reported that it was teeming with colon bacillus. That was supposed to be an attack of influenza, the bladder symptoms being caused by influenza or by the inflammation of the testicle. How easy it is, when you come to think about it, in such a case as that to confuse the cause and effect. Not long ago a man had increased frequency of micturition. I observed that his bladder was tender on pressure. On rectal examination the prostate and the neck of the bladder were exceedingly tender. When asked to pass urine into a glass I was almost deceived, for the urine was perfectly clear and betrayed no signs of inflammation of the genito-urinary tract. But it was sent for bacteriological examination, and the report came back that it was teeming with colon bacillus.

Acute colon bacillus cystitis is a dangerous disease. I have seen a man with a pulse of 110, delirious, with violent pain in the lower part of the abdomen and the neck of bladder, passing water with great frequency. It is an infection that may spread up the ureters and cause ascending pyonephritis. Colon bacillus cystitis, unless properly treated by means of urinary antiseptics and perhaps by vaccination, may go on indefinitely. I have notes of a patient who was under my care in the year 1893. She was treated for a very long time—two years off and on—for cystitis. Five years afterwards the right kidney was explored to see if it contained a stone. She again came under my care at the end of last year, and we found the colon bacillus in the urine. We managed, I think, to make that patient a great deal better. It is very difficult to draw any conclusions from the clinical evidence. It does not follow that because a particular kind of treatment makes a patient better, therefore the patient got better because of the treatment. Still I cannot keep thinking that that patient made an improvement such as she never made before, after she had been vaccinated with colon bacillus.

The Early Diagnosis of Cancer by Immediate Histological Sections.

I will not trouble you any more with bacteriology and the curious groups of bacteria we have met with, but I would like to mention one other direction in which the pathologists have been of most essential service to surgeons. It is now my habit, whenever I remove tumours, to have a pathologist present with a freezing microtome, and have a section made there and then as I proceed. The most extraordinary things have been brought to light. I am quite sceptical that anybody can diagnose early carcinoma of the breast from a small adenoma or little cyst. These tumours can at once be diagnosed, if you remove the tumour and have it there and then examined microscopically. I saw a patient a little while ago who had had carcinoma of the left breast removed. Two years afterwards a small lump appeared on the inner side of the right breast. She naturally thought her old enemy had returned. The tumour was felt, and if I had been asked to guess what it was I should have said it was a cyst, but I knew that she had a carcinoma removed on the opposite side, and I was cautious. The tumour was cut out and it was a cyst, but a piece of it put under the microscope showed that the wall of the cyst contained carcinoma. After removal the mammary gland was examined, and other patches of carcinoma were found in it 2 in. beyond the original growth. We cannot diagnose tumours with the naked eye. Here is an illustration of that essential fact. A lady had an operation performed for the removal of a tumour of the left breast. It was supposed to be a chronic mammary tumour. The major portion of the mammary gland was removed, and possibly some of the axillary glands. Then the tumour was examined and found to be a carcinoma. But if you come to think, a breast which has one piece of carcinoma may have others; and if one lymphatic gland has cancer in it, there may be a great deal more. Six months after a tumour appeared in the right breast, and the same surgeon who had operated for the supposed chronic mammary tumour performed a sweeping operation. It seems so natural to assume that if a person has had carcinoma in the left breast, the tumour which appeared in the other side was of the same description. After the sweeping operation, it was found that the tumour was a chronic mammary tumour. Had these tumours been microscopically examined there and then such errors would not have been fallen into.

Clinical Remarks

ON

THE OPEN-AIR TREATMENT OF ACUTE PNEUMONIA.

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THERE is no doubt that great gain has been secured in recent years by the recognition of the fact that acute pneumonia is not a true respiratory disease, but an acute infection, the pulmonary signs being merely a manifestation of the local reaction of the tissues of the body to the invading organism. The principle which must underlie the treatment of all diseases of this class, in the absence of a specific remedy or serum, must be the strengthening of the defensive mechanisms of the body against the invasion of the disease, so that the invading organism may be defeated on its own ground. This principle has now for a long time been recognized in the treatment of acute pneumonia. We have so far no reliable remedy which can be considered curative, and the maintenance of the heart's action against the depressing effects of the toxins of the organism is recognized as one of the cardinal points in the treatment of this malady. The imperfect aëration of the blood, as manifested by the marked cyanosis in some cases, is another indication for treatment, and the use of oxygen has come to be regarded as an important aid in the treatment of cases of this disease associated with much cyanosis and profound toxæmia. I believe that these two indications for treatment are most effectively met by the adoption of the open-air method.

