I think in the future we shall hear much less of these cases of retained tubes, because we have learned how to use antitoxin. I never give a laryngeal case a smaller dose than 3,000 units. The last case I had was one in which I was called late in the attack, and the child had been treated for five days for ordinary croup. Suddenly laryngeal obstruction developed, and I was hurriedly called. I gave the child 1/50 of a grain of strychnin and 1/100 of a grain of digitalin hypodermically before daring to insert the tube. As soon as the tube had been introduced I gave it 3,000 units of antitoxin, and in the course of the next sixteen hours, 6,000 additional units.

The intubation tube was removed on the fourth day, and a re-introduction was not required. The fourth day is the time, in my opinion, to remove the intubation. I fully agree that tracheotomy has no place alongside of intubation. In my own case of retained tube I believe the cause was an abductor paralysis, for I was unable to find any lesion on careful examination; there was only obstruction to inspiration.

DR. EVERETT J. BROWN, Decatur, Ill.—The first case of intubation which I did was in a patient six miles from town, a boy of 7 years, who had been given up by two other physicians. I inserted the tube, giving complete relief. The tube was left in until the sixth day, and the child recovered without any return of the dyspnea. I noticed in a Vienna clinic that they took out and inserted the tube daily, but I was uncertain whether this was considered desirable for purposes of cleanliness or for purposes of clinical instruction. Recently I was called to do an intubation on a child of 5 years who was nearly comatose. I failed to introduce the tube after three attempts. On the fourth attempt the tube was coughed up after a few minutes, and with it a thick membranous cast, which extended down even to the finer ramifications of the bronchi. I had a photograph taken of it, which will soon be published. In this case the obstruction was as much in the bronchi as in the trachea. The child was at once relieved after coughing up this cast, but it died of toxemia, and not of dyspnea, about twelve hours later.

DR. B. R. SHURLY, Detroit—I wish to emphasize the method of applying alum and vaselin to the tubes. So far as I have been able to ascertain, this method is comparatively unknown to those who practice intubation. When there is difficulty in extracting the tubes this method is of the greatest value. It has been used in Italy in one or two cases, and Dr. Louis Fischer has also tried it. This suggestion was thrown out in the last paper written by the lamented Dr. Joseph O'Dwyer. I simply advocate leaving the string in those cases in which the membrane is below the tube, or in those cases in private practice when it is impossible to reach the child quickly in an emergency. I think the frequent intubations and extubations referred to as occurring in Vienna hospitals were entirely unnecessary, and they appeared to me to be done largely for purposes of clinical demonstration.

CONTINUED FEVER—NEITHER MALARIAL NOR TYPHOID.*

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It may seem that the subject of continued fever is becoming too common in our meetings to merit any further time or discussion, but, so long as we are met with the *ipse dixit* of some bookmaker, that there are but two types of continued fevers, and that all such fevers must be classed with one or the other, in fact must be either malarial or typhoid, then those of us who do not accept any such dogmatic statements as necessarily true, have a right to give our reasons for our dissent. Our medical brethren in the north, as a rule, contend that every continued fever is either typhoid or malarial, while in the south many of us are

sure that we have a third fever, which merits a careful study, the mortality of which is so slight that opportunities for postmortem study have been almost *nil*.

The blood and secretions have been examined microscopically and chemically so far with negative results. A sufficient number of examinations have been made of the blood to show that it does not respond to Widal's test, nor does it show the presence of the *Plasmodium malariae*. In none of these cases has the estivo-autumnal parasite or the *Bacillus typhosus* been discovered, yet we are told by the bookmakers that the technic was faulty; that the examinations were improperly made. While not prepared and not competent to make any of these examinations, or to apply properly any of the tests in these cases, I have too much confidence in the ability and honesty of the laboratory workers who have made these reports to doubt their correctness. (Just at this point I would offer this suggestion, that no specimen sent to a microscopist or chemist should be accompanied by any clinical history of the case, to avoid the warping of the judgment of the examiner. He should be requested to examine the specimens sent for the evidences of malarial or typhoid fevers, and to report the result of his examination.) We can more often find what we look for than the unknown or unexpected; hence, I say that the clinical history of the case should be withheld.

The teaching of the present day, as pointed out by the learned Dr. Jacobi in an address at Saratoga before one of the Sections of the American Medical Association, in which he spoke with no uncertain sound, does not develop the skilled clinician. The bedside study of diseases has been relegated to the background and the student is impressed with the idea that the microscope will tell him positively all about his case. In many of our diseases the microscope is as yet powerless. One laboratory worker reports and describes a specific germ for a disease, and another soon after reports one entirely different.

