round the older method is worse or better. I think it is better. It enables us to remove disease in soft and hard parts, and to reach at once what might not otherwise be discovered. It gives us speedily a usable leg, safe from any serious recurrence or flexion. On the other side we have a long precarious period after excision in which union is fibrous, and flexion often to a considerable degree is fairly common and always a danger.

To sum up in a few words, excision is definite, comparatively short in treatment, very free from serious after-complications, and quickly restores a patient to active life. Erasion is not definite, after-treatment is long, complications are always imminent and frequently develop, the patient is not speedily restored to active life, and lastly, when the surgeon ceases to look for a movable joint, the whole position is surrendered to excision.

I must thank you for the patient hearing which you have extended to me. It is a pleasure to me to be here, and especially not far from the towns in which these two great innovations in surgery have first seen the light. And if I have come to the conclusion that after all Park and Filkin's method is the best as practised to-day, and am able to tell you the story of the success of their imitators in Dublin, let me also pay sincere tribute to the ingenuity and enlightened skill of Mr. Wright, who in the treatment of joint disease has done so much to maintain the reputation of English surgery.

REFERENCES.

Diseases of the Joints and Spine, pp. 335, 337. ² *Tuberculous Disease of Bones and Joints*, p. 189.

TUBERCULOSIS AND MORTALITY IN CHILDHOOD.

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THE purpose of this communication is to show the extent to which tuberculosis scourges the ranks of childhood in a populous quarter of the East of London, and the bearing of measles and whooping-cough upon the state of things; in addition, a few facts concerning the frequency of primary abdominal tuberculosis are cited, with some minor points of interest disclosed by limited, but accurate, mortality returns.

The pathological facts are based upon 343 consecutive autopsies at the East London Hospital for Children, where patients are admitted from birth to the age of 14, irrespective of age. The diagnosis of tubercle has rested mainly upon macroscopic evidence of caseation, and doubtful cases have been considered non-tuberculous, unless the microscope has confirmed a suspicion of tuberculosis.

AGE-INCIDENCE OF DEATH FROM ALL CAUSES.

Of a series of 328 consecutive deaths at the hospital the first four years of life witnessed 299, or 91 per cent. The ratio of the mortality to the admissions for each of these four years is as follows:

Age.	Percentage of Total Admissions.	Percentage of 343 Deaths.
One year and under	26	50
Second year	19	25
Third year	10	10
Fourth year	9	5

Thus the first year is by far the most fatal, both absolutely and relatively, to the total admissions at that age, and it appears that the death-rate from all causes falls steadily from the first year onward. It is far otherwise, however, with the proportion of the total deaths claimed by tuberculosis.

Of the 343 bodies examined, rather less than one-third were infected with tuberculosis, and rather less than one-quarter actually fell to the disease; the figures as regards age being as follows:

	One Year and Under.	Second Year.	Third Year.	Fourth Year.
Of 81 children dying of tuberculosis	21	22	16	12

Thus the first four years saw the deaths of 71 out of 81 children dying from the disease, leaving but 10 for the later years of childhood. In point of fact, no death from tuberculosis occurred later in the series than the eighth year; and though the figures for these years are too small for anything but general inference, it seems that few children die between the eighth year and adolescence, and very few of tuberculosis. It may be mentioned in passing that a majority of the deaths in this interval were due to rheumatic heart disease.

Now, though the absolute fatality of tuberculosis steadily diminishes from the second year onward, its fatality relative to the total deaths at each age mounts with enormous strides during the second and third years, and reaches its maximum during the fourth year, in which year the deaths from tuberculosis were no less than two-thirds of the whole. The actual figures are appended.

Percentage due to tuberculosis of total deaths during first year, 18	
" " " " second " 25	
" " " " third " 47	
" " " " fourth " 66	

Thenceforward the percentage declines, but the figures are too small to be trusted.

The position that appears to be thus established is this: That children of the poor in London become, by elimination of the unfit and otherwise, progressively more resistant to lethal influences in general, from birth onwards to adolescence, while their specific susceptibility to tuberculosis is relatively heightened until their fourth year, and thence gradually declines.

INFLUENCE OF MEASLES, WHOOPING-COUGH AND HEREDITY.

For the purposes of this investigation the series of tuberculous deaths under consideration has been extended to 135.

In 25, or 18.5 per cent., of these cases the fatal illness was directly traceable to measles or whooping-cough, and to measles twice as often as to whooping-cough. This does not imply that the former has special powers of reducing resistance to tuberculosis, for in children of 4 years old and under measles is nearly twice as frequent as whooping-cough. Of 653 admissions up to the fourth year 186 had had measles, and 96 whooping-cough.

