Diseases and their commencement : lectures to trained nurses delivered at the West London Hospital / by Donald W. Charles Hood.

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LECTURES TO TRAINED NURSES

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DELIVERED AT

THE WEST LONDON HOSPITAL

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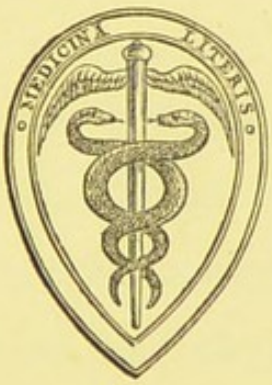

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PREFACE.

In the autumn of 1884 I was asked to give a short Course of Lectures to the Nurses at the West London Hospital. I willingly complied with the request, but as the time drew near for me to prepare my subject I felt no little difficulty.

The great improvement which has taken place in the nursing of the sick, during the past few years, necessitates a training for our Nurses, which is in every way different, and beyond the average capacity of the Nurse of olden time.

Highly-trained educated women now take up nursing as a profession, and they are most anxious to avail themselves of any opportunity for gaining knowledge in their art.

Thinking over the matter for my address, I felt I might best serve and help my audience by at

least attempting to show them upon what lines the rational practice of medicine is based: in other words, what are those principles which are ever present in the mind of the Physician, who gives definite instruction to be carried out by the Nurse acting under his direction.

I have endeavoured to show how futile it must ever be to look upon disease as expressed only by certain prominent symptoms, and on medicine as an art by which these symptoms are to be treated. It is essential that the public should understand the practice of medicine from this point of view. Specialism, growing rapidly as it has, must assuredly tend to the prejudicial treatment of individual symptoms, as opposed to the treatment of that disease which gives them birth.

It must not be forgotten that, in a large number of cases, the diagnosis is made by the individual sufferer, and not by the expert. Thus the state we speak of under the name "Dyspepsia" may be caused by numerous different kinds of disease. It may be produced by a diseased or faulty action of any one of the principal organs of the body, but it is the symptom

Indigestion which appeals to the sufferer, and sends him off at once to the specialist, notwithstanding that the true cause for his indigestion may be found in a weakly acting heart.

Brace the heart, give tone to the circulation, and the dyspeptic symptoms vanish ; but treat the stomach alone, and a very host of remedies will do no more than further irritate the organ which is but expressing, maybe, the first stage of disease in another.

A correct appreciation of such principles appear to me to be essential to the humblest student of medicine, and it is the rudiments of such principles I have ventured to discuss briefly in the following pages.

DONALD W. C. HOOD.

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LECTURES

TO

TRAINED NURSES

ON

DISEASES AND THEIR COMMENCEMENT.

LECTURE I.

DURING the next few weeks it will be a pleasure to me to give you a short course of instruction upon the elements of sick nursing; in other words, instruction in those principles which underlie—are, in fact, the foundation of your calling—nurses to the sick. I shall endeavour, in very simple and plain language, to place before you some of the more important changes which are constantly occurring in our bodies to which the name sickness, in its widest meaning, is applied.

These sicknesses—or, if you like better, these illnesses—are constantly coming before you. They are known by certain names.

We all of us know that people fall ill, and that

their illness may be very slight or very severe. We also all of us know that these illnesses have names ; we speak of people having a slight cold, or suffering from some such horrible disease as cancer. In the one, the illness is but a very slight matter ; in the other, it is of the greatest importance. Between these two extremes we shall find innumerable complaints. It is on the nature of some of these complaints that I wish to address you, nurses ; and I do so from the earnest feeling that such knowledge, little as it can be, will be of some use to you in your calling, and I hope make you better nurses.

If I ask you why you nurse the sick, you will naturally answer that you do for him those offices which, by reason of his illness, he is unable to do for himself. He is during his sickness much the same as a child. The sick man requires his suitable nourishment—nourishment, moreover, suitable to the illness from which he is suffering. He requires care as to the clothes he wears; as to the warmth of the room in which he lies. He requires, as you all well know, the utmost attention and care by night as well as by day.

But more, far more, is required from a fully trained sick nurse. Watching a bed of sickness with ever such attention is of little use, if the nurse is not somewhat acquainted with the nature of

that illness with which her patient is afflicted. Thus, she should know that in typhoid fever the management of the food is of the utmost importance; she should know that in rheumatic fever excitement or sudden movement is bad for her charge, and she should know the reason why it is bad; she should know that in typhoid fever the bowel is the principal seat of the trouble, that indigestible food may set up an irritation which may cause even death. She should know that the reason for preventing excitement during rheumatic fever is on account of its effect upon the heart, the heart being peculiarly prone to disease during the course of this complaint. Exciting conversation, many visitors to the sick-room, would therefore be very bad for the patient.

You must remember that some of you will be called to nurse patients far away in the country, far away from medical assistance. You will have often to act upon your own responsibility; you cannot always have the help and advice which you can command in the wards of a hospital, where you can always have help within a few moments of requiring it. The very profession you have chosen—and I do not know a more honourable one for young women to take up—demands that you accept this responsibility as part of your daily work. I wish to assist you in bearing it.

This evening I wish to talk to you about the meaning of a word you are constantly hearing. A day does not pass without your meeting with some evidence of disease, which you may hear explained by this word. I allude to the word inflammation. What do you understand as the meaning of this word? what is the matter with the patient who has inflammation in some part of the body? With many, with the ignorant, the name itself is sufficient. You will find among the poor, for instance, that they always speak of "*the inflammation*" as if it were a distinct disease, such as scarlet fever or measles. A very small experience in nursing tells you that all parts of our bodies are liable to become inflamed—to become the seat of inflammation. Its evidence may be very slight, as seen in an inflamed pimple on the skin; or very severe, as when the brain or lungs are inflamed. In the one instance we see the pimple; we see that it is red; it is slightly swollen; if we place our lips to it we shall feel it hot, hotter than the surrounding skin; it is, moreover, uncomfortable, it gives us pain.

Well, you see there are here four simple, evident signs of inflammation—namely, redness, swelling, heat, and pain. It is true that we are now only looking at a tiny pimple, but we shall see the same signs, the same symptoms, if the

place inflamed be large or small. Each one of you have probably at some time of your life suffered from a boil. You well know how much pain the little swelling will give; how anxious you are to avoid giving it a knock or jar, indeed the slightest touch is pain. You know how red and hot it is, how reddened the skin is all round, how it throbs, and how tight and stretched the skin appears round the inflamed place.

These facts are very simple every-day occurrences, but they are connected more or less with almost every case of illness you may be called upon to nurse. The inflamed place need not be, as you are all fully aware, on the surface of the skin. It may be connected with some of the deeper parts, hidden inside our bodies, and we have to judge of its presence by certain signs which we know by experience to take place when certain parts of the body are inflamed. Thus we have signs, or, in other words, symptoms, when the lungs are inflamed, or when the bowels are inflamed. And you can easily understand that these signs are different according as different parts of the body are affected. But you must remember that whatever part is inflamed—whether it is on the surface of the body, as in pimple, boil, or carbuncle; whether down deep inside the chest, as in inflammation of the lungs; or hidden away

in the abdomen, as in inflammation of the bowels; or surrounded by the hard, bony case which encloses our brain, and which you know as the skull, as in inflammation of the brain. Wherever, I say, this inflammation takes place, you have the same changes taking place as we noticed in the little tiny pimple. Sometimes one change is more marked than another: thus, one part of the body may be more tender than another. You know how painful an inflamed eye becomes; a small piece of grit flies in, and within a few moments the pain is very great; within a few moments more the whole eyeball becomes red, feels hot, and we can almost watch the changes taking place, they come so rapidly. Again, there are some parts of the body which rapidly swell; there is room for swelling to take place. In other parts swelling is not so easy; the inflamed place may be closely shut in by, as it were, walls of bone, or by hard unyielding substance which is made up of strong interlacing fibres, and which will not give in the least. Some of you may have had the sad experience of inflammation in the palm of the hand, which led to the formation of an abscess, and which required the help of the surgeon. You know what relief was given when his cut gave vent to the pent-up matter—matter which had been prevented coming to the surface by reason

of such unyielding fibres as I have just mentioned.