In this fever to which I invite your attention the microscope fails to show the *Bacillus typhosus* or the *Plasmodium malariae*. Reference was made in a former paper to the fact that a number of skilled laboratory workers had investigated the secretions and blood, both microscopically and chemically; by one in more than one hundred cases, and by another in thirty-eight cases, with the same result in each, both asserting positively the absence of anything distinctive of either typhoid or malarial fevers. In numerous other instances the same results have been obtained by others. Yet we are told that Dock of Ann Arbor has proven conclusively that the cases of so-called continued malarial fever in Texas were cases of true typhoid fever, and Dr. Osler asserts that he feels sure that all the continued fevers except those of thermic origin will yet be divided into but two classes, malarial and typhoid, which position is equivalent to asserting that our microscopists who have reported otherwise were not qualified to properly investigate the etiology of these fevers and that our chemists had not skill enough to apply the tests necessary in that part of the laboratory work. His argument is along this line:

Typhoid fever in Baltimore and Philadelphia, where malaria exists, is not essentially different from the same fever in Montreal where no malaria is found; hence the other continued fevers in the south where malaria exists and where typhoid fever is rarely found must be true malarial fever.

This can not be said to be a first-class argument. A fever that is totally distinct in every respect from the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

malarial or typhoid fevers except one, viz., duration, can not of necessity be one of the two types. Not many years ago we recognized only two types of the eruptive fevers: measles and scarlet fever; yet recently measles has been divided into rubeola and rtheln, and roseola is certainly distinct from either, and within the last two years an effort is being made to divide scarlatina, as it had been known, into two distinct diseases, each having its own *causa causus*.

Our boards of health have not yet accepted the doctrine of a disease resembling variola, pseudo-smallpox, having the same relation to variola that rtheln does to rubeola, and the new differential of scarlet fever does to true scarlatina. This effort on the part of those standing high in the councils of medicine to decry anything new not originating with themselves does not tend to encourage individual research. The impetus to medical and surgical investigation along many lines has often been given by the country practitioner or surgeon, as evidenced in the cases of Marion Sims of Alabama and McDowell of Kentucky.

I lay no claims to the discovery of a new fever, but I do take the position that we have here in the south a continued fever that is neither typhoid nor malarial.

In a former paper, I referred to a number of such cases treated by me in the last ten years, and since that paper was written a number of others have been under my care, and very favorable opportunities have been seized on to study these cases at the bedside. The conclusions have not been verified by any autopsies as all of them have recovered. Since July, 1902, I have treated six cases (a total of about one hundred cases), lasting three weeks in the shortest to five in the longest. In each one of these cases the diagnostic points were strongly in evidence. The first case was ushered in by a cold stage, not the chill of malarial fever, but rather the algid stage of la grippe followed by a slight rise of fever, and on the following day at about the same hour more rigors with intense headache and a temperature of 104. The parents, supposing they had an intermittent fever with which to deal, had given calomel, followed by quinin in full doses until the daughter was cinchonized, as evidenced by deafness, etc. When called on the fourth day, I found a normal pulse, profuse perspiration and, while the parents thought her free from fever, a temperature of above 104, no vomiting, no special complaint except headache. Concluding that I had a malarial attack to deal with, I increased the number and size of the doses of quinin sulphate so as to give between 25 and 30 grains before the time for the next paroxysm on the following day, with directions to continue until my return in 48 hours. My next visit showed no effect from the quinin except to increase the deafness and to disorder the stomach and destroy the appetite. I found pulse 78, temperature 104, tympany, no engorgement of the liver or spleen, no broad flabby tongue, no jaundice, no special complaint about anything except headache. I abandoned the further use of quinin, and prescribed salicylate of soda and carb. guaiacol as follows:

R. Sod. salicylat. 3iii
Guaiacol carb. gr. i
Milk of magnesia 3ii

M. et ft. Mist. S. shake well. Teaspoonful every four hours.

A mixture of aconite and gelsemium was prepared to aid in reducing temperature, and for the same purpose frequent sponging with tepid water was directed. On my next visit there had been two cold stages in each 24 hours, but the temperature had not risen above 103.

The treatment as outlined above included free and frequent spongings with tepid or cold water, as preferred by the patient, and when the temperature resisted the measures and persisted in remaining up to 103 degrees 5 grains of acetanilid to reduce, but not to be used if it could be avoided. Only 9 grains of quinin sulphate each day were given until the case fully recovered, which required four weeks from date of going to bed. In this case there were two well-marked rises of temperature in each 24 hours. There was no anorexia, and no single point of resemblance in the case to typhoid fever.

