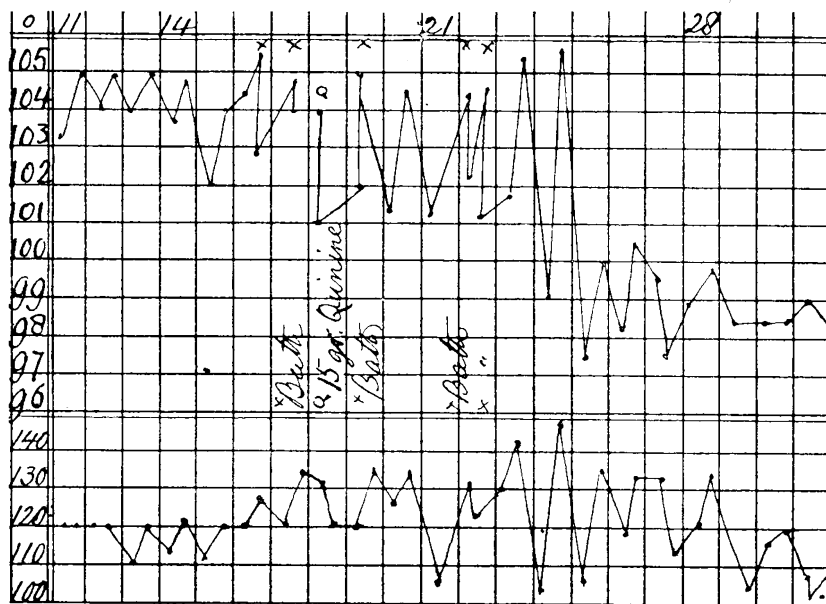
CHART XIV.



CASE XIV. Josie B., aged twenty-seven. Typhoid fever. Relapse. Baths. Recovery. Rachitic pains; rose spots; deaf; stupid. Sat up twenty-sixth day. Thirty-third, relapse, with diarrhoea; deafness. Thirty-seventh, lips parched; sordes. Brandy; tub-baths. Fortieth, defervescence.

I close by following the course of treatment after the admission of the patient, and getting his history, if it can be extracted from him or his friends. Perfect quiet is insisted on, and the least kneading of the abdomen, tapping at the chest, vexing with questions, changing of linen, and fussiness that human nature will permit. In private practice the hardest thing is to get your patient let alone. (I have seen a patient with pneumonia killed in private practice by an unnecessary shifting of bed and linen.) He is made to drink a cup of milk every two hours,

CHART XV.



CASE XV. Katy L., aged twenty. Typhoid fever; high temperatures and pulse. Baths. Recovery. For ten days rachitic pains; diarrhoea; vigilance; abdomen full and tender; rose spots; deaf, but mind clear; slight tympany; three to five dejections. Twenty-first day, delirium; tongue hard, dry, brown; respiration jerky, but pulse better. Marked fall of temperature and pulse after baths. Defervescence (eight degrees) on twenty-fifth day.

if he knows enough to do it; if he does not, it is administered like medicine. And it may be here noticed how the attendants of patients outside the hospital will faithfully exhibit drugs, and how carefully we have to impress upon their minds the superior claims of food. A gmu of milk, which is generally drunk more readily if iced, stands by the bed, and thirst commonly induces the use of three or more pints daily. The girl who took twenty-four ounces of brandy a day also contrived to absorb eighteen pints of milk in the same time. Some patients, mostly private patients, are averse to milk, which is made more palatable by the addition of Apollinaris or other gaseous waters. Others will take a gallon a day, and leave the hospital avowing that they have had nothing to "ate" for three weeks. If our patient's pulse keeps below 110 or 115, nothing more may be needed; and a proportion of patients, whose exact number I have neglected to fix, have no other treatment. Besides the fact that beef tea is so often ill made, — and the philosophers now declare that there is "nothing in it," — it does often create diarrhoea, as seen in the chart of Alexander M. (Chart XIII.), where the flux brought the pulse down from 120 to 76, increasing the prostration.

Diarrhoea requires first the bed-pan. It may seem trivial to mention this, but if one takes it for granted that the patient outside a hospital is using one, he may find that a dangerous waste of tissue and strength is going on from the patient's rising to use the vessel. The symptom should be controlled if it amounts to more than three operations daily — which is all I wish the patient to have — by the use of Harley's pill of one grain of opium and a quarter of a grain of sulphate of copper every second operation.

CASE XVI. Abby G., aged thirty-two. Typhoid fever, with very low range and marked symptoms. Bed ten days before admission. Rose spots; sordes; tympany; tenderness of abdomen.

