Finding after a lapse of a week no amelioration of the symptoms, Dr. Jefferiss asked the writer to see the case with him, and here is what was found: the child lay on her back, the breathing was frequent and shallow, and the cheeks had a pink flush; the skin was hot and dry. Inspection showed the right side to be motionless. The heart's apex was in the normal position. Vocal fremitus was increased all over the right lung, and the percussion note was so dull from apex to base as almost to warrant the designation of "flat." The dullness below was indistinguishable from the liver dullness. There was very high pitched tubular breathing over the entire lung, with whispering pectoriloquy. No rales of any kind. The left lung was normal throughout, the breathing therein was puerile, and for some distance outside the vertebral column the tubular breathing and voice sounds from the opposite lung were conducted. Mensuration at the level of the nipples showed the right lung to be expanded as compared with the left to the extent of three-fourths of an inch. There was very slight expectoration of a rusty character, which had been present all along. Exploratory punctures were there and then made in two different places, but not a drop of fluid was obtained.

These signs remained quite stationary for four weeks, when some moist rales developed in the apex and the dullness and tubular breathing became less marked there; the latter becoming more bronchial in character. The chest was again explored for fluid, but not a drop could be obtained. The course of the disease as to temperature, pulse, respirations, etc., during the first six weeks of the illness is graphically depicted in the accompanying charts. Thereafter the temperature gradually fell until it became practically normal in the tenth week, and in the eleventh week it was slightly subnormal. Nevertheless the pulse-rate continued about 140 per minute and the respirations about 40.

The child was now up and about, her temperature continued normal, and there was no cough or expectoration. But the pulmonary condition remained absolutely unchanged, except that the high-pitched tubular breathing was replaced by lower-pitched bronchial breathing, and at the extreme apex some percussion resonance was obtained.

Early in January, 1904, the child was sent to a convalescent home in Norwood. On the fourth day of her residence there the evening temperature rose to 100°, and this diurnal rise continued. She was attended by Dr. A. Rose of South Norwood, who kindly wrote to me afterwards as follows: "I inserted an exploring needle into the child B.'s chest in two different places on January 23rd, but got no fluid whatever. When I first saw her, the whole side of her chest was dull and no breath sounds could be heard.² Vocal fremitus and resonance were absent or almost so,³ so I thought there must be a lot of fluid in it. Later on there was faint bronchial breathing over the greater part of the lung, but no moist sounds were heard. There was no expectoration, or it was swallowed." During the last four weeks of her stay at Norwood the temperatures were taken morning and evening, and show the former to have been either normal or 99° and the latter 100° to 100.4°.

The patient returned from Norwood in April, and on examination the lower three-fourths of the right lung presented no change whatsoever. The extreme apex, however, had become fairly resonant, and was the seat of moist rales. The breath sounds in this situation were also bronchial. Dr. McKenzie Davidson now kindly consented to x ray the chest. The right lung was in uniform deep shadow, with the exception of the extreme apex, which showed a mottling of light and shade. The shadow was, if anything, rather less dense along the thoracic wall, and

the outlines of the ribs could be seen. It was indistinguishable below from the liver shadow in respect of density, but the diaphragm was seen to be deeply depressed as compared with the left side, and presented the appearance of an irregular, more or less horizontal, line, which at its outer aspect turned rather sharply downwards and outwards to the lowest ribs, leaving a triangular-shaped dark interval against the chest wall. These features are extremely well seen in the excellent photograph which Dr. Davidson took the trouble to print. Dr. Davidson, without any hesitation, expressed the opinion that the shadow was entirely due to consolidated lung, and that no fluid was present in the pleural cavity. Mensuration of the chest at the nipple level at this time showed both sides to be equal, indicating a slight retraction of the right side since the early part of the illness.

The patient when next seen had developed considerable cough with expectoration. Numerous tubercle bacilli were found in the sputum. It was evident that the right apex had become extensively invaded by tubercle; the rest of the lung was unaltered. This state of matters continued for several months, but in the autumn of 1904 an improvement set in, the expectoration diminished, the child gained in weight, and the apex showed signs of healing. This improvement has been maintained, and at present (January, 1905) the child is residing in the country enjoying very good health, gaining in weight, and her temperature has become normal.

It seems fairly certain that this tuberculous infection of the apex was an accident of the disease occurring, so far as the symptoms indicated, about the third month. It was at this time that the temperature, after being normal for some weeks, began to show an evening rise. When it is considered that the apex in question sustained such a grave initial injury, that it only partially recovered, and that it was permanently thrown out of action by the condition of the remaining portions of the lung, it would be rather a matter for surprise if it should escape.

