CONTRIBUTED ARTICLES.

By Colonel McKechnie.

PNEUMONIA.

THIS disease has assumed considerable importance at the present time because it has associated itself with the pandemic of influenza which broke out in 1918 and is now responsible for most of the deaths which occur in it. It is a particularly tragic disease in that it is apt to cause the unexpected death of the young and strong, the healthy and beautiful, the able and intelligent, as well as that of the old and feeble, the drunken and diseased.

When a nurse sees a beautiful young girl, or a fine young man, the pride of the family, panting for breath in this disease she should know that her care and attention may make the difference between life and death. For pneumonia is a disease in which doctors can do little, and nurses much, although the ablest nursing may be spoilt by bad doctoring: the reverse is also true, for acute pneumonia is eminently a disease in which the nurse should help the doctor and the doctor should help the nurse.

The history of the treatment of pneumonia by doctors is still of groping after the best.

Although the modern physician knows nothing of the real mechanism of pneumonia, of those biochemical processes which occur in the blood, lungs and nervous system as a result of the reaction of the human organism against the pneumococcus growing in it as a parasite, he does know much which was unknown to his predecessors and which renders the disease less mysterious to him if not more comprehensible. His predecessors when frantically called upon by anxious relatives to do *something* were faced by a mystery, a young and healthy person suddenly attacked by high fever, rapid breathing, pain in the chest, and distress. In the early days it was the habit of people to imagine a god and a devil at the back of every mystery. If the mysterious occurrence was a beneficial one, rain for instance, then its author was a god, Jupiter Pluvius. If the occurrence was a noxious one, then there was a devil at the bottom of it, so, to the earlier physicians, and to the patient's friends, the mystery of pneumonia was explained by the presence of a devil inside the patient. And truth to say that ancient explanation can scarcely be improved upon even at the present day. All that modern science has been able to do is to show us the particular devil which causes pneumonia. Modern bacteriology shows us how to catch and isolate the devil and to exhibit him to our gaze under the microscope as that exceedingly minute living thing the microbe, called the "diplococcus pneumoniæ" of Fraenkel. This name is longer and more elaborate than those by which the ancients used to call their devils, a more precise name, in that it denotes a certain microbe, which we know to have recognisable properties, apart from its manifes-

tations in pneumonia and which therefore contains attributes not so varied and imaginative as that of one of the devils of our ancestors; but at the last the pneumococcus, so far as the modern physician's knowledge goes as to how and why it causes pneumonia, might just as well be called Beelzibub.

In the old days the doctor and his satellites, thinking there was a devil inside the patient, and not being able to see him, gave him human attributes in the way that man has always done when trying to imagine what his gods and devils were like. Thus they thought he will probably dislike nasty tasting and filthy drinks, bad smells and horrid noises, and that he might be frightened by hideous masks or threatening gestures, or his malignant hatred of the human race appeased by the sacrifice of some living thing, other than his present victim, such as a goat, or a comparatively unimportant slave. In consequence we had witch doctors treating patients with most awful medicines in the hope of thereby expelling the devil, indulging in incantations, orgies and dance, and often committing human and animal sacrifice. Had they known that their devil was what we now know him to be, without human attributes, but only a microbic piece of living protoplasm which could not be influenced by any of these actions, they would have tried other methods.

The physicians who succeeded the witch doctor were able to reason in a more enlightened way as a result of the gradual growth of science (which always expels the man-like god or devil as an explanation of any phenomenon within its reach); began to abandon the devil theory as an explanation of the mystery, and with it their therapeutic masquerading, incantation, dancing and sacrifice. But some of the older witch doctors' armamentarium is still left, or has but very gradually been abandoned. The disagreeable potion, originally intended to expel the devil by its very nastiness, still survives, and was indeed much used by some, in all its old hideousness, until quite recently. And although no doctor nowadays wears a hideous mask or feathers, or indulges in terrifying gestures, the massive signet ring, and gold-headed cane, or the more modern tall silk hat and black frock coat, pompous and impressive manner, are no doubt the evolutionary products of that camouflage which hid the mere man beneath the impressive exterior of the witch doctor.

When doctors abandoned the devil theory, they felt as all men feel, that they must have some explanation to replace their fallen friend, so they invented what they called the "humoral" theory. The juices of the body were said to be at fault. The disease was an error of physiological working rather than the reaction caused in the organism by an outside agency such as a devil getting inside. This theory of juices or humours, though it looked less superstitious and more scientific, was in fact further from the truth regarding the *cause* of pneumonia than was the original devil theory.