You must bear in mind that whenever inflammation occurs—whether it be hidden from your sight, as in the deeper parts of the body, or well in view, as in the eye or on the skin—you always have the four changes more or less present. To repeat them once more, you have the part red. Why red? Because there is more blood going to it; you can feel the blood-vessels near throb as they pour blood into the part. Secondly, you have the part swollen. Why swollen? Because there is more blood there; the place is turgid with blood—so full, indeed, that some of the vessels, as it were, leak, and let out, not quite blood itself, but some of its watery parts—a fluid you may have heard spoken of under the name serum.

Thirdly, you have pain. Of this symptom I have spoken more fully, and I have told you that it depends much upon the part of the body inflamed; being very great in some places, and scarcely perceptible in others, you can all of you probably give me the reason for pain; all of you will at once tell me that it must depend upon the nerves of the parts. It depends then upon the nerves of the part in places where there are very many nerves, or where the nerves are very severely squeezed or pressed by the swelling; there we

shall find the pain greatest. But there is another important thing to remember about pain of an inflamed part—it is this: the nerves which give us the sensation of pain are very largely on the surface of the body; the nerves which go to some of the inside places do not give rise to pain, from which fact you will see we can have an internal part of the body inflamed and yet no pain. Moreover, the part inflamed being hidden from our sight, we are unable to see its changes in colour; we cannot see it red, maybe we cannot see or feel it swollen; so here are three of our important signs, I won't say absent, but placed so that we cannot see them. I hope that you have not forgotten the fourth sign I mentioned. I told you that an inflamed place was hotter than usual; the cause of this increased heat of the inflamed part is not so easy to understand; there are changes going on within that inflamed spot which I cannot enter upon now, but which you must for the moment take my word for, and which cause the inflamed place to feel hotter than the parts around. This heat you can easily understand cannot be felt by the hand in every case, especially where the mischief is going on deeply and out of our sight. But we have a means of knowing of its presence, a most important help, a help which all you nurses have to

study. You have constantly to take the temperature of your patient; this temperature more or less helps us to appreciate the extent of any hidden inflammation. You know that the temperature of the human body in a state of health is, to all intents and purposes, much the same; it is according to the marking on our clinical thermometers ninety-eight and two-tenths of a degree. There are many little points which all nurses should think over with regard to the temperature of their patient. I suppose there is scarcely a more valuable help to the physician as well as to the nurse who has been instructed to carefully note the temperatures. I am afraid that regularly taking the temperature is often looked upon as rather a trouble, and I daresay some of you may think it can be of but little importance. I will try and show you why it is of importance.

As I have before said, some of you will nurse patients far away from medical assistance; the doctor may not see his patient for days. Suppose the case should be one of typhoid fever, the patient may be going on well as far as outward appearance can help you to judge, but you will find the temperature is not right, not as it should be; it may be the rise occurs only in the evening, but still it is there, and as long as it

remains your patient is not safe and requires your careful thought. Again, after attacks of inflammation of the lungs, it is extremely important to carefully watch the evening temperature. These are little matters which in nine cases out of ten will be mentioned to you by the doctor, but as I have before said, you may be far from advice, and in some cases where your work lies in a distant parish among the poor, you will find it well to bear these points in mind. The visits of the doctor may be very few and far between.

Taking care that the temperature is accurately noted is, then, a very important part of the duty of the nurse. And while speaking of it, it may be well to refer to one or two little points which require attention. The temperature may be taken in the mouth, under the arm, or placed in one of the passages of the body; this latter position you will hardly be called upon to use without special instructions from the doctor. You will, however, be expected to thoroughly understand taking the temperature under the arm and in the mouth. Some doctors prefer one method, some the other; personally, I always prefer taking the temperature in the mouth. Of course there are many cases in which this is impossible, but when it can be done I believe it to be more accurate and speedy. If the tempera-

ture be taken under the arm, carefully see that the armpit is wiped dry, that the nightdress is not in contact with the thermometer, and that the arm is securely placed against the side. The time for taking an accurate temperature in this position is fully five minutes; in the mouth, two minutes is sufficient. Remember that when taken in this position, you must see that the bulb of your thermometer lies *under* the tongue, and that the mouth is kept closed during the whole time.

In considering the changes which are present during inflammation, we learn that three of them —namely, redness, swelling, and pain—may be so hidden by the position of the inflamed place as not to be seen or felt. The fourth change which I have called your attention to, although not sufficient to give our hands the feeling of heat, yet is rarely absent, and can be detected by our clinical thermometers, which thus forms a very valuable help in ascertaining whether inflammation be present or not.

As I intend these Lectures to be of practical use to you, I will now give you an instance how such knowledge as I have tried to explain can be made useful.

There are many illnesses in which what we call the acute stage, that is, the part of the illness in

which the patient is most ill, in which his symptoms are most striking, in which he requires the most constant care of his nurse, is past ; the patient is better in every way, he is convalescent ; begins to get up, walks about a little, takes more food, and in of course the great majority of cases is soon well. During the stage of convalescence the patient is not visited so often by the medical man, and more responsibility therefore rests with the nurse ; she should now keep a close watch upon her charge, and in the often trifling complaints which are made she will find great help from using her thermometer, as a test whether such complaints are founded upon a cause which necessitates greater care. For instance, what is more common than for the patient just recovering from severe illness to complain of aches and pains. The ignorant nurse at once calls such pains rheumatism, and attempts to explain its presence by the fact that the patient is weakened by illness, and so more likely to feel rheumatic pain.

You will nurse ladies after their confinement, and you will see cases in which about three or four weeks after the birth of the child, everything going on well, the mother is just beginning to get off her sofa. I say in such cases you will find complaints of pain in the hip, pain in the legs. Be very, very careful of such complaints ; in-

variably suggest that the doctor should be spoken to on the subject ; above everything do not say it is nothing but rheumatism, or "you have been sitting in a draught ;" do not attempt to explain away what you really know nothing about. In these cases you will do rightly in using your thermometers, and if you find ever so slight a rise, look upon it as a danger-signal and be fore-armed. I remember seeing a lady in the country, very ill with inflammation of the veins of the leg, in which all her trouble commenced in this way. She had been confined some three weeks, her medical man had gone away for his holiday, leaving her well. Some days after his departure she began to suffer from slight pain in the left hip ; the pain was very little, but it continued day after day, her nurse assuring her that it was only rheumatism or stiffness, I forget which. I was called in some days later and found the serious condition known as white leg, which led to an illness of two months or more ; such an illness I believe could have been prevented by more care, or shall I say, by more knowledge on the part of the nurse. I have seen three or four similar cases. I do not for one moment mention these facts that you may think I expect a nurse to understand the course or complication of those diseases she is called upon to take charge

of. I wish only to impress upon you that if you undertake the responsibility of nursing, it is necessary that you use extreme care; and extreme care, I may remind you, does not mean extreme fussiness.

We must now look more deeply into the inflamed place and see if we can learn what is going on there to cause the signs I have mentioned to you.

To understand something of the nature of inflammation it is necessary to know a few simple facts about the blood, how it circulates through our bodies.

I take it, you all know well that the heart pumps the blood through the body, pumps it from one part of the body to another. The heart forces the blood into large vessels, which are called arteries; these arteries, you nurses who assist at operations know, spurt out the blood in jerks, when they are cut through. You know that when they are divided the surgeon has to tie something round them to prevent the bleeding which would follow if they were left open. They bring the blood straight direct from the heart, and as they pass through the body, and they go to every part of it, they divide into smaller and smaller vessels, till at last they end in an extremely fine delicate network of very small

vessels, called from their small size, hair-like vessels, or, as we call them by their Latin name, capillaries. A capillary is then a very fine blood-vessel really much smaller than a hair. It is the ending of an artery. And although so small is most important. We should get on very badly without our capillaries ; they form a delicate mesh all through the body. If we but scratch the skin so that the blood oozes out, the blood comes from these capillaries. You may get a rough idea of their appearance by looking at the finest piece of cambric under a magnifying-glass. You know how the little threads are woven one within the other, how close, how delicate is the mesh. Well, look upon these delicate threads of cambric as giants, as big, big cords—and they are giants, they are big cords, when compared with the vessels I am speaking of. Yet these tiny capillaries permit a constant stream of blood to pass through them. While the blood is passing through them very important changes take place in the blood itself, changes which are necessary to our health and strength.

