changed, but she felt more comfortable. The temperature was 104° to 105° , the respirations 30. Pulse 100, medium size, rather softer beat. Cough more frequent, no expectoration. The physical signs in the lungs were still those of consolidation of the right lower lobe—that is, partial dulness (more marked than on November 16th), weak breath sounds, with prolonged expiration, medium-sized *râles*, and increased vocal resonance. 594 units (8 c.cm.) of serum were injected at 11 A.M., and 644 units (10.5 c.cm.) at 11.30 P.M.

On November 19th there was slight general improvement. At noon the temperature fell to 102° , and it remained down for twelve hours.

On November 20th there was much delirium. The temperature ranged from 103.5° to 105° , the physical signs were unaltered. 660 units (20 c.cm.) of serum were injected at 8 P.M.

On November 21st it was noted that the patient had been quieter during the previous twenty-four hours, taking liquid food well. The temperature ranged from 102° to 104.6° . The pulse was 104, regular, rather smaller, and of low tension. The respirations were 44, easy. The tongue was dry and thickly furred for the first time. There was some diarrhoea and no delirium.

On November 22nd the patient had considerable diarrhoea; seven pale loose stools in twenty-four hours of the typical pea-soupy character seen in enteric fever. The temperature was 103° to 104° ; 594 units (8 c.cm.) of serum were injected at 11.30 P.M.

On November 23rd 660 units (20 c.cm.) of serum were injected at 10.30 P.M., and on November 24th 495 units (15 c.cm.) of serum at 4 P.M.

On November 25th the patient had gradually fallen into a "typhoid state." There was low muttering delirium with marked tremulousness of the hands. The tongue was dry and brown in the centre, with a streak of fur at each side of the middle line, the tip and edges being red. Temperature 102° , respirations 36; pulse 100, medium size, rather low tension, not dicrotic. Over the right lower lobe the percussion note was still impaired, with weak breath sounds, prolonged expiration, and coarse *râles*. Abdomen moderately distended, not tender; spleen still felt. The stools were very loose and large, pale yellow of the consistency of pea soup, one or two per diem. The patient had then been ill thirteen days from the first onset; the general symptoms were quite out of proportion to the local lesion in the right lung. The diagnosis of enteric fever following pneumonia was made.

November 28th. The patient was still in a "typhoid state," with muttering delirium and considerable tremulousness and diarrhoea. The temperature was 100° to 102° , the pulse 100 to 120, the respirations 36 to 48. The signs in the right lung were clearing up, namely, dulness on percussion was slight below the sixth rib; the breath sounds were only abnormal near the angle of the scapula. A fine red papular rash with some minute vesicles (sudamina) had appeared over the abdomen and chest on the previous day. There were no rose spots. Ehrlich's test was not obtained.

December 5th. Patient's general condition was much the same; delirium and tremor of the hands were somewhat diminished. The temperature was 102° to 103° ; pulse 128, low tension; abdomen still full and soft, no rose spots; spleen felt on palpation; stools were pale and formed with flecks of red mucus on them. The signs of disease in the lungs were limited to a small area at the angle of the right scapula, where partial dulness, faint tubular breath sounds, coarse *râles*, and increased vocal resonance were heard. A specimen of blood was submitted to Mr. H. E. Durham, of Guy's Hospital for examination by the typhoid test; no clumping of bacilli was observed. Ehrlich's test was not obtained.

On December 21st the temperature had ranged from 99° to 102° during the previous two weeks, with gradual improvement in general condition; pulse 100 to 112; respirations 28. The tongue was but slightly furred; delirium and tremor were much diminished. The physical signs in the lungs had entirely cleared up. The spleen was no longer felt.

On December 26th a specimen of blood was submitted for examination: no "clumping." Mr. Durham subsequently examined the blood on two separate occasions, but no clumping was obtained.

On January 1st the temperature became normal, and remained so during the succeeding convalescence, which was uninterrupted.

CASE II. X. Y., aged 16, was admitted to the London Hospital under the care of Dr. Percy Kidd on November 16th, 1896. The patient was a potboy, who had enjoyed good health until this illness; his father, mother, and four brothers and sisters were all alive and well. There was no consumption in the family.

The present illness had begun suddenly on November 13th, at 9 P.M., with headache, vomiting, shivering, and general *malaise*. He had pain in both sides of his chest and difficulty in drawing breath. Since then he had had cough and shortness of breath.

On November 16th, when admitted, the face was flushed, the *alae nasi* working, respiration 48 per minute, laboured; the temperature was 102° , the skin was hot, dry, and pungent, the pulse 108, regular, large, forcible, and of fair tension; the tongue was furred, bowels constipated; occasional cough, no sputum. The heart's apex beat was normal in position, and no *bruits* were heard. Posteriorly on the right side, from the third rib downwards to the base, and in the axilla there was marked dulness on percussion, tubular breath sounds, inspiratory crepitant *râles*, and increased vocal resonance. No abnormal sounds were heard over the rest of the lungs. The other organs were normal. There was some swelling, pain, and redness round the first metatarso-phalangeal joint of the right foot.