As we *now* know there *is* a devil which causes pneumonia, but science now teaches us that he is a little microbe actually more mysterious and

wonderful than the most complicated spook or fairy ever imagined by the limited mind of man, but until human bacteriology and the microscope enabled us to see the microbe, the humoral theory held the field.

The mystery of pneumonia now appeared to consist in some sudden disorder of the juices of the body, especially of that well-known juice, the blood. In thinking this they were classing pneumonia along with other fevers to which they applied the same theory. Now we are told in the Bible, "IF THINE EYE OFFEND THEE PLUCK IT OUT."

The most successful therapeutists of the present day—the surgeons—act largely upon this advice. They cut out the offending part, an adenoid, a tonsil, an appendix, and even if they sometimes cut out an unoffending part by mistake, the balance is on the whole largely in their favour because modern science has made the diagnosis of surgical effect more often right than wrong. Now the humourists, (as we may call those who held the humoral theory for so many centuries) became pursuaded that the chief fault in so grave a disease as pneumonia must be in the chief humour, the blood, and so on the biblical and surgical principle above referred to they proceeded to remove "the blood." For many centuries the practice of bleeding in all fevers, and especially in pneumonia, was very extensive and with many physicians it was almost the only remedy, the panacea.

There was some show of reason for this. In most cases of pneumonia it was found that the blood was much changed in appearance. Normal blood flows from a vein in an agile purple stream, and remains fluid in the basin for a few minutes. The blood in pneumonia however was often found to be thick and tarry looking, so dark a blue as to be almost black, and it clotted in the basin almost at once. Also when the patient was bled he often looked and felt better for a time, his distress was somewhat relieved, so bleeding had a great vogue. Some physicians went mad on it, and seemed to regret that they could not take all the blood from their patients without killing them. They went as near doing so as they dared and there is no doubt that in some instances enthusiasts overstepped the mark and actually did remove all the blood of their patients. Such excesses brought about a reaction in medical thought, and a searching of heart, so that in the nineteenth century the cause and treatment of pneumonia were hotly debated, and the school of leaches lost ground.

At times and places when science is lacking superstition, witch-craft and quackery have their fullest scope. Quacks and schools of quacks have always been numerous and in those days amongst them all one school arose which began to command respect because of the good result of its practice. The school was of that Homeopathy. Able physicians observed that cases of pneumonia treated on homeopathic lines did as well or even better than those treated by their own orthodox methods. The homeopathic treatment, although it professed to be a treatment by minute doses of drugs, was in reality a treatment not by drugs but by careful feeding and nursing. A homeopath treating his patients by minute doses of pure carbon or charcoal

had to be very particular that his patients' toast was not burned, or else his patient might get in one dose of burned toast as much pure carbon as he was about to be given for his whole treatment. So the homeopath, if a good one, was very particular as to diet; he gave practically no medicine and in contrast with that of his enthusiastic rivals in the bleeding line, his performance was one of masterly inactivity; and the results were better than those of the more active but less careful and cautious allopath.

In the light of modern knowledge it is curious and interesting to observe the mixture of truth and error which has prevailed throughout the ages in man's conception regarding the cause and treatment of pneumonia.

The witch doctor has the true conception of an active agent coming from outside, entering the body, and causing the disturbance. He is completely in error as to the nature and attributes of this agent, and his erroneous conception lead to fantastic and harmful treatments, and even to cruelty and murder. But even in his treatment there is an element of good, and we shall see presently that a nasty purgative which he administered with the idea of driving out the devil is of practical value and importance in the treatment of pneumonia, and that ammonia or its spirits, which he would have thought a good thing with which to drive away the devil by its smell, may possibly have been a means of favourably modifying the blood, which we now know to be unfavourably modified by the presence of the parasite in the organism, and ammonia may be able to practically undo this harmful action. But this last surmise touches on the as yet unknown, for we do not know the nature of the biochemical changes which occur in the blood and tissues in pneumonia. That is for the medicine man of the future, who, when he knows them, may be able to apply such remedies as will bring the various processes to a standstill.

Again the theory and the treatment of the humourists contained elements of truth and good. The humours of the body, although not deranged by spontaneous abnormal working, are profoundly modified. And just as the purgatives amongst the nauseous remedies of the earlier doctors have been found to have an actual beneficial action, so it is most probable that bleeding, if used with judgement and discretion, has also a beneficial action.

Lastly, the homeopaths were right in their careful nursing, attention to diet, and minimum of drugging, although wrong in their ideas that if a thing is good the less you give of it the better, and that drugs which cause the symptoms of a disease will cure that disease.