You know to live we must breathe, we must eat. The rich, red, bright blood coming down the arteries owes its splendid crimson colour to the pure air we breathe ; it owes its richness in nourishing quality to the food we eat. While it is

passing through these capillaries its nourishing power helps our bodies. As each tiny grain of sand helps to make up the sea-shore, so each tiny capillary helps to support our life and our growth. While the blood passes through these small channels, while it is giving up its goodness it is also taking in refuse. The pure air, or that part of pure air which we call oxygen, does its duty in promoting our health and vigour; it also has the power of uniting with those substances which we have to throw off as refuse, the colour of the blood changes while this is going on and becomes dark and purple. It becomes what you know as venous blood—that is, blood which has done its duty for the moment, which has carried to the inmost recesses of the body the pure air—has made use of this pure air, has, as it were, given it up with its purifying powers. It has also given up some of its nourishment, and has in exchange for good air taken that which is impure and unwholesome.

You should understand then why these small vessels are so very important to our health, it is in them that all the changes of the blood which are necessary to health take place. Moreover, it is in them that all those changes which disease brings about first take place.

Bear well in mind, therefore, the arteries

dividing over and over again till they present the appearance of the finest hair-like tubes, these fine hair-like tubes being almost without any exception in every part of the body, and forming the so-called capillaries, in which, as I have just told you, all important changes take place between the blood on the one side and the body on the other. After these changes have taken place, changes which have turned pure wholesome blood into that which is unwholesome and impure, means must be found to convey this impure blood away. We shall find that the small vessels join together, gradually forming larger and larger vessels, these vessels being the veins familiar to all of us as the blood-vessels which stand out under the skin as dark blue cords or lines. So veins become bigger and bigger till they form large tubes which convey the blood back again to the heart. To the heart, I say, but not to that cavity from which the large artery proceeds. The heart has two duties to perform : it has to pump blood through the body, and it has to pump blood through the lungs. Why is it necessary for the blood to pass through the lungs ? What are the uses of the lungs to us living creatures ? I will try and explain to you. When we fill our lungs with air, that health-giving part which we call the oxygen is absorbed by the blood as it is passing through those small vessels,

which in the lungs correspond to the small vessels I have described as found all over the body, and which I have told you we call capillaries. We followed the impure venous blood to the cavity of the heart—to speak more clearly, to the right side of the heart. This right side of the heart forces the blood through large vessels which pass direct to the lungs. These large vessels divide and divide, becoming smaller and smaller, until they reach the size of capillaries. Now these lung capillaries, instead of being like the capillaries seen throughout the body, and lying close among the different parts of the body—for instance, lying in muscles, in skin or in bone—are found lying all round tiny open spaces filled only with air, and having direct communication with tubes or air passages coming from the windpipe itself. You must understand this very thoroughly, and I will ask you for the moment to think of a bunch of currants; imagine each single currant to be surrounded by a fine layer of delicate cambric: for a moment, imagine all the pulp to be taken out of the currants; imagine their stalks, both large and small, to be tubes full of air, and opening one into the other, and ending in the little round space which is represented by the berry.

Such a rough description may give you some slight notion of the minute structure of the lung,

the fine cambric enveloping the individual berries is intended to represent the fine network of capillary vessels which is found round each air space. The currant stalks are the smaller bronchial tubes or air passages, which open direct into the air spaces ; the bronchial tubes commence at the windpipe, which divides at the root of the neck, and by its division forms two pipes or tubes which convey the air taken in by the mouth and nose to all parts of the lungs.

The dark-coloured, venous blood brought up to the heart by the great veins is pumped by the heart through the lungs. As it passes through the lungs it flows through these lung capillaries.

If you have followed the description which I have given you, you will understand that the blood in the capillaries of the lungs is very differently placed to that passing through the capillaries in other parts of the body.

In what way is the situation different ? In the lung the blood flowing through the capillaries, which lie outside the tiny air spaces—air cells, as we call them—is as closely in contact with air itself as is possible for any fluid to be which is not actually loose.

In fact, between the blood and air there is only the most delicate kind of skin or membrane possible to imagine. You would call a piece of

tissue-paper thin, but the membrane which forms the tubes which act as channels for the blood to flow through the lungs is much finer; and it is an ever source of wonder that anything so fine and delicate can bear the constant night-and-day rush of blood which passes through the lungs without a moment's cessation.

In the body the capillaries are in contact with what we call the flesh, muscles, fat, skin, and bone; each tiny atom of muscle, skin, fat, or bone is surrounded by these small vessels.

I have said that each tiny capillary vessel helps to support our strength, our health, our vigour, and our growth. How does it do so? And how does the capillary which we noticed in the lung differ with regard to its duty, its work, to the capillary found in other parts of the body?

We will attempt to follow a drop of blood as it leaves the heart—the left side of the heart. Onwards it shoots into the big artery—the aorta; from that big artery, on and on, till it reaches the capillaries. Here at once its conditions are changed, while in the arteries it was contained within a thick strong tube. It may be that this tube has extended right down the leg; the blood has been pumped from the heart to the foot all this long journey, contained in a strong tube, which in much of its course has nestled among

the flesh, but shut in as it is by the thick coats of the artery, it does not touch, does not even moisten, the flesh through which it passes. In the capillaries all is changed; the thick strong tube gives place to one that is all delicate and thin—there is only substance and strength sufficient to prevent the blood becoming free that is lying outside its tube. You often do see blood lying outside these delicate capillary vessels; you hear of blood extravasated—such, for instance, is the case in a bruise, the colour of a bruise depending upon the presence of blood which has broken loose out of its vessels. You also see this condition in a blood-shot eye. Blood thus extravasated is lost as regards any good it can do to our bodies. It lies where it oozed out; it can never again enter the circulation.

We will hope that no such accident has happened to the drop of blood we are supposed to be so carefully watching. It is safe in the capillaries of the foot, and all ready to do its duty. What is this duty? It is as pure and wholesome as when it first left the heart; there has been no source of contamination whatever. It is bright red in colour, as you all know arterial blood should be; but see! immediately it has entered this charmed circle a great change takes place—the blood has lost its rich crimson colour; within

an instant it has become dark prune colour. It is now venous: you know the blood in veins is darker, more purple, altogether different from that found in the arteries.

The causes which produce this sudden and extraordinary change you cannot see. If you were competent to examine the crimson blood, you would find that it carried with it a large stock of pure air-like substance known to us all by the name of oxygen. This oxygen, immediately the blood reaches the capillaries, leaves it; or perhaps I ought to say that here the oxygen meets with substances it likes better than the blood. It leaves the blood, and becomes associated with these new substances; in fact, it becomes changed in every respect, and as it changes the blood changes too—changes in colour, as we have seen.

But the drop of blood has also other duties to perform. In addition to merely giving up its oxygen, it has to give up some of its nourishing particles; it brings the necessary nutriment to each little piece of flesh, bone, or skin.

Now, let me remind you of a very simple every-day fact. If you wish to keep a fire brightly burning, you know that it is of little use heaping on coal upon coal—in other words, giving the fire nourishment—if you do not at the same

time take care to remove some of the constantly recurring refuse—you rake out the cinders and ashes; the same with the blood carrying its oxygen and nourishing properties. The body may be likened to a fire constantly kept burning, and, like the fire before us, the refuse from the body requires constant removal. The blood acts largely in this capacity. Our drop of blood had, therefore, to distribute its oxygen and nourishment, to pick up a corresponding quantity of unwholesome, foul matter. This done, it is hurried on into the small veins, and thence up into the heart once more, though into a different part or chamber to that from which it took its departure. You remember we started from the left side. We now return to the right side; and from this side it is pumped direct to the lungs, where it comes closely in contact with the air, which contains large quantities of oxygen. The oxygen which we saw so changed, so altered, is given up, and passes out of the body. Fresh, sweet, pure oxygen is taken in exchange; some of the unwholesome, foul matter is also discharged; and as these changes are taking place, we see the original bright crimson colour returning, venous blood is being transformed into arterial, and the arterial blood passes easily from the lungs once more to the left side of the heart,

and is once more ready to take its long, life-giving journey.

You see, then, that the blood passing through the capillaries of the lungs is taking in good air and giving out that which is bad; on the other hand, the blood passing through the capillaries of the body is giving out that which is good and taking in that which is bad.