The personal history, symptoms, and physical signs in this case leave little room for doubt that the initial lesion was an acute pneumonia, and that it invaded a lung which contained no gross lesion of appreciable character. As already indicated, we can only guess at the nature of the reconduite element operating in the direction of fibrosis. The writer is inclined to the belief that this element is not imported at a certain stage of the disease, but that it is present from the very beginning. Hence the disease, though beginning acutely, may in reality be chronic in nature from the very first day. Histologically, however, this merely amounts to saying that the inflammation extended to the fixed corpuscles of the alveolar walls, causing them to divide and migrate into the fibrinous exudation. In this way the alveolar cavities would become filled with organized deposit. This must occur early, as only the "red" or fibrinous exudation is capable of organization. Thus it is seen how this form of fibroid lung is a large lung, permanently large, and is indeed the only large fibroid lung.

The disease is febrile, it is pneumonic, and it is fibroid; hence it is a fibroid pneumonia. It may begin very acutely, like an ordinary acute pneumonia, or subacutely; and though always rare, is more liable to attack lungs already injured. It is a disease which, in its bolder features, is unusually clear and definite. It is, perhaps, still customary to apply the generic terms "chronic pneumonia" and "interstitial pneumonia" indiscriminately to all forms of fibrosis of the lung. But the advance of our knowledge has proved that the several varieties of contracted lung, chronic from the commencement, whether the dominant fibrous invasion be of pleural or pulmonary origin, are due to tubercle. They are included under the term "fibroid phthisis," and the writer would respectfully suggest the propriety of adopting a nomenclature expressive of the distinction between the tuberculous affections and an affection differing entirely in respect of its origin, in respect of its anatomical evolution, in its independence of specific neoplasm, and in the radius and degree of its local effects.

REFERENCES.

¹ A full account will be found in the writer's *Pathology of Bronchial Affections and Pneumonia*. London: Churchill. ² The writer had never failed to hear bronchial breathing. ³ The child had an extremely weak voice.

NOTE ON LOBAR PNEUMONIA FOLLOWING MEASLES.

By F. C. BOTTOMLEY, M.D.CAMB.,
Physician, Boscombe Hospital, Bournemouth.

BRONCHOPNEUMONIA following measles in children is well recognized, but mention is not made in the textbooks of the fact that lobar pneumonia is a frequent complication; yet it has occurred much more frequently than bronchopneumonia

in the cases of measles which have come under the writer's notice.

The cases of lobar pneumonia following measles to which this paper refers were marked by the same characteristics as are present in ordinary lobar pneumonia in children—(1) sudden onset without preliminary bronchitis; (2) a generally favourable termination.

The cases occurred during two epidemics of measles in 1900 and 1902. They were 13 in number. The ages of the children varied from 1 year to 5 years (10 out of the 13 being under 3 years); the pneumonia began in 7 of the cases at the time the rash appeared, and in several of these it was possible on first seeing the child and noticing its rapid breathing to suspect that pneumonia was beginning. In all the cases the pneumonia appeared before the rash had died away.

One or both lower lobes were in all cases affected. In 5 cases one side only was involved, and the duration of the disease was in these from five to eight days; in the eight others both bases were affected, either simultaneously or consecutively, the duration being from eight days to three weeks. The disease terminated in some instances suddenly, in others gradually. The temperature rarely exceeded 102° F., and was, as a rule, fairly evenly raised throughout the attack. The physical signs consisted in diminution of resonance on percussion, and the presence of crepitations, which persisted to the end of the attack, and were not replaced by tubular breathing, though this was heard with the crepitations in one case. The persistent crepitations are such as are generally found in lobar pneumonia in young children. In one child they were present for six weeks, although the general health was quite good for the latter half of the time. Slow resolution of this kind is not very unusual in the lobar pneumonia of children.

All the cases recovered except one boy of 18 months, who died of convulsions two days after the crisis. Bronchitis was not present in any case. Two babies in one house had measles; both had pneumonia, possibly owing to infection. During the period in which the 13 cases occurred, only 3 cases of bronchopneumonia following measles were seen, and they all died, thus showing the very different severity of the two affections. The proportion of 3 cases of bronchopneumonia to 13 of lobar pneumonia coincides very closely in the writer's experience with the proportion obtaining between these affections when not following measles. In hospital practice bronchopneumonia seems to be of more frequent occurrence, and this is probably to be explained by its greater severity.

Measles may, therefore, be accompanied by lobar pneumonia, having its onset about the time at which the rash appears. Such cases nearly always recover, hence it is important to recognize the affection, to distinguish it from bronchopneumonia, and thus to be enabled to give a favourable prognosis.