November 17th. The general condition was about the same. In the right lung the physical signs were the same. On the left side at the angle of the scapula there were slight dulness on percussion, weak breath sounds, with some inspiratory crepitant *râles*. At 5 P.M., 660 units (20 c.cm.) of antipneumococcal serum were injected under the skin of the right flank.

November 18th. The general condition and physical signs were much the same. The temperature was 101° to 102.2° , the pulse 108, the respirations 64 and laboured. At noon 660 units (20 c.cm.) of serum were injected. At midnight the same dose was repeated.

November 19th. The temperature ranged between 100.2° and 102.6° . The pulse was 120, and the respirations 60. There was some cyanosis, percussion-dulness, crepitations, and tubular breath sounds had advanced to the apex of the right lung behind; and in front similar physical signs ex-

tended from the axilla horizontally to within 2 inches of the sternum. In the left lung the signs at the angle of the scapula were stationary. At 4 P.M. 660 units of serum were injected.

November 20th. The general condition and physical signs were unchanged. Temperature 100° to 102.4° , pulse 112, respirations 52. At 8 P.M. 660 units of serum injected.

On November 21st there was marked improvement in all symptoms, with a gradual fall of temperature to normal during the day. Pulse 96, respiration 32 easy, skin sweating.

On November 23rd there was a rise of temperature to 101° , otherwise a marked improvement in all symptoms had taken place. The tubular breath sounds in the lungs were replaced by weak breath sounds with coarse *râles*.

November 26th. A profuse urticarial eruption appeared over the trunk and limbs. Temperature had remained normal for three days. The physical signs in the lungs had cleared up considerably, slight dulness and weak breath sounds being present at both bases.

After November 26th convalescence was somewhat retarded by the slow formation of an abscess in the right foot, on the outer side of the first metatarsal bone, where redness and swelling were present on admission. Surgical treatment was adopted, and the patient made a rapid recovery.

REMARKS BY DR. PERCY KIDD.

In Case I the illness began acutely, and at first presented the usual features of croupous pneumonia. Whether due to the pneumococcus or not, the disease was an acute pneumonia of lobar dimensions. Enlargement of the spleen was a point that attracted attention from the first. The serum injections were generally followed by some degree of subjective improvement, though no marked effect on the temperature or physical condition of the lung was observed. About the end of the second week the case assumed the appearance of typhoid fever, and the subsequent course of the illness left little doubt in our minds that that was the nature of the malady. The absence of rose spots, and the negative results of the serum test, most kindly carried out by Mr. H. E. Durham, may perhaps be thought to throw some doubt on the diagnosis. Nevertheless from the clinical side the picture of typhoid fever was fairly complete. On the whole, it seems probable that the patient was the subject of a mixed infection by the pneumococcus and the typhoid bacillus. The great rarity of typhoid fever commencing with signs of lobar pneumonia is worthy of note.

As regards Case II little evidence of any specific influence of the serum can be recognised. The disease was of a severe type, but the patient was a young man, and recovery ensued with a well marked crisis on the eighth day.

Further experience can alone decide as to the value of the antipneumococcal serum. Possibly the exhibition of larger doses may give more definite results.

A SEVERE CASE OF PNEUMONIA IN AN ALCOHOLIC SUBJECT TREATED WITH ANTIPNEUMOCOCCIC SERUM: RECOVERY.

By C. J. HARNETT, M.B.,
House-Physician, Guy's Hospital.

T. W. B., aged 39, was admitted on February 9th under the care of Dr. Washbourn, to whom I am indebted for permission to publish these notes. He had been in the army for seven years, and is now a waiter. He has been a very heavy drinker. He was taken ill five days ago, but continued his work until the day before admission.

February 9th. On admission, he was fat and had a yellowish complexion, with dusky red patches on the cheeks. His temperature was 103.6° , respirations 28 and painful; expectoration was small in amount, yellowish in colour, and very viscid. Cough was frequent and very painful. Pulse was feeble, 124. The heart sounds were faint, and there was a very faint localised apical systolic *bruit*.

There was marked impairment of movement and deficient entry of air all over the left side of the chest. A loud pleuritic rub was audible below the level of the nipple in front and in the axilla, and below the angle of the scapula behind. No tubular breathing was heard. The right side was normal. There was no increase of cardiac dulness. Urine contained no albumen. He was ordered a sedative liniment.

February 10th. He slept but little during the night, and was distinctly worse. The temperature was 104° , the pulse 128, the respirations 35. He was expectorating typical