Now, what lesson is to be learned from these facts? How can you apply them to your nursing? You know by experience how important it is to surround the sick with good, pure, wholesome air; and I hope now you know the reason why it is so important. If the blood coming into the lungs after its journey through the body, all dark-coloured and impure, ready to seize every atom of good air and begin its journey once more; if, I say, such blood finds on its arrival at the lungs that the air is used up as we say, that has been breathed over and over again (as would be the case in a sick-room badly ventilated, or with many people in it), and that it is, in fact, air full of impurities. It is impossible for the blood to get the necessary supply of oxygen, the blood passes into the lungs impure, and passes out of the lungs in but little better condition. Think what must be the result upon all parts of the body—think what must be the result especially to the sick, to whom it is so

important that they should have every help possible to enable them to throw off their illness. The air we breathe out of our lungs is offensive—it may be very offensive to our sense of smell; whether so or not, it is always full of impurities. You would be surprised if you could really see all the nasty things which each breath we give pours into the surrounding atmosphere—some of the impurities appear like air itself. You could not tell from its appearance that it was not pure, good air, but it is most poisonous. It is the bad air which gives us headache in small, stuffy rooms—which makes us feel dull and stupid in overcrowded rooms. This poisonous air contains, invisible to us, but still surely there, a large quantity of the solid particles which our bodies are daily giving off. These solid particles are hidden from our sight much the same as you see a lump of sugar dissolve and pass away from sight when placed in a tumbler of water. A chemist could take this poisonous air, and he could show you the solid particles to be obtained from it. He could show you that if the bad air any one of you breathes out during twenty-four hours were kept and properly examined, it would disclose the wonderful fact that at least eight ounces of solid matter is contained in it. This solid matter is well known to us under the name of charcoal. It is, then, a

fact that each one of us here present is daily polluting the surrounding air to the extent of eight ounces of black charcoal a day, which comes from the body transformed into a common air-like substance of most poisonous character. How important it is, then, for you to protect your patients from being poisoned by their own refuse, by their own breath. There are other filthy matters which are daily poured out by the lungs and passed into the air around.

Moisture is one of these—water not pure, but impure from the various solid matters contained in it ; matters which may come from the air passages, from the throat or mouth, and which in their turn, ready to become putrid, poison the air of our sick-rooms. Those of you who have followed me thus far will understand me when I say that ventilation and perfect cleanliness go hand in hand. It is impossible for you to be thoroughly good nurses if you neglect the one or the other. A nurse should know that it is absolutely essential that her patient be kept as clean as possible. Some people do not know what real cleanliness means. A nurse should always know, and should moreover know why cleanliness is so important to her patient.

In my daily work I notice that a patient requires two forms of nourishment. He requires that nourishment which we speak of as food, and

again that which we call good, pure air. This latter is often of as much importance as the former ; indeed, I feel sometimes that it is of even more importance. It is one of the subjects which you nurses should study with great care—study the means of supplying your patients with good, pure, wholesome air. I know your means are often poor, but do the best you can. Your first case may be in a palace with every possible means of advice and appliance at hand. Your next, in a cottage, where do what you may the room becomes close and oppressive. Ventilation means obtaining a constant supply of fresh air. We open the window and a current of cold air rushes into the room ; at the same time the hot, impure air passes out ; you must do this, avoiding with care the strike of a draught upon the body of the patient, who possibly by reason of his illness is very susceptible of cold. You will find that a sharp current of air, coming from a badly fitting door, or from a small chink of open window, striking direct upon the sick person, will do much more harm than filling the room with good air by opening wide the window, covering up your patient, thus within a few minutes obtaining a complete change of air. Where such a proceeding is impossible, whether from the nature of the complaint your patient is suffering from, or from

the state of wind or weather, you may do much good by using a small hand spray producer, and every few hours you can spray a little Condy's fluid and water about the room. It will sweeten and cleanse the air. Even in hot summer weather a small fire is often desirable, not for warmth, but by driving the bad air up the chimney it secures a constant supply of that which is fresh and pure.

Ventilation is often spoken of as if it were a kind of mystery; you have to remember it means nothing more than supplying your charge with as constant and pure a supply of fresh air as lies in you power.

There are many simple truths about ventilation which you should treasure in your minds; perhaps the most important is to carefully avoid sudden changes of temperature. Many a patient suffers from sudden change of temperature, and is made worse in consequence. Remember that the delicate body of a sick person is often much more sensitive to change than the most delicate thermometer. You think you are doing all that is required when you watch the thermometer which hangs on the wall by the patient's bed, but it is quite possible for your patient to be chilled before the mercury of your thermometer shows decided change.

Bad chills occur very often in the early hours of

morning. This is the time when the fires of our body are at their lowest ebb; we often have to add to their efficiency by external means: an extra coverlet, a little warm food, a hot bottle to the feet, are often called for at this hour. It is the time when the aged and the sick so frequently succumb to disease. It is the time for very careful watching.

Again, the chill from the cold, biting blast of east wind is dangerous in the extreme. Look around you on the green things in the park or garden, see how scarred and burnt they are with but a few hours of this biting blast. Bear in mind the heap upon heap of leaves which lie beneath the tree—they have been killed by its attack. Remember that the chest of your suffering patient is as delicate, as susceptible to attack, as they.

Therefore, I say, be doubly on your guard against the onset of this enemy. You will learn that east wind gets its pernicious character principally from its extreme dryness. Its keen bite is sometimes of almost caustic severity. The bright, clear, frosty morning with all its crispness is not nearly so harmful, though maybe your glass marks a far lower temperature. Remember that cold with draughts is always dangerous. Without wind, without draught, a really much lower temperature can be safely borne. A very dry air is, as we

have seen, irritating; it is for this reason that the atmosphere of a sick-room is often made more agreeable to the patient by keeping a kettle simmering on the hob. The steam from the spout must project beyond the draught of the fire-place, or the moist steam is sucked up the chimney and fails to mix with the air of the room, and so soften it for the patient's use. In old days it was a common thing to see in sick-rooms a bucket of water into which at intervals a red-hot poker was plunged, the steam which rose in volumes producing the same result as our modern bronchitis kettle.

It would not be right for me to lay down precise rules even about such a seemingly simple matter as the temperature and ventilation of the sick-chamber. Many diseases require a special treatment in this way as they do from drugs. The patient suffering from acute rheumatism—that is, rheumatic fever—is strangely susceptible to chill. The patient suffering an attack of bronchitis is as susceptible to air unduly dry; and, again, the patient suffering from phthisis—consumption of the lungs—is often benefited by a dry bracing cold, at the recommendation of which practitioners of old would have shuddered.

My surgical colleague will enter fully into the importance of keeping the air sweet and pure in

cases where there is an offensive discharge. Your daily work in our wards teaches you this. There is a source of impure air which demands your most careful attention. In many large houses, especially in our London hotels, you will find a closet or bath-room closely opening into the bed-room. Frequently the closet is a concealed one, and may escape notice. With such conveniences there is but too often an escape of impure gas; the sick-room may be flooded with sewer emanations. Whenever you find such a position of closet or bath or housemaid's sink, it is your duty to acquaint the doctor at his next visit. You may not even perceive a foul smell, and yet such a condition of things may bring about the death of your patient. Have special regard in cases of ladies approaching their confinement, or but lately confined. The most fatal results may follow the birth of a child in a room but slightly contaminated with bad, impure air.

I began my Lecture to you this evening by telling you a very little about inflammation. I described to you some of its most common signs. I told you that before you could understand the reason for these common signs it was necessary that you should understand something of the course of the blood, or, in other words, of the circulation. I have told you some simple, easily

understood facts about circulation, and about respiration, which means, you all probably know, the act of breathing. We have seen how important it is that the blood should have every means of getting rid of its impurities, and taking in a fresh store of pure air. I have told you you can help by seeing that your patient is kept surrounded with good, pure air, and does not suffer from the effect of his own impurities which are being constantly discharged into the air. I have tried to show you that by proper attention to ventilation and cleanliness this help can be largely given. In our next meeting, I shall hope to say more to you on the subject of inflammation.

LECTURE II.

We have seen that inflammation is usually accompanied by certain signs or symptoms. We notice that an inflamed spot if it occurs on the surface of the body is red, is swollen, is painful, and feels heated to the touch. We know by our every-day experience that these signs or symptoms of inflammation are different according as different parts of the body are affected.