THE VARIOUS PHASES OF A HOSPITAL'S WORK.*

By SIR CHRISTOPHER NIXON, M.D.(Hon.Causa)R.U.I.,
LL.D.Univ.Dub.,
Senior Physician to the Mater Misericordiae Hospital.

[AFTER giving a detailed account of the progress of the Mater Misericordiae Hospital since its foundation, its intern and extern work, and its various special departments, the lecturer proceeded as follows:]

The aspect which I have put before you of the work that is being done in the hospital represents what may be considered as its primary function. There are, indeed, some who would regard it as its exclusive function, that the object of a hospital should be to have its patients comfortably housed, fed, nursed, supplied with skilled medical and surgical advice, whilst scant, if any, encouragement should be given to what is spoken of as experimentation in the wards, the teaching of students, or the carrying on of the work of scientific research. On the other hand, the professional view with regard to hospital work is, that whilst its primary and fundamental object should be the well-being of the patient, the nature of the professional work undertaken in the wards, the giving of clinical instruction, and the employment of all the scientific methods elaborated in our time for the purposes of investigation and research, were so far from being antagonistic to the

welfare of the patient that they should be regarded as important adjuncts in ministering to his wants. A few words will justify the professional claim. It must be freely admitted that the treatment of every case in hospital is more or less experimental in its nature. Just as no two individuals are exactly alike, so likewise is there a dissimilarity in cases of disease and of surgical injury. In other words, in every case there exists a factor of uncertainty, in some cases so insignificant that the treatment is carried on along routine lines, but in others the uncertainty is so great that to save the life of the patient a leap in the dark must be taken—a choice exercised between two evils—with the most satisfactory result, a result which is chronicled for future use. How many cases are there in which the arcana of the *Pharmacopoeia* have to be explored to bring relief to suffering, to arrest the progress of disease, or to avert impending death! It may, indeed, be said that the art of medicine consists in trying by repeated experiments to diminish as much as possible the condition of uncertainty so as to make our practice sure and effective. We may put it that the increment of knowledge gained by each experiment is a decrement of human suffering and pain.

With regard to clinical teaching it is not difficult to see how, quite apart from its absolute necessity for the training of students, the stimulus of a class, carefully noting the physician's prognostications, his analysis of symptoms and physical signs, and the effects of his treatment, must largely tell to the advantage of the patient. The interest taken in the case cannot be perfunctory. The teacher is exposed to the fierce light of the students' criticism, and, apart from considerations of humanity, of which the members of my profession can, I think, claim their share, it is not merely the duty, but the obvious advantage, of those in charge of the sick that they should be successful in their efforts. The hospital is not to be regarded as an asylum or a lazaret-house. It is rather a sanctuary in which we all, students and teachers alike, learn to pity and bring succour to the distressed. The extent of that relief is measured by its efficiency, and this efficiency is, I maintain, materially stimulated by clinical teaching.

But it is with regard to the last point—the utilization of the hospital for the purposes of research—that I am specially concerned to-day, and I have to ask you to bear with me for a few moments whilst I endeavour to put forward this claim as strongly as I am able. The progress of hospital work in its relation to the prevention and treatment of disease may be said to have been slow and uneventful until the time of Lister. It is true that physicians like Addison and Jenner made record discoveries by pursuing cases of disease from the clinical standpoint to the *post-mortem* room, and no doubt many interesting problems in the biology of disease were made clear by these and other observers. But the stimulus to laboratory investigation dates from the discovery of Lister, who utilized to the fullest extent the labours of Pasteur. That discovery was altogether the result of his observations in hospital, for nowhere except in a large general hospital could he have found materials for that method of treatment which has revolutionized not merely surgery but the medicine of our day. As an illustration of the effect of the Listerian treatment of wounds I believe I am correct in stating that the mortality after major operations has been reduced from forty to three per cent.

Who can estimate the gain to humanity of the result of this one instance of hospital research work? It is almost entirely to research work undertaken in the laboratory that pathology may be said to have attained its present position. A comparatively few years ago the work of the pathologist was left to the assistant medical officers—indeed largely to the senior students. There existed, no doubt in an imperfectly organized form, the machinery for recording notes, and compiling facts in connexion with the biology of disease, of comparing these with conditions found after death, and for making generalizations from both data. But there were no means of pursuing inquiries into the modes of origin of disease, nor was any attempt made to determine the nature of obscure conditions which could be investigated only by the use of instruments of precision not then employed. In Dublin in 1894 the first step was taken in the United Kingdom to place pathology in its legitimate position. The Royal University, at the instigation of Sir William Thomson and myself, made the regulation that pathology and bacteriology should be made a special subject of the medical curriculum, and, at the same time, a professorship was

* Being part of an address delivered at the Mater Misericordiae Hospital introductory to the Winter Session, 1904-5.