In one of my other cases the attack was ushered in, or, rather, preceded by an attack of irritation of the alimentary canal, amounting to almost a case of enteritis, caused by the immoderate and excessive drinking of ice-cold lemonade at a Sunday-school picnic. For several days all symptoms were masked by the frequent small, griping, mucous discharges from the bowels, excessive thirst, tympanitic distension, and an inability to retain anything taken per os. As the symptoms subsided, leaving the whole abdomen tender, the tongue, which had been red and small and long, returned to its normal state, the thirst became less, and the rises in temperature, in spite of all that could be done, were three in 24 hours. Quinin per rectum after a failure to prevent these exacerbations per os had no effect on the fever. In this case I was content to use one form of quinin alone, the sulphate, but resorted to the bi-sulphate, and later to guaiacum. At the end of ten days, no impression having been made on the course of the disease by the antimalarial remedies used, they were abandoned, and the guaiacol-carbonate and soda salicylate of the first case substituted. Under this course the patient was carried through a sickness lasting five weeks, to be followed in two weeks by a relapse from imprudent eating. This lasted two weeks.

The third case lasted four weeks, receiving thorough antimalarial treatment for one week, which was abandoned as useless, and the medicines referred to in Cases 1 and 2 substituted, supplemented later on by a mixture of tr. iodin and Fowler's solution every four hours. The temperature chart showed four rises of temperature in each 24 hours, and later on three, then two, and then one. In this case, from the effect of quinin used during the first week, the digestive organs were weakened so that only malted milk could be retained for a few days, though a desire for food was ever present, and the patient, a female, aged 10 or 12 years, never failed to report herself feeling better, and when the temperature would rise to 103 or 104, the pulse rate was never higher than 90. There was never a dry, hard skin, never bilious vomiting, never nausea except that which resulted from the use of the quinin the first week. She was always ready to eat, but never thirsty. All the secretions were normal, the bowels generally acting once every 24 hours. At one time she was allowed by the mother to eat sardines, with no unpleasant sequelae. At the end of the fourth week the fever ceased, terminating, as shown by the chart, by lysis. In this case there were no profuse sweats as there were in the first and second cases.

Case 4 was a boy, aged 8 years, just on the opposite side of the street from Case 3. It was very mild, showing only two rises of temperature in 24 hours. The patient was saturated to deafness with quinin, which was then laid aside except 6 grains per day, and the guaiacol-carbonate and soda mixture alternated with the iodin and Fowler's solution used throughout.

case. On the twenty-first day the fever terminated by lysis. This patient was hungry from the time he was put to bed until he was dismissed. At no time was there any derangement of any of his secretions. With his light diet he became constipated and was given cascara two or three times each week. During the second week he was given four doses of calomel, gr. 1/10.

Case 5 was a repetition in every respect of Case 4. These cases are added to a long list of similar cases already treated by me, with only one death, due to congestion resulting from a disobedience of directions. While a few of the cases have lasted six weeks the rule is recovery in from three to four weeks. We do not expect, except in very young children, recovery before the end of the third week, and my invariable answer to questions of the probable duration of the disease and the prognosis is that they will recover, but not before the expiration of 21 days from the date of going to bed.

In my last case treated (November), the temperature, after dropping the quinin, slowly but steadily decreased each day, until on the eleventh day from going to bed it dropped to normal and did not rise above 100. This case appeared to be a duplicate of Case 5. But the slight rises of temperature alone and the little difference between the daily maximum and minimum point is no indication of the duration of the attack, several of such cases having lasted from four to six weeks, and in one case especially referred to in one of my former papers on this fever, after continuing for three weeks with a maximum temperature of 101 to 102, during the fourth and fifth weeks there were daily ranges from normal to 104 and over. These cases are the ones we expect to terminate by crisis with profuse sweats.

The cases of this season have demonstrated the fact most conclusively that quinin will not cure this type of fever. I have used it in varying doses per os and per rectum. In none of these cases was the use of it discontinued until decided deafness was produced, no attention being paid to any of the other symptoms of cinchonism. I have not used any of the quinin salts in from 20 to 40 gr. doses, never do, but have repeated in from 3 to 10 gr. doses until the effect was self-evident, and then have maintained this effect for from three days to a week and in some cases to ten days.

