fed or by breast, and especially on severity of attack. Of the twenty-six cases which I reported seventeen died, or about 65 per cent. The duration is generally from twenty-four to forty-eight hours. As to diagnosis there can be no doubt. There is no disease which presents this marked group of symptoms in the brief time that this does; other diarrheal affections which simulate this run a much longer course; Asiatic cholera is differentiated by its longer course and presence of comma bacillus.

Treatment.—If possible, a child not breast-fed should be taken to the country during the summer months, or daily to the parks which are to be found in every city of any pretensions. The room should be large, well aired, of an even temperature, in which the child is kept; no foul-smelling articles of any description should be left near the child, all vomit and discharges destroyed, preferably by burning. The diet should be carefully chosen and carefully given, a suitable amount at regular intervals; above all, avoid overfeeding and restrict to a milk diet, previously boiled if possible; in those in which milk disagrees, barley is an excellent substitute, boiled, strained, and with a pinch of salt added, but as little food as possible should be given during the acme of the disease. Any derangement of stomach or bowels, however slight, should be promptly and vigorously treated, bearing in mind that in the generality of cases gastro-intestinal choleriform catarrh follows a milder form of diarrhea. In children nursed at breast the mother must be forbidden to nurse the child within three or four hours after coition, as colostrum is likely to excite a diarrhea.

From violence of symptoms, rapidity of course and unfavorable prognosis, the indication is decided treatment from the onset; the child should be seen every hour, or better, if possible, for the physician to remain at its bedside during the height of the disease, or for as long a time as his other duties will permit; often immediate attention turns the tide to a favorable course and he may be able to save the little sufferer; it is my custom, whenever applicable, to remain with the patient the entire night and as much of the day as time will allow. For the vomiting paregoric, creosote, iced champagne or brandy by mouth, or if vomited, by rectum; if this is unsuccessful a hypodermic of morphin may be tried—but is contraindicated after the symptoms of collapse begin. In addition to vomiting opium is good for the diarrhea, restlessness, pain and tenesmus, but should be stopped if drowsiness comes on. For the diarrhea, bismuth has given by far the best results; it is an antiseptic and an astringent—two qualities which serve our need especially; opium by lessening peristalsis; lime-water or some other alkaline to neutralize the acidity; pepsin to aid digestion and prevent decomposition of food and formation of gases and acids.

The only method I ever adopt of reducing temperature is by cold baths or applications—place child in a bath a few degrees below that of the temperature of the body, and then by addition of ice the water is cooled a few degrees, being satisfied with moderate improvement in this regard. This is the best and safest plan; fever is reduced thus only a short time, and the baths should be repeated as often as indicated by a hyperpyrexia.

For the pain and tenesmus the application of counter-irritation is valuable, as it lessens amount of medicine necessary to be given internally; a piece of flannel folded four times and large enough to cover abdomen

is dipped in hot sweet oil or lard, to which about a half a teaspoonful of turpentine has been added, and applied, covered with oiled silk and a cloth, is an excellent method. A remedy which has proved of great value to me in these cases is creosote, it is carminative, antiseptic, astringent, is sedative to mucous membrane of the stomach (acting on terminal nerve filaments probably), indications which it is necessary to meet; I give it in one drop doses every two hours combined with bismuth, pepsin and paregoric. For nervous irritation or cerebral congestion bromid of potassium is good, but must be used cautiously lest it excite more violent vomiting, it being decidedly irritant in some cases. For threatened collapse nothing equals whisky or brandy, ten to twenty drops per hour; in addition to this hot baths with addition of mustard, injections of camphor and atropia, the latter especially if the collapse is threatened from the heart.

It is best to give whisky or brandy throughout the disease frequently; if not tolerated by stomach give by hypodermic method; I have used alkaline solutions and, I believe, with benefit, hypodermatically, a 1 per cent. solution; or per rectum, 3 or 4 per cent. solution. We can not be too careful during convalescence. A slow, gradual increase in the amount of food, given either predigested; or better, with a digestant and an antiseptic. The following formula has been of the greatest benefit during the acute stage of this trouble, before stupor comes on or collapse is threatened:

R	Creasoti	m xii	1070
	Tr. opii camph	℥ ss	1550
	Bismuthi subnit.	℥ iii	1166
	Pepsini scalæ	℥ i	388
	Syr. Aurantii cort.	℥ ss	1550
	Aquæ menth. pip., qs., ad.	℥ iii	9330

Mix. Sig. Teaspoonful every two hours to a child one year of age, vary with age and severity of symptoms.