If the patient sleeps fairly, a mild delirium requires no treatment; if any is necessary, Graves's pill of opium and camphor is often serviceable; his prescription of opium and antimony for furious delirium I have used, but think baths and stimulus answer better. With delirium comes vigilance, which may be palliated by a sponge bath or a glass of wine, a Dover's powder if the skin is very dry, ten or fifteen grains of chloral, or forty grains of bromide of potassium. Fierce delirium sometimes requires restraint, and if baths and alcohol be not required by other symptoms, then fifteen grains of chloral, with thirty or more of bromide of potassium, repeated every two hours, are frequently of use. I have had to attack intolerable headache simulating meningitis with a subcutaneous injection of one third of a grain of morphia.

Temperature and pulse ascending, the baths, stimulus, salicylic acid, or quinine come into play, according to circumstances and the physicians' judgment.

Meteorism is exceedingly troublesome at times, for which I have used turpentine by the mouth and by rectum, with less satisfaction than authorities promise; its application as a stupe is quite as useful; its great advantage at the time when the tongue cleans in flakes I have not observed, because I have thought other stimulus more palatable and efficient. A typhoid patient requiring aspiration of abdominal gas is ordinarily too far gone, I suspect, for a favorable result, but the operation may afford comfort. If cough is annoying, and does not proceed from serious trouble in the lung, the cough mixture known as Dr. Bowditch's relieves it. For epistaxis in fever, I have had to plug the nares from behind twice in consultation, but not in hospital. As the patient convalesces he is allowed light puddings, next soup and bread, when he begins to tease for food. If the temperature has dropped to normal

CHART XVI.

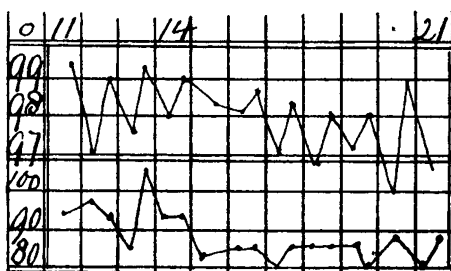
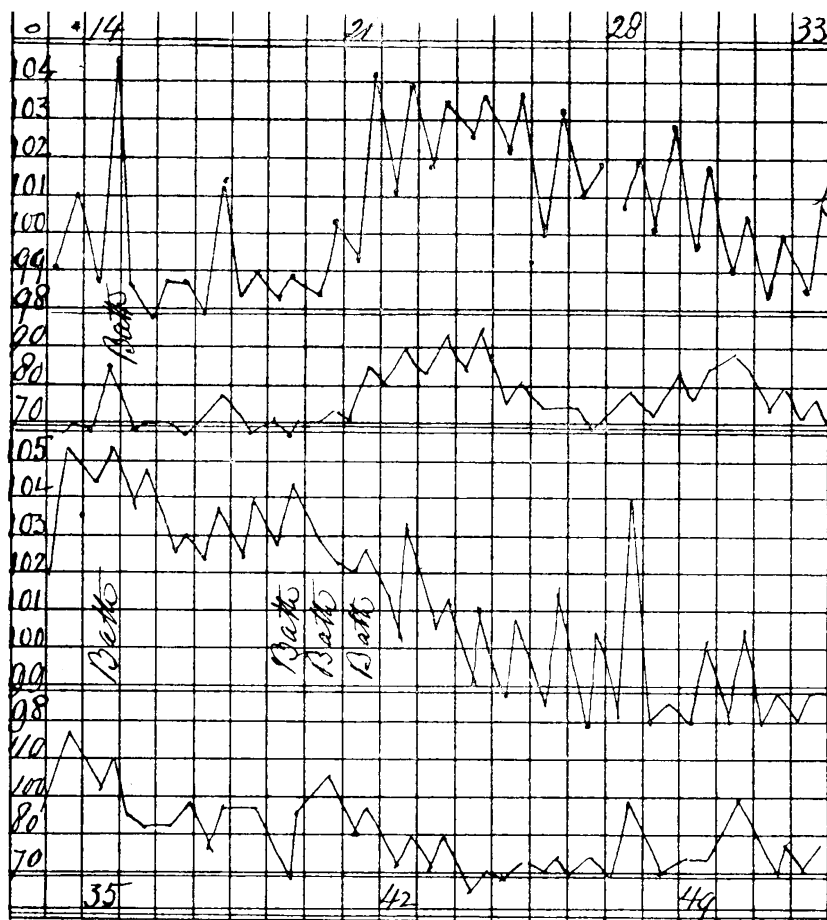


CHART XVII.