On the other hand, 68 of the total 135, or almost exactly half, had never had either of the above zymotic diseases, and it seems, therefore, that these ailments have less influence in determining tuberculosis than is generally believed. The operation of other causes, whatever they be, is particularly noticeable during the first two years of life, for it appears that 70 per cent. of children dying of tuberculosis before the age of 2 have had neither measles nor whooping-cough.

What these other causes are it is difficult to say with confidence, but the following figures and considerations drawn from experience indicate the probable identity of some of them.

Of the cases below the age of 2, inexplicable by the invocation of measles and whooping-cough, there was evidence of tuberculous inheritance, direct or collateral—that is, through uncles or aunts—in 23.5 per cent. In the remainder the immediate family record was sound, so far as the informants knew; and thus, with all allowance for errors of information, it is clear that neither measles nor whooping-cough nor inherited susceptibility plays a paramount part in propagating tuberculosis during the two years which witness the zenith of absolute fatality from the latter disease. But in the subsequent years—particularly the third and fourth—when resistance to lethal influences in general is rising rapidly, while the relative fatality of tuberculosis reaches its maximum, the state of affairs is different. After the age of 2, fatal tuberculosis is rare in children who have escaped the infection of measles and whooping-cough; but it must be remembered that a majority of all children above this age—among the poorer classes, at all events—has had one or other of these diseases, and the previous occurrence of these is found with almost equal frequency in the list of tuberculous deaths, and in the list of total admissions after the second year. Thus, of 58 fatal cases of tuberculosis after the second year, 74 per cent. had previously had either measles or whooping-cough, while, of 458 admissions for all causes, 69 per cent. had suffered similarly.

It seems, then, that there is nothing specific in the relationship between these infectious diseases and tuberculosis, and it remains to find some predisposing cause common, on the one hand, to infancy apart from these infections, and on the other to the later years of childhood in association with them. We have this common cause in catarrhal lesions of mucous

membranes. In infancy bronchitis and gastro-enteritis are frequent and severe, quite apart from infectious diseases, while after the second year severe bronchitis is a comparative rarity except in association with them, and severe gastro-enteritis, as a chronic condition, absolutely uncommon. It is probably correct to say, therefore, that catarrhal lesions of whatever origin are the real pioneers of tuberculosis in early life at all events, and that the power of measles and whooping-cough to determine the disease is limited by the gravity of the catarrhal lesions they produce.

PRIMARY ABDOMINAL TUBERCULOSIS.

There is a great divergence in the figures recorded by various observers as to the frequency of this variety of tuberculosis, even in this country. For instance, three observers in London record percentages ranging from 15 (Batten) to 23.4 (Still); and Price Jones, dealing with smaller figures, gives a percentage of 28.5. Considering that Still and Batten based their conclusions on cases inspected at the same hospital—Great Ormond Street—it can only be assumed that evidence of primary incidence in the abdomen satisfactory to the former was rejected by the latter. I have attempted accuracy of fact at the expense of numbers (and therefore at the expense of accuracy of inference) and submit my own experience in a series of 138 complete autopsies made at the East London Hospital for Children. A systematic search was made in all cases for evidence of tuberculosis, active or obsolete, in the bronchial and mesenteric glands, and all cases where reasonable doubt existed as to the priority of lesions have been classed as "doubtful." It may therefore be safely said that the frequency of primary abdominal infection in the series in question is not over-estimated, though it may fall short of the truth.

Among the 138 bodies there existed signs of tuberculosis—active or obsolete—in 43. The primary lesions were distributed as follows:

Primary in bronchial glands or lung	... 22 or 51.0 per cent.
Primary in intestines or mesenteric glands	9 or 20.9 "
Primary in petrous bone	... 1
Doubtful	... 11 or 25.0 "

The figures are, of course, far too small for large assumptions, but it seems fair to say that primary abdominal infection is not the rarity it is often considered.

CONCLUSIONS.

1. That among the children of the poor in London tuberculosis is absolutely most fatal during the first two years of life, but, relatively to all other causes of death, becomes progressively more fatal until the fourth year.
2. That there is no specific relationship between measles and whooping-cough on the one hand, and tuberculosis on the other.
3. That catarrhal lesions of mucous membranes are the paramount predisposing causes of tuberculosis in early life, and that measles and whooping-cough are potent in this regard only through the catarrhs accompanying them.
4. That about 50 per cent. of children dying of tuberculosis in childhood have had neither measles nor whooping-cough.
5. That while the infection of tuberculosis in childhood is mostly airborne, primary infection of the abdomen is by no means a rarity.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A CASE OF ILEO-COLITIS IN A CHILD SIMULATING ACUTE INTUSSUSCEPTION.