If the place which is inflamed lies within the body, as would be the case if one of the principal organs be affected, we find special signs or symptoms. Thus we have peculiar symptoms in inflammation of the lungs, symptoms quite different from those seen in inflammation of the kidney.

We learn by studying disease that each part of the body behaves, as it were, differently when suffering from inflammation. We have, then, the same cause producing many different results. It should not be difficult for you to understand this; you would naturally expect that if the stomach were inflamed, the evidence of such dis-

ease would have something to do with the digestion of food. You would expect, if the lungs were inflamed, to find something wrong with the breathing.

Although the symptoms of inflammation of different parts of the body are very numerous—as would be the case if we were to study the symptoms individually of inflammation of brain, lung, kidney, skin, throat, intestine, veins, or heart—if we were to take these inflamed places one by one, and carefully examine the changes going on, we should find that these changes were much of the same kind. It is of these changes—and some of them are very minute—I wish to speak to you about this evening.

You may remember that I told you that the arteries, after dividing over and over again, each division making them smaller and smaller, ended in extremely small vessels—vessels of such minuteness as to be quite invisible to the naked eye. These delicate, fine vessels we learnt were called the capillaries, and we saw what an important duty they performed. We saw that here the good, rich, crimson blood seemed to come directly in contact with the different parts of our bodies, here giving up its nourishing particles, and taking in exchange those refuse materials which it is necessary for our health to get rid of.

We saw that the capillaries united together and formed small veins ; these small veins united together and formed larger ones, till gradually a large vein was formed, which conveyed the bad blood back again into the heart.

It is to the capillaries that we must now turn our thoughts. It is in them that the first changes which tell us of inflammation take place. I will describe to you what these changes are, and you will see that, although only to be examined by the strongest microscope, they correspond with those changes which are visible to our naked eyes.

I have mentioned to you two kinds of blood : first, that which is crimson red in colour, and which owes its appearance to having received a proper supply of pure fresh air ; and, secondly, that which is dark and purple in colour, through having given up the air, the pure oxygen, and taken in exchange foul refuse. The former you know as arterial blood, the latter as venous.

It is necessary to know a little more about blood : we know that if there is much bleeding, if hæmorrhage takes place and the blood be caught in any vessel, after a very short time it begins to thicken, it makes a clot or lump of half solid blood. You are all acquainted with clots of blood in some form or other ; no matter whether

the amount of blood be small or large, it forms clots.

It is Nature's plan for ensuring safety; for if it were not for this wonderful power of blood-clotting, the slightest scratch to our skin would be a source of the greatest danger, but for it the bleeding would continue on and on. We know that with a small cut or scratch the bleeding soon stays, the blood clots, and thus securely seals the little bleeding vessels.

If the blood has been collected in a vessel we shall soon see floating above this firm, red clot a watery-looking fluid. This is the watery part of the blood, the so-called serum. You often see serum when a blister rises on the skin: the clear, watery fluid in the blister is pure serum.

If we place a tiny drop of blood under the microscope we shall see that it is apparently composed of a great number of small, nearly round, bodies of a reddish hue; these small bodies are the blood corpuscles, and they exist in the blood in countless millions. So small are they that it would require about ten millions to cover a half-penny.

They seem to be that part of the blood which, when in the lungs, takes out of the air we breathe the oxygen so essential to our existence. These tiny corpuscles act as minute carriers of oxygen

from place to place; they readily give up their supply to the parts they visit: it is to these little bodies the blood owes its colour.

If we look very carefully at the drop of blood under the microscope, we shall also find there are a very few bodies rather larger than the red corpuscles, but wanting their colour: they are white, and are called the white corpuscles of the blood. As compared with the red corpuscles—if our health is good, they are found to be very few in number.

The blood, then, consists of the following parts: of a liquid, watery fluid containing innumerable, red bodies, and some few white bodies—the red and white corpuscles.

The fluid part of the blood contains a very important substance which gives to it the power of clotting; this clot, as we see it, is red, but the colour is due to the presence of red corpuscles. It would be possible so to arrange the clotting that it should be composed solely of a straw-coloured substance which we call fibrin. We shall, therefore, consider blood to be composed of its two kinds of corpuscles floating in a liquid, which is the nourishing part of the blood, and is very similar to the white of an egg mixed with water; it is spoken of as albumen—albumen being the name given to white of egg; it is in the fluid portion we find the substance having

that peculiar power of forming a clot, and spoken of as the fibrin.

When any part of the body becomes inflamed, the small vessels and the blood contained within them show changes which, although not perceptible to the naked eye, can be seen by the help of a properly arranged microscope; and we are justified in assuming that like changes occur when inflammation attacks any part of our bodies.

Some of these changes we can see; for instance, when the eye is inflamed; and you must bear in mind as I am describing to you inflammation, those signs which are well known to all of us are taking place when the eye is inflamed.

If we could look right into a place on the verge of inflammation, the first thing we should notice would be a very slight enlargement of the smallest arteries; a little later on we should find the smallest veins also enlarged. We shall next find the current of blood passing through the part moving much more rapidly; the blood we should see hurrying through the part. This, however, soon ceases, and the reverse takes place; the current of blood moves more and more slowly until it almost ceases, almost stagnates as one would say.

The whole place is now congested with blood; the smaller arteries have swollen much; they may

be almost double their ordinary size; they are so much bigger that they permit pulsation to take place, which pulsation gives rise to that unpleasant sensation of throbbing which you know is present if you have a boil or inflamed finger.

If we look into the capillaries, we shall find them full to overflowing with blood corpuscles; they are packed tightly with these little bodies, and as they press closely against the sides of the capillaries, here and there we should see a corpuscle squeezed out, and lying therefore outside the capillary vessel.

Gradually more and more corpuscles escape from their vessels, and we shall find that in company with them there is also an escape of serum, the watery part of the blood. The whole part becomes, as it were, flooded. If we look carefully at the corpuscles which have made their escape from the little vessels, we shall be surprised to find that they are mainly of the white kind; a few may be red, but far the greater number are white. And here we will go back again to that point where I told you the capillaries were getting turgid and full. If we study the part very carefully, we shall find that, as the current of blood moves more and more slowly. The white corpuscles cling closely to the sides of the vessels,

all ready, as it were, to pass through their walls and make their escape into the surrounding parts.

By this time we shall find the inflamed place red to our sight. You can now understand the reason of this deepening colour. You know that from the very first the vessels of the part have been getting bigger; they are now capable of holding more blood. The arteries in the neighbourhood are excited by the changes going on, and pour in their supplies of blood. Hence you see very good reasons for the red-coloured swelling—for the painful, swollen lump which throbs out its discomfort.

If you could open the part and look carefully into its recesses, you would be surprised to find so many of the little white corpuscles which, I have told you, are all ready and willing to pass out of their proper vessels and stray around.

If the inflammation is intense—and it may be intense in but a pimple—you may see a small collection of these tiny corpuscles. They indeed very soon do collect together; and, moreover, when they are lying about outside their vessels, they have the wonderful power of growing: thus, one corpuscle will become two, and two four. A very small acquaintance with your arithmetic will tell you that if they increase in this way, very

soon you may have a very large collection of them.

The inflamed pimple, you may notice, after a day or so comes to a head. A little white top is seen, and, if we press it, we shall get a tiny drop of matter, or pus as we call it—matter and pus are the same. But what has this collection of pus to do with the collection of tiny white corpuscles?

If we examine ever so carefully, we are forced to admit that we can detect no difference at all. We therefore come to this important conclusion, that this matter which results from inflammation really comes from the white corpuscles, which come from the blood, right through their vessel-walls lying outside the little vessels, and, when they are thus lying outside them, they rapidly increase and multiply. There is no doubt that other little bodies also contribute to form pus, but we will not enter upon that now. It is sufficient for you to know the main outline of those changes which are present in an inflamed place.

I have no doubt that some of you are listening to me, and thinking that they have often seen cases of inflammation where everything has passed off without this last change occurring, without the formation of matter. You are right; happily for us, it very frequently happens that

everything passes off satisfactorily, and no matter is formed. Perhaps the finger is inflamed; a poultice or water-dressing is applied for a day or so, and the finger is well; the swelling has gone, there is no more tenderness, and the colour is natural.

In these cases the inflammation does not extend beyond the first stage, and it ends, as we say, in resolution. It stops short of the formation of matter. This is naturally the wish we all have, when taking care of inflammation in its various forms. It is with a view to resolution that we order those remedies you are in the habit of seeing constantly applied—as simple poultices, water-dressing, the application of ice, warm fomentations, and the like.