In conclusion, I wish to emphasize several points: Move child to country during warm months whenever possible, especially if under three years of age. Do not think it necessary that food be given during height of disease; it is better to give no nourishment for twenty-four hours than to risk aggravating symptoms. Be in almost constant attendance on patient. Give stimulants from the beginning, but no opium if least sign of stupor present, especially not hypodermatically. The strictest hygiene must be observed.

IS THE USE OF THE TERM "TYPHOID PNEUMONIA" JUSTIFIABLE? A CASE IN POINT.

Presented to the Section on Diseases of Children, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY H. D. TULEY, M.D.

LOUISVILLE, KY.

The title of this paper was suggested by the following case, the postmortem findings of which made the original diagnosis recorded incorrect:

The child was a robust girl, 13 years of age; seen first on Jan. 30, 1898, she having had a chill on the two previous days, with a maximum temperature on the first day of 101½ degrees and on the second day 103½. From this time to the eleventh day, all of the symptoms were those of typhoid fever, and the diagnosis was so recorded. There had been a general malaise for several days before the first chill; the headache was quite severe, gradually improving as the second week approached; the tongue was heavily coated a brownish yellow, with red edges and tip, but was moist; slight abdominal tenderness at first low down and a little to the left of the median line, right sided tenderness with gurgling soon developing; dry skin; epistaxis; cough quite severe and annoying at times; moderate

temperature, from 101 to 102, pulse 120 to 125; rose-colored spots appeared about ninth day, typic diarrhea during second week.

On the tenth day the temperature rose one degree, the pulse to 140 and the respiration to 50, but the chest still negative. Frequent examinations carefully made had up to this time failed to reveal anything abnormal. On the twelfth day signs of consolidation were found in the right base near the angle of the scapula, this gradually extending until the most of both lungs were involved. Despite free stimulation, administration of strychnia and nitroglycerin, and free administration of oxygen, her condition gradually became worse and she died in the state of severe cyanosis on the nineteenth day of her illness.

For four days before her death there was a severe diarrhea, which rather tended to strengthen the original diagnosis of typhoid fever, complicated by a pneumonia.

Autopsy three hours after death. Lungs almost completely consolidated, save a small area along the anterior borders of both. A small area of pleuritic adhesions was found at the left apex posteriorly. Spleen was normal, liver also. Intestines pale, with some distention of the upper ileum, the lower portion being collapsed and empty. The small gut was entirely normal, save a very slight evidence of congestion about the lower one-third. Enlargement of the mesenteric glands of the lower ilium, none however larger than a pea. Colon normal. Bacteriologic examination of the lungs showed presence of diplococcus pneumonia, with no other organisms present.

In the recent literature on the subject of typhoid fever, by several authors, notably Osler, a great deal of stress is being laid on the occurrence of typhoid fever without intestinal lesions. In the case just related many of the symptoms pointed to a typhoid fever, enough certainly, unconfirmed by the Widal test or diazo-reaction, which were thought unnecessary in view of the symptoms present, yet no lesions save slight mesenteric gland enlargement were to be found in the abdomen.

As to the pneumonia. The child was seriously sick for ten days before any signs were apparent in the chest, and no symptoms save the cough that would lead one to think of pneumonia, an annoying symptom which is frequently present, in the writer's experience, in typhoid fever occurring in children. The question to be settled, and which I trust will be brought out in the discussion is, was this a case of typhoid fever—*sine* intestinal lesions—complicated with pneumonia; was it a case of continued fever with a coincident pneumonia; was it a central pneumonia from the beginning with manifestations in the chest delayed until the eleventh day, or shall we class it as a typhoid pneumonia?

Osler states that "the term typhoid pneumonia is commonly used to designate cases with adynamic symptoms and it is to be distinguished from those cases in which typhoid fever begins with a definite pneumonia, the so-called *pneumo-typhus* of foreign writers." Tyson refers to typhoid pneumonia in the following: "The term typhoid pneumonia is one in common use by many who have no definite notion of its meaning, and, like the term typho-malarial, has occasioned confusion. In the first place the case may begin as a lobar pneumonia, the intestinal symptoms appearing at the end of the first week or later, at which time also the spots may appear, establishing the diagnosis, while the usual crisis of pneumonia fails to make its appearance. Again, a pneumonia may supervene in the second or third week of typhoid fever as a complication in which the true relation is less difficult to determine. Finally there may be a true pneumonia, to which stupor, a dry tongue, and generally adynamia may be added, without the distinctive lesions of typhoid fever. This is true typhoid pneumonia, which it may not always be possible to separate from the typhoid fever beginning with a

pneumonia. Both of the forms of pneumonia may be caused by the typhoid bacillus or the pneumococcus."