Reference has already been made to the use of microscope and chemical investigations in these cases, hence I will devote no further time to this branch of the subject, not being able to speak *ex cathedra* myself in the matter. I desire, however, to emphasize the point of difference from a clinical standpoint, and permit me to add that where the bedside study of a case teaches plainly one thing and the work of the laboratory another, I, for one, would strongly incline to the teachings of the sick chamber. It has been demonstrated time and again that the laboratory worker has agreed with the clinician in this fever, and yet the question of competency has been raised; while no question is raised in the case of other workers in the laboratory when they have discovered, or thought they have found the micro-organism for which they were looking. These cases have not, then, been ushered in, as a rule, abruptly by a chill, but have had usually for a few days or a week prodromes of malaise, then rigors, sometimes a slight chill, followed by a slight rise in temperature, which does not generally attain its maximum for from three days to a week. While this fever presents marked remissions, for the first week the remissions are not so decided in the second week, but are more so in the last week, amounting to intermissions with profuse sweatings. The

chills, or cold stages, are accompanied by aching of sometimes one set of muscles and sometimes in all, resembling in that respect la grippe. After a day or two all pain ceases, and the patient complains of nothing. The remissions in this type of fever vary from one to four in 24 hours, and maybe made more marked by sponging with tepid water in all cases by aconite and gelsemium in a few and by the coal-tar derivations in almost all of them. As a rule, sponging produces a condition of euphony and the patient never objects to its use.

There is no nausea and vomiting; never bilious vomiting, no jaundice, no clay-colored stools, no diarrhea, and, if any departure from the normal in this respect, constipation; no tympanites, unless it be due to some imprudence in eating; no tenderness over the abdomen; no rose-colored spots; no marked enlargement of the spleen or liver, unless there has been a history of malaria preceding; no anorexia, but, on the contrary, in many cases a desire for food all through the sickness; no broad, dry, flabby tongue, with its yellow pasty coating, but, as a rule, a tongue nearly normal in every respect, and when coated it is thin, of a light color. We have, in none of these cases, the pointed, narrow, dry, fissured tongue, with its red edges and dry, coated, and frequently cracked center. The tongue never bleeds, in fact the rule is all typhoid and malarial appearances are absent from the buccal cavities and the rest of the alimentary canal. The digestion is rarely impaired for food suitable for the sick, though I have noted abdominal distension when solid foods have been administered or allowed. There is no mental hebetude; in fact, generally the brain is not affected at all and ordinary business matters could be attended to by many of these patients with their usual business acumen. We never have any low muttering delirium as in typhoid fever, nor the active symptoms of malarial fever. The facies of the patient is normal, though he may be thin from loss of flesh attendant on the long drawn out fever. The muscular strength is not impaired as in typhoid fever, but its loss is in proportion to the length of the attack and height of temperature. In one patient sick six weeks, with a temperature reaching 105 daily for nearly two weeks, the loss of weight was slight, but the muscular tone was much impaired but was rapidly regained.

That these cases are properly toxenteric, as claimed by Dr. J. A. Witherspoon of Nashville, is evidenced by the fact that when relapses have occurred, in my practice they could be traced to imprudent eating. In no case of the many treated have I ever seen any tendency to epistaxis, though in some persons who were predisposed to tamper with their nasal organs, a few traces of blood have been noted in the secretions blown from the nose. The kidneys have acted, as a rule, normally, the quantity of urine being diminished where the skin has acted too freely. We have no dry harsh skin in this fever as in typhoid fever, nor is sweating any evidence as in malarial fever of a decrease in temperature, the skin in this fever being frequently bathed in perspiration when the temperature is at its maximum.

One of the most marked peculiarities of this fever is the disposition between the pulse rate and the temperature. The ratio is frequently inverse, the pulse beating at from normal to 90, with a temperature of 103 to 105 or even higher, and the same may be said to be true in regard to the temperature of any exposed portion of the surface of the body. The hand applied to the pulse and then to the forehead would lead anyone not

using a thermometer to say that there was a perfect freedom from fever. This condition of things has been reported to me time and again, and yet when the thermometer was used in the mouth or axilla a high temperature was clearly shown. The hand applied over the bowels or to the back under the clothes and cover frequently shows fever. In these cases, no proper nursing can be done without the use of the thermometer every two hours, and a record is required to be kept in every case, with, however, a verbal direction not to disturb the patient when soundly sleeping. I might refer to the fact that it has been my experience that the nearer a direct proportion between pulse and temperature, the more confidently is a termination by lysis to be expected at the expiration of 21 days, and vice versa. In those cases of indirect ratios the termination is more likely to be by crisis and profuse sweating. In this class of cases, when the fever begins to intermit, strychnin is demanded. I might consume time indefinitely on the subject, but my time is up.