My attention was first drawn to this method of treatment of acute pneumonia by a paper by Northrup in the *New York Medical Record* last year on the subject of fresh air and respiratory diseases, and I at once decided to follow out this treatment in my hospital practice. In a paper on fresh-air treatment in hospital wards in the *New York Medical Record* of February 9th of this year, Gilman Thompson refers to a large number of cases of acute pneumonia treated by being placed in isolation rooms close to open windows.

Of 128 patients with pneumonia, 36.7 per cent. made complete recovery in the usual time, without any medication, and for the most part with their heads lying close to open windows in midwinter weather.

I have not been able to find any other published record of experience of this method of treatment, though it is, of course, possible that it has been more widely adopted than would appear from the literature at my hands at present. In the last issue of the *Medical Annual* no reference is made to it, and in a recent discussion at the Edinburgh Medico-Chirurgical Society on the prognosis and treatment of lobar pneumonia, introduced by Dr. Affleck, the only reference to this method of treatment was made by Dr. Byrom Bramwell, who is reported to have said that "he would wish to treat such patients by the open-air method," from which I infer he had not done so previously. It is true that Sir James Barr, in some of his recent letters in the *BRITISH MEDICAL JOURNAL* on the treatment of pneumonia, advocates doing away with the oxygen cylinder and giving the patients plenty of fresh air, but, so far as I can gather, he does not frankly advise the adoption of the open-air method of treatment.

It is for this reason that I venture to give some preliminary account of my experience of this method of treatment, which I have adopted in every case of acute pneumonia admitted under my care in the Royal Prince Alfred Hospital in Sydney during the last ten months. I admit that my cases thus treated are not very numerous. We all know that in different seasons and epidemics the virulence of the infection, as in other infective conditions, varies considerably, and possibly I have been favoured in this respect by having what some might say was a series of mild cases. It is also possible that the type of the disease as we see it in this country is not so severe, generally speaking, as in Great Britain and America. Certainly, so far as my experience goes, the mortality from acute pneumonia in hospital in Sydney is not so great as it was in London. In my days as House-Physician at University College Hospital, London, the mortality from

acute pneumonia was something like 40 or 50 per cent., and the late Dr. Wilson Fox used to impress upon us students the fact that pneumonia was a very fatal disease. I am well aware of the fact that other physicians have recorded a very low rate of mortality under certain lines of treatment in this disease. Hence I consider that statistics of the results of any special method of treatment of acute pneumonia are not reliable unless based on a very large number of cases extending over a number of years, and the mortality-rate compared with that of cases under other conditions of treatment during the same period of time and in the same epidemics.

My routine treatment of this disease consists in at once placing the patient on the balcony or verandah of the hospital, where they are kept night and day. A screen is placed round the head of the bed to keep the cold winds from blowing directly on the patient. Of the cases thus treated, in all about twenty in number, only one has proved fatal, and that was an old man over 60 years of age, who was admitted, practically moribund, with extensive consolidation, much cyanosis, and a very feeble pulse. He died within a very few hours after admission. Contrast with this the case of a young girl of 12 years who was admitted under my care some few weeks ago. She had a history of an attack of acute pneumonia some three years earlier, and ever since of having had a cough. I found her propped up in bed, with marked dyspnoea and cyanosis, a temperature of nearly 104°, a rapid weak pulse, and an extensive outbreak of labial herpes. On examination of the chest, it was found that she had signs of pneumonic consolidation at both bases. Previous to my seeing her she had had a little oxygen administered, and had also had a hypodermic injection of strychnine, as her pulse and general condition were considered so bad. She was inclined to be delirious, and had had no sleep for the previous two nights. I ordered her to be taken out of the ward at once, and placed in the open air on the balcony with a screen round the head of her bed. With the exception of a mixture of carbonate of ammonia and cinchona she had no other treatment. The first night she slept well, and the improvement in her condition was most marked. She had her crisis in about thirty-six hours after being placed outside, and rapidly convalesced. I feel sure, from previous experience, that if this patient had been kept in the ward, it would have been necessary to administer oxygen as well as repeated hypodermic injections of strychnine to bring her safely through her illness.