Many interesting points are suggested by the history of this case, which would perhaps enlarge the scope of the discussion, as the use of oxygen in pneumonia, hydrotherapy, etc., but these points have been purposely omitted by the writer that this one may be the more fully discussed. Is the use of the term "typhoid pneumonia" justifiable?

It occurs to the writer that its use in the case related, in light of the symptoms and postmortem findings is justifiable, and should be limited to such cases, but without a postmortem the term should be used with caution and extreme discretion.

DISCUSSION.

Dr. SLAGLE of Minneapolis—My experience has confirmed my first teaching in the University of Louisville, that we have typhoid pneumonia, properly so-called, and that we have typhoid fever with pneumonia. I have no doubt from the very good history Dr. Tuley gave of that case, that it was originally a case of typhoid fever, *sine* lesions of the intestines, which can occur, the pneumonia supervening later on; that it was not a case of typho-pneumonia, although I believe that is a proper term. I have seen made cases of typhoid fever, with pneumonia supervening. In regard to the diagnosis of typhoid fever in young children: My experience is that it is one of the most difficult problems in diagnosis to at all times correctly diagnose typhoid fever in young children. There are a number of very good physicians who dispute that very young children ever have typhoid fever. I am sure I have seen at least two cases of typhoid fever in infants, one about a year old and the other about eighteen months. They both occurred during an epidemic of typhoid fever in our city, Minneapolis. We had between four and five hundred cases of genuine typhoid fever in Minneapolis. The remarkable part of it was that it was an epidemic of typhoid fever during what is supposed to be the healthy season of the year, the only instance of an epidemic of typhoid fever that I have seen in the winter time. We did not succeed in finding the cause of the epidemic. Some attributed it to the water, but that was not proven to be the cause; at least many of us were skeptical about that. There were some cases of typhoid fever in quite young children. One case I was called to see, which others had seen, and the point hinged on the diagnosis. I am satisfied from the symptoms present and the way the case ran that it was a case of genuine typhoid fever in a child twelve months old, whose mother had just recovered from typhoid fever and had been nursing it. I have found it one of the most difficult things in all the field of diagnosis to make a definite diagnosis of typhoid fever, at least anything like early, in young children, and to differentiate it from meningitis or from influenza or from certain bowel troubles.

Dr. J. P. CROZER GRIFFITH, Philadelphia—Some of you who have been reading the papers know that Philadelphia has the great honor of having about four or five times as much typhoid fever as any other city in the United States. During the past year we have had a shocking epidemic of it. I am quite thoroughly convinced that typhoid fever is much more common in young children, even in infants, than it is ordinarily supposed to be. The New York physicians, at least many of them, have taken the ground that it is very rare. Northrup has never seen the lesions of typhoid fever in children. Recently, I had the pleasure of carrying the war into the enemy's camp, when I lectured to Dr. Northrup's students in the hospital on this subject, and narrated many cases I have seen. I have seen typhoid fever in a child three months old, which is the youngest I have known. The youngest case heretofore reported was recorded by Gerhardt a number of years ago in a child three months old. The child was in the same room

with its mother, who had typhoid fever, but who did not nurse it all, and it had the usual symptoms of typhoid fever. I have seen typhoid fever at twelve months, twice at nineteen months, and several times under two years. Many of these cases were corroborated by the spots and spleen, and others by the blood examinations repeatedly made. I saw a child last winter, of two years, with the slight lesions of child's typhoid. Two physicians of Montreal have recently written an interesting article in the *Montreal Journal*, recording nine cases which they could recognize as undoubted cases of typhoid, yet there were no lesions of typhoid fever. A curious thing is that in fetal typhoid fever there are no intestinal lesions. There were about ten cases of fetal typhoid fever reported before the recognition of the Eberth bacillus became general, that is, before you could differentiate it well from the colon bacillus. You know many mistakes at first originated in the differentiation between the Eberth bacillus and the colon bacillus. Up to the time of the possibility of the clear differentiation between these organisms, there were only about ten cases, and since then there have been about nine cases of undoubted fetal typhoid fever, the children born from typhoid mothers, all dying before or after birth, and in all cases the Eberth bacillus was differentiated. In every one of the nine cases there was a total absence of lesions in the intestine. The mesenteric glands, of course, were enlarged. I am very skeptical about the diagnosis of the case reported by Dr. Tuley as typhoid, simply because the symptoms were so developed. I have watched closely these cases of slowly developing symptoms of pneumonia a number of times until the crisis occurred.