We spoke of the formation of matter, and I drew your attention to a very simple case—an inflamed pimple on the skin. I reminded you that after a period of a few days the top of the pimple may be found to have turned a yellowish white, and a small drop of matter can be squeezed out.

Now this small drop of matter, lying just under the surface of the skin, is in reality a very small abscess—the word abscess meaning only a collection of matter. The word is, as you know, applied generally to much larger collections than

seen in a pimple, and no one suffering from such a slight trouble would think of speaking of the ailment as being an abscess; but still it is of the same nature.

Abscesses may be of terrible size, undermining the strength of the patient by the quantity of matter they daily pour out. These large abscesses may be connected with internal parts, and you would be surprised how slight are often the signs or symptoms which mark the commencement of an abscess. Of course, when the matter is in very large quantity, it attracts attention by reason of its size, by the swelling it causes, not *always* by reason of pain. The first beginning is generally marked by pain, not always very great; and those of you who nurse in the children's ward will know how often the little sufferer, who is under your care for an enormous abscess of hip or back, first attracted the attention of those around him by complaining of pain in back or hip or knee; and your experience will also tell you how often such a complaint was thought but little of—may be spoken of as a growing pain, or by some such ignorant explanation. *Know well* that such a cause for pain does not exist. Pain in any part of the body, especially in the body of a child, always calls for attention, and should never be lightly put aside; it may be, as I have said,

the first indication of what eventually will prove a most serious inflammation, but which, if attended to at once in its early days, can be stopped, can be cured.

Inflammation may be so severe as to actually kill some of the part affected. You have seen a bad boil, you have seen the centre of the boil a day or two after it has broken, and the matter discharged from it become darker in colour, and you might possibly notice it to be ill-smelling; you have heard such a place called the core, and you know that until it comes away the boil will not heal. Another word used to express such a result of inflammation is slough, a word you often hear used in our surgical wards. You will now know that it means a part of the body which has been killed by the violence of inflammation. It is a part which has no life, and has the same changes taking place in it as you would find in a piece of flesh removed entirely from the body and left to putrify.

Again, sometimes inflammation does not kill a piece which is separated as a mass, but as it were, it kills only by degrees; tiny, tiny particles of dead, useless matter is thrown off from the inflamed place, and a hole in the part is the result; we do not speak of holes, but we call such places ulcers.

You often see ulcers on the legs of poor people ; they occur in this situation, from the skin being badly supplied with blood ; moreover, with blood which is itself poor in nourishment. You see such cases treated by strapping ; the strapping embraces the part, holds it firm and allows the blood to pass more easily through, therefore the part becomes better supplied with blood. You also see such cases made to lie in bed. Here we get a great advantage ; the heart has not to pump the blood up and down, it may be nearly five feet in distance. It has simply to pump the blood backwards and forwards—a much easier task ; and so we avoid the tendency which exists in a weak state of the health for the blood to linger, to congest, in far-off regions of the body, as in the toes and feet.

We know that blood to be useful and good must make its journey to the heart and lungs with great regularity ; if it does not, the body must suffer, and especially that part of it in which the blood stagnates.

How often we see this stagnation of the blood in that little trouble which we call chilblains. In cold weather the powers of the body are somewhat lower, and those who suffer from a bad circulation naturally are troubled most. Their feet get chilled.

Frequently they get some means of artificial warmth, such as hot bottles at night, sitting over the fire by day. Now what happens? The feet, under the action of this heat, become relaxed, and permit more blood to pass into the part. This blood does not readily pass out again, but remains congested and stagnant. The parts do not then get properly supplied with good wholesome blood; perhaps one part is more congested than another; it becomes lumpy, hot, and painful, and we shall find that inflammation has set in. It is now *an inflamed* chilblain.

A step further and the chilblain breaks, inflammation on the surface has gone to the extent of destroying the life of the surface of the skin, and an ulcer has formed. Now, surely such an explanation of chilblains will help in getting rid of them. You can at once see that if you wish to get rid of them, or, better still, if you wish not to have them at all, you must attend to your general strength. Be a little more careful in cold weather; perhaps a little better food will be required—a food a little richer than agrees in hot summer weather. You must be careful and keep in all the heat the body itself makes; you can do this by wearing warmer clothes—clothes with wool in them; wear flannel next the skin.

You know that if you take hold of a piece of

iron in wintry weather it feels very, very cold to your touch. The heat of your body is passing to the iron, the iron steals it from you ; but, on the other hand, take hold of some woollen material, even in the most bitter weather it feels warm and comfortable. Now you must remember that the coldness does not come *from* the iron, nor the warmth *from* the wool ; the iron takes away very rapidly your own good heat—the wool prevents this heat coming from you, prevents its being lost in the air around. All of us at times run risks of chill, of losing too much of our body heat ; and you know that sometimes illness results from our getting chilled—chilled all over, as the saying is ; different parts of the body may become chilled : thus a draught of cold air striking upon the neck may give rise to that troublesome complaint known as stiff-neck. A draught on the back or loins may cause the illness called lumbago. To return to our chilblains : you see the advantage of keeping in all the heat you can ; you do so, if your feet suffer, by wearing warmer stockings ; if the hands suffer, by wearing warmer gloves ; but don't fall into the error of keeping the hands or feet warm, and letting the other parts of the body be cold.

You also know that there is a tendency for such parts to become congested, for the blood

to linger in them too long; you can do much to prevent this tendency by rubbing. Rubbing forces the blood out of the small vessels, through the capillaries and on into the veins, and so the circulation of the part is better, more healthy.

We have for the moment been considering inflammation which is localized in one place only —that is, shut in or enclosed by some substance round the inflamed spot. This shutting in of the inflammation is very often a part of the inflammatory action. I mentioned that inflammation leading on to the formation of matter—that is, inflammation terminating in suppuration, and not in resolution—may be enclosed by stiff, hard, unyielding parts of the body, as gristle or bone. But you know inflammation often occurs in the soft parts of the body, where matter might extend to almost any distance, were it not for this confining influence which we find often accompanying the inflammatory process.

In a boil you feel around the inflamed place a hard ridge which extends some distance from the centre of the boil; this hard ridge passes round the spot of inflammation, and acts as a wall which does much in preventing the extension of the disease. This wall is formed by the inflammation itself, and is due to some of the materials which exude from the blood becoming more or less solid.

You know that after a boil has discharged, and is getting well, a hard lump remains; the hard lump is this solid material, the so-called inflammatory lymph, and it is the last thing which goes after inflammation has commenced to subside. I should like now to say a few words to you about the simple remedies which you are accustomed to see used in the treatment of inflammation.

You know that generally it is the custom to apply a poultice over the inflamed place. How then does a poultice act for good?

It must often surprise you, if you think over the matter, to find that a poultice is frequently ordered quite at the commencement of inflammation, to stop the inflammatory process; and, again, quite as frequently it is ordered in a later stage, to draw the part that is to quicken the formation of matter, and to assist the matter in finding the easiest, and most suitable road for exit. How is it possible that the same remedy can be useful for two such opposite conditions?

We must all of us remember one very important fact about our bodies: it is that if they are diseased (and I mean disease to include the most simple, as well as the most complicated, serious illnesses), there is always a tendency towards recovery. Nature means a struggle for the mastery; she may not always do everything for her patient,

and we have to step in and give our assistance; sometimes we are both powerless to do more than alleviate pain and suffering.

In a simple spot of inflammation there is this tendency on the part of the body affected, to throw off, to get rid of this disturbance, which we call inflammation.

I have no doubt, if we could see exactly what was going on, we should find that as the part began to suffer—began to inflame—all the little vessels round the part would begin to exert themselves to get rid of the unwelcome disturber; we know that there is far more blood passing through and around the inflamed place. This excess of blood all tends to help in removing the inflammation. When we apply a large hot poultice which extends over the inflamed place, we make the skin of the part more supple, softer, and relaxed. It is able to bear more blood in its vessels, and so we assist Nature in bringing her own remedy—her remedy being fresh good blood, carrying with it plenty of oxygen.

You know how soon patients tell you of the relief of a hot poultice—how soon the feeling of tightness passes off; this tightness, or so-called tension, being due to the pressure of blood which is all rushing to the part.