At first I was disposed to hesitate to adopt this method of treatment in the presence of complications, such as bronchitis; but in one of my cases last year, in a woman of about 30 years of age, I followed the treatment with equally satisfactory results.

As regards the effect of the treatment generally, I can say that no unfavourable symptoms of any kind have appeared in any patient thus treated. One cannot, of course, argue *post hoc propter hoc*, but in my experience the open-air treatment appears to have a distinctly beneficial effect on all the symptoms. The temperature has never risen above 103.8°, and no antipyretic treatment has been necessary. In most of the cases the temperature drops, and the crisis occurs in two to three days. In no case so far has the crisis occurred later than one week from the onset of the disease as estimated by the initial rigor. I should not wish to be understood to claim that this line of treatment has any special effect in shortening the duration of the disease; I merely state what has been my experience. An investigation of a much larger number of cases treated by various methods would be necessary to enable one to decide whether the disease is really shortened or not by open-air treatment.

As regards the pulse, an almost immediate effect is noted in the way of improvement, and in only a very few instances was any cardiac stimulant, such as strychnine or digitalis, needed. No alcohol has been given. The tongue begins to get moist and to clean rapidly, and the appetite is much improved; the patients are always ready for their milk. Sedatives have not been required except in one or two instances where there was some delirium at first, but not more than one dose has been requisite. As a rule sleep becomes at once quiet and refreshing. Cyanosis also rapidly disappears.

I have questioned some of the older and more experienced nurses at the hospital as to their impressions of the

results of this treatment. They are unanimous and enthusiastic about the immense improvement in the condition of patients thus treated as compared with those treated on the old lines in former years. They speak of the improvement in the appetite, the patient being so much more ready to take nourishment. They are also satisfied that convalescence is more rapid and satisfactory.

So convinced am I of the superiority of this procedure in the treatment of acute pneumonia, that I have no hesitation in recommending its general adoption. I have yet to learn whether any unfavourable effects can be attributed to it. Probably our more severe climate may have conduced to the success thus far attained, but considering the immense benefits which are well known to accrue from this method of treatment when applied to pulmonary tuberculosis, even in the Old Country, I feel sure that its adoption in cases of acute pneumonia would result in a considerable reduction in the mortality.

I hope, subsequently, to be able to publish my results in a larger series of cases, and merely now record my preliminary experience, that others who may not have used this method may be induced to give it a trial.

THE NEED FOR THE INSPECTION OF ALL RESIDENTIAL SECONDARY SCHOOLS IN MATTERS RELATING TO SANITATION AND HYGIENE.*

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No congress on school hygiene would be complete which did not take into consideration the hygienic and sanitary conditions which exist in our great secondary schools—those schools I mean which, in England, we class under the name of "public schools."

1. The subject of school hygiene, in its relation to our great residential schools, is one of the highest importance, for two main reasons.

(a) The place of our country amongst the nations of the world must, in the near future, depend largely upon the physical efficiency of the next generation, and a considerable proportion of those to whom the country will have to look for its workers in every department of life must be drawn from amongst the boys who are now being educated in our public schools.

These boys, therefore, form a valuable part of the nation's assets, and it is plainly our duty to do all that we can to secure for them such conditions as will best fit them to play their part efficiently, whether it be great or small; in upholding the empire which it will be their duty to serve.

(b) It is, as we all know, easy to sap the foundations of physical development in the young, and none know better than my audience that injuries inflicted during the impressionable period of childhood are seldom without more or less lasting ill results, and not infrequently prove to be irremediable.

There cannot, I think, be any doubt that preventable injuries are inflicted upon growing boys at many of our public schools through want of proper consideration of the varied conditions that make for health.

We none of us question the fact that it is possible largely to affect for good or evil the physical development of all living things by the environment in which they are placed and the conditions to which they are subjected.

If you go round a rich man's training stable or dairy farm, you will, if he takes any interest in the matter, find that no pains have been spared to make the conditions under which his creatures live as healthy and orderly as science can make them or the most solicitous care suggest. Can we with any confidence say that the conditions under which boys live at their public schools always give evidence of the same thoughtful care?

(c) I have often been told that it is unreasonable to expect masters to devote much attention to the details which, as we know, affect the health of growing boys, since, it is argued, our public schools are a system for the "survival of the fittest."

* A paper read at the Second International Congress on School Hygiene, Section X.