A physician trying to select what was right in the ideas of our predecessors, and discarding what was wrong, in the treatment of a case of pneumonia at the present time and with our present knowledge, will at once engage a competent nurse for the case if he can got one. She will be the most important factor in the treatment. It is she who will have to give the hourly care and attention, careful feeding, and help needed by a patient who is struggling for life, whose strength and power to live are slowly ebbing as his system battles with suffocation and poisoning. She will need to arrange that he is so placed,

that he may benefit to the utmost, by the fresh air available. She will watch, help, and support him, she will need to observe the position in which the breathing is easiest and the heart beats most nearly normal, also the expression of anxiety and distress the least. It is she who will have to act as the doctor's intelligent eyes and ears and to bring to his notice any symptoms or occurrence of moment which she may be able to observe during her long vigils. This is one of the most important functions of a nurse, but one which is not always sufficiently cultivated. The nurse must remember that she has far more opportunity of observing the patient than has the doctor. The doctor has to look after many patients, and only sees the one on whom the nurse is attending for a short time whilst she is able to keep a constant watch on him in all the phases of his illness. It is in this way that an experienced nurse is often in a better position than is the doctor to judge of how a case is progressing and of the severity or otherwise of the disease. Such experience and observation by a competent nurse properly put at the disposal of the doctor when he visits the case will be of great help to him and enable him to do for the patient all that his own experience and knowledge dictates. Such cooperation between nurses and doctors strengthens the power of each and is the best for the patient. The physician will probably tell the nurse to purge the patient in order that the diaphram may have free play ; this is most desirable when the respiration and circulation are embarrassed as they are in pneumonia (*e. g.* singers take care not to eat and fill their abdomens before singing in grand opera but take their supper afterwards).

Here is where the intelligent cooperation of the nurse will come in. People differ enormously both as to the amount they retain in their abdomen and as to the ease with which their intestines may be made to evacuate it. Purging which may be quite inadequate for one person may be much too severe for another. There is urgency to empty the abdomen, because pneumonia is a rapid disease, and to get the patient into the best condition for his battle for life as speedly as possible is most important. The doctor should be able to trust the nurse to give a purgative sufficiently often and sufficiently freely to thoroughly empty the abdomen as speedily as possible and no more, and if there is undue or unexpected difficulty about it, to call him to see the patient without waiting for his regular visit. Recently the author saw a case of severe pneumonia in which adequate purgation had been neglected. There was tremendous tympanites. An incompetent doctor had been treating the case and the patient was dying and would infallibly have died had it not been for the action of a nurse. This nurse saw the state of affairs and brought the case to competent notice with the result that by the use of drastic remedies, including pituitrin, the tympanites was relieved and the abdomen emptied with the result that the patient survived.

A nurse in this disease and in others has always to remember that her function is not to treat the case herself but to carry out the treatment of the doctor. The experienced and competent nurse will do this most effectively. She will understand, or if she does not, she will know how to ask, what the

doctor is aiming at in his line of treatment and she will be able to act in such a way as to carry it out to the best advantage. In certain cases no doubt she will find herself in the difficult position of seeing harm done by the treatment. For example many doctors are fond of giving plenty of brandy and digitalis to pneumonias. A case is recorded where another doctor was called in consultation over a case which had become comotose, to the alarm of the friends, the relatives, the nurse and doctor. The consultant who was called in found the breath of the patient to be smelling very strongly of brandy. The little breath he had was full of its vapours. The patient looked drunk. On enquiry the doctor found that unfortunate patient has been dosed with two ounces of brandy every hour or so. There was no doubt about it. The coma was that of the drunkard and disappeared in due course when the brandy was stopped. If the nurse in this case had been sufficiently experienced and competent she might have been able to set the doctor right in his erroneous treatment. Her correct procedure would have been to suggest what was wrong to the doctor in her report of progress at his visit. If he disagreed she could only remain silent and acquiesce in what was being done, for she must remember that it is only exceptionally that her own knowledge will be greater than that of the doctor. When it is, it will be because she has had an opportunity of noticing things during her long vigils which he has not had the opportunity of doing. Therefore, she should make these notes available to him but she must leave to him the judgment as to what had better be done. She may quite legitimately suggest anything which in her experience may have been found useful, but she must be careful not to make any suggestion in a critical spirit or as an amendment to what the doctor thinks right. Such suggestions coming from a nurse in a spirit of criticism or that of one with superior knowledge showing another of inferior knowledge what he ought to do are resented by doctors and rightly so. They will not lead to cooperation and team work between doctors and nurses, but rather the opposite. A nurse should endeavour to make a doctor's aims succeed and to do this she should intelligently ask herself what these aims are ?

A good nurse is womanly, competent, and sympathetic and if experience is added to these qualities, and those powers of observation which enable her to put that experience to use, then indeed her aid will be of the greatest possible value in combatting that mysterious and fatal disease, pneumonia.