The hot poultice—and pray remember that a

poultice is of but little value if not thoroughly hot —being applied over the part inflamed, allows the vessels to enlarge ; indeed, this most comforting warmth, causes some vessels to come into view which under ordinary circumstances are invisible. You know the reddish blush which you see on the surface of the skin when you take off a poultice ; this colour is due to the enlargement of those small vessels which, as a rule, are not seen by the naked eye.

Thus a poultice at the very beginning of inflammation may bring about a cure, may promote resolution.

If the formation of matter has taken place, a poultice may assist in the discharge. It does so by relaxing the skin, making it softer, and so making it more easy for the matter to come up to the surface. If you wish for the matter to come up through a certain path, you apply the poultice over that place where you wish to see the matter appear ; or where, if the case calls for the help of the surgeon, it is considered desirable that the opening take place. The poultice in this case will be smaller, and so you see it is important to consider whether a large or small poultice should be applied. A large one should be used when you want to stop the inflammatory process—a smaller one when the inflammatory process has gone

so far as to produce matter ; in which case you wish to induce the matter to take the nearest road to the surface : your poultice, by softening the skin, helps to bring about this object.

I mentioned the blush or reddened appearance on the skin lying under a hot poultice, and I told you it was produced by an enlargement of vessels ; if to the poultice you apply any irritating matter, such as mustard, you have the power of much increasing this effect. You all know the red appearance of the skin under a mustard poultice. The irritating mustard acts strongly on all the small vessels ; they become much larger, holding much more blood, and the circulation throughout the entire part becomes increased.

A blister carries the irritation a step further, and you produce a surface inflammation ; the blood rises to the part and pours out its watery fluid, which you see collecting under the superficial skin, and which is nearly pure serum.

It is of course possible to apply on the inner surface of the poultice substances which act directly on the nerves of the part, and so we are able to soothe the pain caused by the irritation of those nerves. For instance, in an inflamed part *with unbroken skin*, where there is much pain, and where a poultice is ordered, we may give much relief by sprinkling laudanum or belladonna

over its surface, or we can mix some powdered camphor with the ingredients of the poultice.

Special poultices are rather a matter for the doctor than for the nurse, and in special cases you must ask for special instructions.

In suggesting to you the best way of making a linseed poultice, I fear I am in danger of trenching upon the domain of our lady superintendent; but I am induced to make a few remarks upon this important subject for the benefit of those of you who are quite beginners in the art of nursing.

On turning to this matter in an admirable little work on nursing by Miss Lückes, I find the following remarks: "To make a linseed poultice properly, you require a *poultice* bowl, a basin, a *poultice* spatula, a *poultice* board, and a little olive oil." These directions call to mind the French cook who found it impossible to cook a mutton-chop without apparatus costing some fifty pounds.

I am afraid if you have to make a poultice in any private house in England, you will not find ready for you all this paraphernalia, and I do not think a nurse is expected to carry about with her such extra luggage.

Boiling water, a basin, a large spoon, and your linseed, are practically all you require. While in the hospital, take every opportunity of making a

poultice ; it is only practice in this, as in everything else, which can make us perfect. Pour some of the water into the basin you are about to use ; let it remain for a minute or two for the purpose of heating the basin. Empty it away and put in more boiling water—the quantity will depend upon the size of your poultice ; add your linseed-meal, little by little, and well stir up the mass : you must not make it too thin, and you must not make it too thick. It should lie nice and hot and even on whatever may be chosen as the means for applying it to the skin. In hospitals tow is often used ; in private houses use a thin piece of old soft linen rag, or, better still, muslin. Over all place a layer of wadding, covering with oil-silk to preserve both moisture and warmth. Remember when you apply a boiling hot poultice that skins differ much in their power of bearing heat ; what might scald to a blister one person, would scarcely be felt by another. Therefore explain to your patient the necessity of bearing the poultice as hot as possible ; place the palm of your hand under the poultice (you may be sure that if your hand cannot bear the warmth, the sensitive skin of your patient cannot) ; place the back of your hand gently on the part to be poulticed, and remove your hand bit by bit ; you will often get a patient

to bear a far greater degree of heat applied in this way than if you roughly and suddenly place the poultice over the diseased part.

You must be doubly careful with children ; they are very easily frightened, and if you once scald them, you may never be able to use another poultice, and so may lose by a little want of care one of your most valuable helps in the treatment of their disease. Linseed-meal is more irritating than bread, but it retains its heat much longer, and is less likely to make crumbs and fall about in the bed. For all purposes requiring poultices, linseed-meal is of more general use.

One of the most valuable poultices used by the physician is the so-called jacket poultice, used in treatment of chest complaints in children—the name of the poultice describes it. It should be applied round and completely covering the chest ; it should be made thin, and should be closely covered in by a layer of light flannel or cotton-wool, covered by oil-silk : many a child owes its life to the use of a jacket poultice. With some children it is well-nigh impossible to use poultices ; in fact, the state of distress which such an application causes the little sufferer is probably productive of more harm than is likely to be balanced by the use of your poultice ; in such cases you can often use warmth, applied in the form of

simple, fine cotton-wool, covered in by oil-silk, or by pieces of spongio-piline, steeped in hot water and covered in the same manner.

Sometimes in cases of extreme debility, in children as in adults, the weight of a linseed poultice is found oppressive and irksome. Here, again, you may with advantage use your spongio-piline or wool dressing.

In the surgical wards you often see ice applied as a means for preventing inflammation. Ice seems to do most good in those cases in which inflammation is feared as the result of an injury. Thus placed over a swollen knee which has had a bad blow it soon gives relief from pain, and undoubtedly has great power in reducing the inflammation which follows such an injury.

Ice does not seem to be of the same use when applied in cases of inflammation arising from disorder within the part itself. It may reduce the pain and redness of the part, but the after course of the inflammation is often quite as severe as if the remedy had not been used. On the other hand, it is of great use in feverish states of the body due to a cause which is more or less affecting the whole system. In such cases it evidently acts through the nerves, and is usually applied in the form of ice-cap to the head.

Chips of ice in a waterproof sponge bag may be used for this purpose.

There are many other matters I might tell you of in relation to the various remedies you will see used in the treatment of inflammation. I have given you only what I consider the most important truths, which you will be able, I hope, to apply to each case you may be called upon to watch.

LECTURE III.

FROM what I have told you in my former Lectures, I trust you now have some general knowledge as to the meaning of the word inflammation. Hitherto we have only discussed inflammation as it occurs on the skin, or in its more localized forms. And I drew your attention to very simple every-day examples, such as pimples, boils, and the like.

You know that inflammation may lead to the formation of pus, that it may be so violent as to kill pieces of the part inflamed, and these pieces are thrown off from the body in the shape of what we call sloughs. You also know that inflammation may attack and kill the part bit by bit, in which case the tiny morsels of dead matter coming away, leave behind them a hole in the part, these holes being called ulcers.

We must now look at inflammation from another point of view. We must consider it as affecting larger parts of the body, parts which by reason of their make, render it difficult for the inflammation to be shut in or localized, as we saw

was the case in an abscess. You may have seen a patient suffering from that disease of the skin called eczema, and if so, you may remember that all the skin which was affected by this disease was red and inflamed; in these cases it is the surface of the body which is affected.

The inflammation attacks the surface, or the skin, and may spread over large pieces of skin.

If we examine such a case we shall find that we have present all the signs, all the symptoms, we spoke of in our first Lecture. We see the parts red, hot, painful, and swollen; if we could cut into the skin and examine it with our microscopes we should find all those changes going on which we have spoken about. But as these changes are occurring so near to the surface of the body, the mere fact of this position must make them appear different to our eyes; for instance, the upper surface of the skin, that part of the skin we speak of under the name of scarf skin, is very thin and delicate; you know it is easily rubbed off. This delicate skin soon gives way under the attack of inflammation; it comes away and leaves the parts beneath red. We are now approaching that part of the skin where the capillaries are lying in countless numbers; you know that in inflammation the capillaries take an important share; you know that under the attack

they give out some of their corpuscles and some of their water. These matters oozing out, no longer having the upper scarf skin to keep them from coming to the surface, cause the weeping—the discharge—which comes from the inflamed skin.