Dr. A. C. COTTON, Chicago—I do not see any objection to the term typhoid-pneumonia as expressing a complication of typhoid fever. I don't see what objection there would be to typhoid-bronchitis. I remember looking the matter up very carefully a number of years ago in the preparation of a paper read before the Chicago society. I took a hundred cases of typhoid fever, selected only on account of the complete nature of the histories. Two-thirds of them were from hospital records, the remainder from private practice, and 68 per cent. of those cases showed positive pulmonary lesions, from mild bronchitis to pneumonia. I do not know what harm there is in saying typhoid-bronchitis as indicating a bronchitis complicating typhoid fever. I do not know that we should attach any significance pathologically to the co-existence of typhoid fever and lobar pneumonia, but I think that is a convenient way of designating the complication. If it be indisputably a case of pneumonia, the presence of pneumococcus being demonstrated at the start, and the development of unquestionable typhoid fever following, it would seem better to call it pneumo-typhoid.

Dr. H. M. McCLANAHAN, Omaha—I think if we gave more attention to the matter we would find more cases of typhoid fever in children. When we recognize that much of the typhoid fever comes from milk, there is no reason why the child should not be exposed more than the adult. There is no reason why its intestinal tract should not be more susceptible. My experience is that typhoid fever in children is comparatively mild in the majority of cases. Perhaps, first and most frequently, it is mistaken for malaria. In this day, with the aid of the microscope, that is hardly necessary. It has been said that a case of malarial fever that did not yield to quinin in a week was not malarial fever. Another fact I have observed is that the rose-colored spots do not remain as long in typhoid fever in children as they do in adults, and sometimes we overlook them. They are not as numerous and prominent, and are more evanescent in character. Constipation, rather than diarrhea, is the rule in typhoid fever of children. So less importance can be attached to diarrhea in making the diagnosis than is true in the adult. I saw a child in which a diagnosis of meningitis was made, and I think it may be stated

that the symptoms of meningitis, with high fever, closely simulate those of typhoid fever. Meningitis, I think, is rather rare in children, except where it is secondary to ear trouble or something of that kind. In most cases, we may expect the cerebral symptoms to be very prominent before we can make a positive diagnosis. I think there is no doubt typhoid fever is more common in children than the older practitioners have been led to believe. I know many doctors prescribe for a child without having it undressed to examine it.

Dr. EDWIN ROSENTHAL, Philadelphia—The question was: "Is the use of the term 'Typhoid-Pneumonia' justifiable?" I take the stand that "typhoid-pneumonia" is wrong, wrong in every respect. I can not conceive that there should be two diseases under one name. The cases of typhoid fever I see are, perhaps, the worst that can be seen in the city. During the last epidemic I saw some cases in which the temperature was subnormal, the temperature falling to 96 degrees, and one case remained for one week at that degree and then rose and took its usual course. If a case of typhoid fever becomes complicated with pneumonia, the pneumonia is only an addition to it. If a man tells me he has a case of typhoid-pneumonia, I do not know whether he means that he has a typhoid fever complicated with pneumonia or a case of pneumonia that has fallen into a typhoid state.

Dr. HENRY E. TULEY, Louisville, in closing—At first we were puzzled to make the diagnosis, the rose-colored spots appearing, then pneumonia following, and the fact that on postmortem we found no lesion in the intestine was interesting. I think it is clearly understood that the prefix "typhoid" in the term "typhoid-pneumonia" refers only to the typhoid state and not to a typhoid fever. I think we should use it very carefully, and preferably, not at all. I appreciate what the chairman said about diagnosing late pneumonias, where the signs are difficult to find although a careful examination of the chest is made. I think we should only use the term "typhoid-pneumonia" when we mean the typhoid state which has developed in a case of pneumonia.

AUTO-INFECTION VERSUS TYPHOID FEVER AS SEEN IN YOUNG CHILDREN.

Presented to the Section on Diseases of Children, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. C. HOLLOPETER, M.D.
PHILADELPHIA, PA.

An irregular type of fever incident to auto-infection is frequently found in artificially reared children. It is also encountered in young adolescence, and may be found in breast-fed children of irregular habits. When associated with a depressed system or unhygienic surroundings the fever is most likely to assume a more protracted and intermittent type. When found in breast-fed children, the fever is suddenly ushered in at a high grade (103 to 104 degrees), very frequently sustaining this elevation of temperature for several days, when it may break into an intermittent form. The fever associated with intestinal toxemia has many times led to the diagnosis of typhoid fever, from which it can only be discriminated in young children by a careful analysis of the various symptoms, conditions and surroundings, diet and exposure, and all the many complications incident to artificial management.

The clinical picture of a child suffering from auto-infection so closely resembles those many reported cases of typhoid fever that I will attempt to discriminate between the symptoms of these two forms of fever.