CASE XVII. John G. Typhoid fever, phlebitis of left leg. Did well till thirty-fourth day. Rose spots and blue maculae. No diarrhoea. From twenty-first to twenty-fifth day high morning temperature, but good pulse; normal on thirty-first evening. On thirty-fourth both rose high, with symptoms of phlebitis. Two or three other cases in the one hundred and fifty; all did well.¹ MacLagan once in two hundred cases. In hospital sixty-two days.

for two days, with clean tongue and flat belly, and the pulse keeps up, it is the pulse of weakness, and calls for solid food and wine. A bit of steak given too early, sitting up too soon or a few minutes too long, may send temperature and pulse flying upwards, and to make haste slowly is the best policy. Aitken says in the largest capitals that a soldier is not fit for duty under four months after an attack of typhoid fever. Few of our cases have as much law given them as that, and one of the most trying duties is that of discharging patients who are

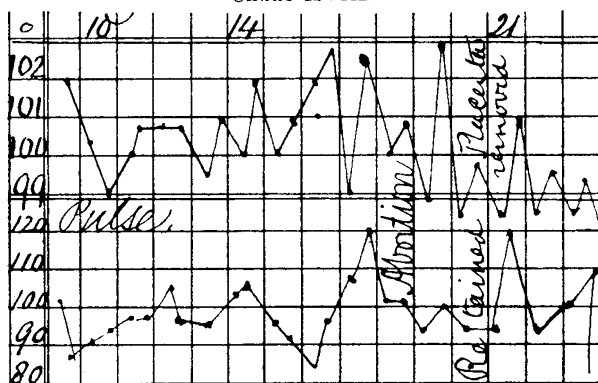
¹ See Murchison, Continued Fevers, page 195.

well, but not strong enough to go to work. Some women are taken care of by St. Luke's Home for Convalescents, which we wish was able to double its capacity, and receive men as well as women.

CASE XVIII. Nelly P. Typhoid fever. Abortion, seventeenth day. Recovery. Began with general pains. Second day, vomiting and diarrhœa. Catamenia absent three

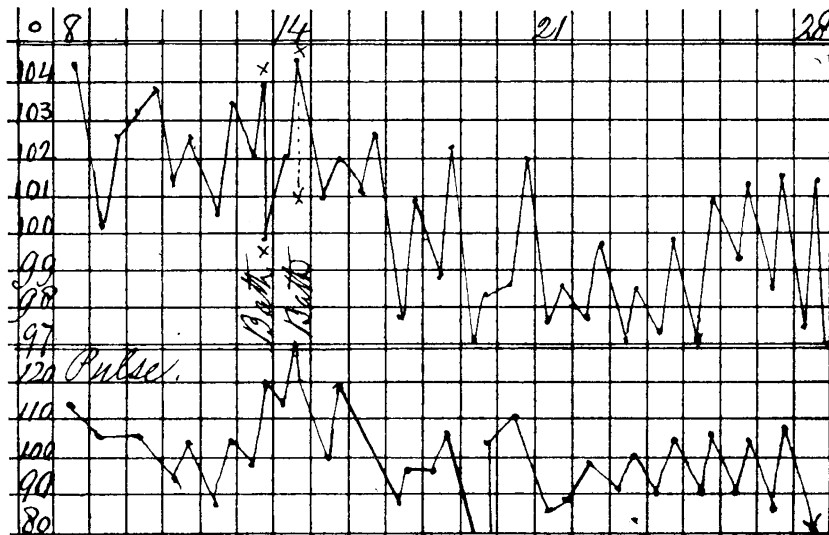
months. "Is not pregnant," but had vomiting six weeks after menses stopped; breasts point to pregnancy. Thirteenth, tongue cleaning in flakes. Sixteenth, rose spots. Seventeenth, chill. "Turns have appeared." Uterus enlarged; os patulous. Eighteenth, waters broke at three p. m.; patient surprised by finding a fetus in bed. Placenta retained without hemorrhage; re-

CHART XVIII.



moved on the twentieth. Fever gone on the twenty-fifth. Similar case in private practice did as well.

CHART XIX.



CASE XIX. John M., aged twenty-two. Typhoid fever. Baths. Recovery. Delirious; rose spots. Tenth day, walks at night and defecates on floor. Twelfth, teaming all night. Thirteenth, tub at eight p. m. reduces temperature from 104° to 100° F. Fourteenth, pulse dicrotic. Brandy, half an ounce every two hours. Tub at six reduces temperature from 104.8° to 102.5° F., and pulse from 130 to 120. Fifteenth, delirious; tries to get out of bed. Eighteenth, mind clearing, and clamors for a good dinner; free sweating.