On the morning of August 15th, 1904, I was called into the country to see a little girl of 5 years who the evening before whilst at play had been seized with sudden pain in the abdomen, with sickness. She had continued vomiting during the night, and had passed several loose motions, at first faecal in character, and later consisting of pure blood, or blood and mucus; there was much straining; the temperature was 103° F. and the pulse 130; the tongue was coated, but moist; the abdomen was slightly tender all over, but the tenderness was most marked in the right hypogastric, lumbar and inguinal regions. There was no dullness and little distension; the vomit consisted mainly of food and bile.

On August 16th, 1904, there was marked dullness in the three right regions and considerable tenderness, but no swelling; the motions continued to consist of pure blood and

blood and mucus, and sometimes mixed with the smallest amount of excrement. Rectal examination revealed tenderness in the right inguinal region.

On August 17th, 1904, the temperature became subnormal, and the child was slightly collapsed. The sickness had stopped, but the motions still consisted of blood and blood and mucus.

On August 17th and onwards the motions became more faecal, although mixed with blood, until they at last became normal; the dullness cleared from the right half of the abdomen, and the child quickly recovered. The case was at first sight suggestive of acute appendicitis; but later on the appearance of stools of pure blood and blood and mucus, along with the marked dullness in the regions on the right side of abdomen led one to think of an acute intussusception or ileo-colitis. The ultimate progress of the case proved it to be the latter.

In the *Diseases of Children*, by Ashby and Wright, a somewhat similar case is reported, which was operated on for intussusception.

Knutsford, Cheshire. FORBES JAS. ALEXANDER, M.B., M.S.

SUBCUTANEOUS EMPHYSEMA IN A CASE OF SPASMODIC ASTHMA.

MR. E. M. B., aged 25, has suffered since early boyhood from periodical attacks of asthma. During the recent cold and foggy weather he attended a public dinner, and on the following day a severe attack began. On the second day of this attack he complained of a swelling of the front and sides of the neck, and on palpation I detected the crackling of subcutaneous emphysema. The emphysematous condition gradually extended up the face till it reached the lower part of the forehead, while the face and neck assumed a distinctly bloated appearance. The emphysema also extended down both arms as far as the wrists, covered the front of the thorax, and extended down the back as far as the upper border of the sacrum. The attack was severe. It was treated by injections of morphine and hourly 5-minim doses of the ethereal tincture of lobelia. The latter drug gave considerable relief, and the attack terminated by the free expectoration of intensely purulent sputa, containing numerous pyococci but no tubercle bacilli. The emphysema disappeared gradually after the dyspnoea had been relieved. The complication had not been observed in any of his former attacks. There are no symptoms or signs of phthisis, and the general health is good between the asthmatic seizures.

Bath.

C. J. WHITEBY, M.D.

THE TWISTING OF THE FUNIS.

I SEE Mr. N. B. Harman writes, in the *BRITISH MEDICAL JOURNAL* of January 7th, p. 15, "The production of the coiling of the vessels of the funis has been the subject of unavailing discussion amongst obstetricians for generations." Some time ago I convinced myself that this twisting is mainly due to the side upon which the mother sleeps. My method was this: Before the child was born I asked the mother upon which side (right or left) she slept at night, and wrote down her reply; when the child was born I also noted whether the cord was twisted "like a screw" or "unlike a screw." This was to avoid the confusing ambiguity of the phrase "twisted to the right." In the result, I find that of fifteen consecutive cases so recorded, eight mothers replied that they always "slept on the right side," and every one of their children had its cord twisted "unlike a screw." Three mothers replied that they slept on either side, not more on one side than the other; of their three children, two had their cords not twisted at all, and one had its cord slightly twisted unlike a screw. Four mothers said that they always slept on the left side, and their children each had its cord twisted "like a screw" except one, in which the record says it was twisted "to the right," and as this is specially underlined I believe it is meant to record a failure.

Any one can repeat this observation. The explanation seems to be that while the fetus is floating freely in plenty of fluid, the mother getting into bed lies on her back and then turns on to one side; thus the child's head first falls towards the back and then towards the side, thus starting a twist which is repeated each night. Otherwise expressed, if the mother revolves herself the floating babe does not revolve, and therefore gets its cord twisted. I have wondered if the child is not injured sometimes in this way.

Croydon.

T. ARCHIBALD DUKES.