TREATMENT.

As to treatment, a few words. As soon as satisfied that the cases are not malarial, which should be determined in four days, quinin should be abandoned or used as a tonic in 3 gr. doses. I have obtained my best results by alternating the following prescriptions for an adult:

R. Guaiacol carb. 3ii
Sod. salicyl. 3vi
Bismuth. lact. 3iv

M. Sig.: Take one teaspoonful every four hours.

R. Tr. iodin. 3ss
Liq. potas. arsenit. 3i
Aqua. 3iv

M. Sig.: Shake. Teaspoonful every four hours. Alternate with the first mixture.

All symptoms are met as they arise, but unless some idiosyncrasy is manifested by the patient and the temperature runs high, these two prescriptions are kept up regularly night and day, but where the grade of fever is low they are usually omitted at bed time, say 10 p. m. I have used many intestinal antiseptics in treating this fever, but have had the best results this year from the above course.

The temperature is reduced by the free use of tepid or cold water, allowing the patient to choose.

The diet is liquid or semisolid, buttermilk being preferred to anything else when the patient can use it.

SOUTHERN FEVERS.*

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In assigning this subject to me, our secretary said he wanted to show that some missionary work on the subject of fevers in the Mississippi Valley was being done, despite the controversies one sees about slow, continued, typho-malarial, and other fevers. With this idea of the scope of the paper, fevers of sepsis, tuberculosis, rheumatism, syphilis, etc., have not been given a place.

The cases presented are to be looked on as types of a number of cases seen by the author, and are believed to serve the purpose better than an elaborate discussion for which we have no time. None of the histories are complete, but enough is offered to make the point intended.

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1. ACUTE ESTIVAL FEVERS; 2. CASES WITH AUTOPSY.

CASE 1.—W. B., male, white, aged 54, was brought to Joseph's Hospital in July, 1900, in an unconscious condition. From others it was learned that he was a passenger on a boat coming to Memphis, and was suddenly taken with what was described as "congestion"—a term very much in vogue to denominate sudden fevers usually terminating in death. Temperature on admission two hours later was 108 F. Notes of the attending physician state that ice baths, cutaneous injections of antipyrin and quinin had failed to bring about a change, and he died in six hours without regaining consciousness.

A blood examination had not been ordered, but antemortem diagnosis read "pernicious malarial fever." The following from the necropsy report is of interest.

Autopsy five hours after death; rigor mortis; body very plethoric man; capillary stasis; ecchymosis; internal organs over calvarium bleeds freely; excessive hyperemia of cephalon; blood smears taken. Abdominal viscera pale; marked changes; pleurae free, lungs hyperemic; heart firm, right ventricle full of dark fluid blood; smears of this also; no plasmodia in either. Postmortem diagnosis: sunstroke.

CASE 2.—Colored man, aged about 45; arrived at city hospital comatose in August, 1900. Attendant's notes show rectal temperature of 107 F. on admission; plasmodia in blood. Was packed in ice, quinin and saline infusion given cutaneously; slight reaction; death next morning.

Chart 1, case 3.

Autopsy: Marked hyperemia of all the organs; heart contains thrombi which are nearly white.

The tissues and blood were taken to author for microscopic examination.

Smears from lungs and brain contained estivo-autumnal parasites, no crescents; splenic blood not fit for examination. Microscopic sections showed marked pigmentation in spleen, kidneys and lungs. Pigment is siderin, not melanin. Very marked fibrous endarteritis, especially of the coronary arteries, doubtless syphilitic. Tissues had been in formalin very long and efforts to stain parasites in the sections proved unsuccessful.

These two cases are reported as different cases of estival fevers with very similar symptoms. If the attendant of the first case had made a blood examination he would not have fallen into the error of giving quinin to a patient with sunstroke—it was a serious mistake.

II. CONTINUED ESTIVAL FEVERS WITH DIARRHEA, 2 CASES WITH ONE AUTOPSY.

CASE 3.—J. M., aged 26. Admitted to St. Joseph's Hospital Sept. 28, 1899. Had been sick at Little Rock, with dysentery for a week; had had vomiting and daily diarrhea. On admission showed abdominal tenderness, slight tympany, gurgling in right iliac fossa; spleen enlarged and tender; tongue dry, red and hard, with fissures; low delirium at times. The accompanying temperature chart completed history, but the record for the first five days is not correct.