If the patient be in bad health, in such health as we daily see in poor ill-nourished dirty children, the discharge rapidly assumes all the characters of pus. We see the surface of the skin giving out pus, and we have all the same changes going on as in the formation of an abscess; with this exception that the matter—at its birth I may say—is thrown off on the surface of the body and is not confined *within* the body, as you know is the case with an abscess.

Now let us consider some other parts of the body, and try and see how these parts behave when inflamed.

We will examine inflammation of the air passages, those roads or ways by which the air we breathe reaches the lungs. They are very liable to become inflamed, and they require all your attention. You know that we are able to breathe air into our lungs, either through the mouth or nose. The air passes through one of these entrances, passes down to the upper part of the throat, and down to the windpipe; but before

passing into the windpipe it has to go through a very narrow opening—the larynx ; this narrow opening is the part of our bodies which is so important to us when speaking. Here we make sounds when speaking. When we are talking one with another we have the power of passing air from the lungs through our larynx, and with the aid of our tongue, teeth, and lips we are enabled to make sounds which we understand as words. Every animal has this larynx, and almost every animal has the power of making with it noises ; some of which are pleasant to hear, as the singing of the nightingale ; others, as the braying of an ass, very much the reverse.

The air having passed through the larynx into the large tube the windpipe, called the trachea, passes on into the bronchial tubes, the bronchial tubes arising from the division of the trachea; the bronchial tubes divide and divide, over and over again, becoming very small, and finally end in the air cavities which I described to you in our first Lecture, and which I showed you contained air on one side and blood in small capillary vessels on the other. You must not forget that it is in these tiny little air chambers that all the important changes go on between blood and air ; changes which lead to the purification of the blood from those harmful substances which I have

shown you must be carried out of the body if we wish to preserve our health and strength.

When, therefore, we speak of inflammation attacking the air passages, you can at once realize of what importance such an illness may become. You can understand, for instance, that if the tiny air cavities are the seat of the inflammation, the necessary changes between blood and air cannot go on properly; and when I tell you that inflammation of these air cavities occurs in so-called inflammation of the lungs, you can understand how dangerous such an illness is.

We will, however, consider first a more simple and common complaint of the air passages, a complaint which all of us know something of. We will try and examine closely the behaviour of our bodies when suffering from a cold, or from a catarrh, as the doctors say. How does a cold begin? Perhaps we have had the misfortune to get wet through; caught in a shower without means of changing our wet things. We may have been staying in a house where colds have run through the household, and we have caught the cold from another person. Now let us call to mind the symptoms. You know that at first you feel poorly all over; there may not be any very special, very well-marked symptom; perhaps you have a little headache, you feel rather shivery, the

warmth of the room is not sufficient, and you feel vexed with other people for not thinking as you do, and you do not understand how it is that others do not wish to sit over a roaring fire; surely inflammation has placed a charm over you. You are no longer a judge of your own state. You feel cold and chilly; but place the bulb of your thermometer in your mouth, and you will surely find the index not at 98 point two, but at 99, or maybe 100. Although shivering over a fire, your body is hotter than it should be in health.

Your sleep that night is disturbed, very often by dreams; you are restless and do not sleep as quietly and peacefully as is usual; if you should count your pulse, you will find that it is beating more quickly than it should do in health.

You probably remain in this state for about twenty-four hours, after which time fresh symptoms develop themselves; these symptoms are so common, so well known, that they bring with them an explanation of all your uncomfortable sensations—sensations which made you feel very poorly.

You recognize by these symptoms that you have caught cold. You feel irritation and tickling about the nose; the nose feels hot and swollen; you have an inclination to use your handkerchief, but as yet there is but little discharge. A discharge,

however, soon comes—of what character is it? You know that during the first day or two it is thin and watery, excoriating; it seems to burn the skin of your upper lip, and makes the part round the nostrils feel sore. The discharge soon alters in both appearance and quantity, it becomes more glairy, and we speak of it as being mucus. The appearance of mucus we all know. Mucus may come in very large quantities, we may require many handkerchiefs during the day. In some cases the mucus seems actually to shower from the nostrils.

A step later on and the discharge begins to change again, alters in colour, begins to look yellow; and if we examine it we shall find that it is more of the nature of pus; the discharge is now purulent—or, to speak more correctly, it is muco-purulent—that is, a mixture of pus and mucus.

These troubles last a few days, and then the discharge begins to lessen and gradually ceases; and, excepting a little weakness resulting from the attack, our health is much the same as usual.

The inner side of the nostril is closely covered with a skin, much the same as the surface of the body is covered; but this skin, this lining membrane of the nostril, has very important differences which distinguish it as a skin from the covering seen over our bodies. It is softer, the blood-vesseis come nearer to the surface, and it is plentifully

supplied with small glands which secrete that fluid which we call mucus, and which in ordinary good health appears only in sufficient quantities to keep the part moist.

When we suffer from nasal catarrh—or, to use more simple language, from cold in the head—it is this lining skin of the nose which is the principal seat of our discomfort. It is, moreover, the part of the body which is the seat of an inflammatory attack.

The mucous membrane lining the cavities of the nose is then the part inflamed. If we could examine this mucous membrane during the different stages of the cold, we should find the following changes taking place. At first we should find the mucous membrane slightly swollen and hot, and we should see that it was full of blood; it would also be drier than usual. You see these changes correspond, and explain very nicely the symptoms found to accompany the onset of a cold. You remember the nose felt hot and swollen, and although there was some irritation which felt as if there was some flow of discharge, still when we came to use a handkerchief there was no appreciable discharge. We, moreover, felt the passage through the nose was stopped up. It is stopped up by the swelling of the mucous membrane.

In the second stage, which corresponds to the

flow of discharge, we should see that there was some oozing from the distended blood-vessels—probably serum is the first to pass out; we see it as the thin watery fluid. Then corpuscles follow, which are largely mixed with quantities of mucus flowing from the irritated membrane. The irritation gradually seems to exhaust the little gland: good healthy mucus is replaced by mucus hurriedly made and thrown off, assuming the nature of white corpuscles or pus; and so the discharge becomes more and more purulent, less and less mucus.

You can understand why there is here no abscess. The inflammation lying on the surface of the mucous membrane, although it may proceed to the formation of matter, does not form an abscess. The inflammatory discharge is poured out on the surface as soon as formed, and passes down the nostrils and so outside the body.

As recovery takes place, so the irritated mucous membrane becomes healthy. The discharge gradually ceases, and all the parts resume their normal appearance.

We have thus far considered the catarrh as limited to the cavities of the nose. You can easily understand that, as the lining membrane of the nose and its cavities is continuous with the membrane covering the throat, so a catarrh or

inflammation of the nose will readily pass on to the throat, and may from the throat extend downwards through the larynx to the windpipe. If the throat be affected we get, in addition to the symptoms of cold in the head, sore throat. You know how frequently the two are combined. On the other hand, the cold may attack the throat only, and there may be but little symptom of ordinary catarrh or cold in the head.

It is very important for you to pay special attention to soreness in the throat. It may be one of the most simple of troubles, or one of the most severe. We may, on the one side, see the simple relaxed throat, which is a throat in the very early stage of inflammation—in that stage where the vessels are becoming overfilled and turgid. A simple remedy, such as gargling with hot water, will sometimes rapidly cure a throat sore from such a cause. On the other, we shall find a sore throat—and here carefully mark what I am saying—presenting in its early stage no very great difference to the simple relaxed throat, but which owes its presence, its virulence, to a poison—as diphtheria or erysipelas. Cold or catarrh in the throat first makes us acquainted with a symptom of the utmost importance. It is with relaxed state of throat—or, to speak with greater accuracy, with relaxed condition of the

uvula—we first notice *cough*, a symptom of disease.

Coughing is a violent breathing out, or expiration from the lungs. It is Nature trying to get rid of some irritating substance. You know, if a piece of bread goes the wrong way, as the saying is, what a paroxysm of coughing takes place. The piece of bread rubbing against the sensitive mucous membrane of the throat or windpipe irritates it; and there is an effort of Nature to get rid of it, to expel it. Nature fills the lungs full of air, and then suddenly expels this air through the throat; it comes with a sudden gust, and tends to blow out anything which is lurking in out-of-the-way corners.

You know that cough is often very troublesome, without having as its cause a piece of bread which has gone the wrong way. Irritation of the mucous membrane may of itself cause cough; the mucous membrane being irritated, maybe by inflammation, excites the nerves of the part in the same way as they are excited or irritated by a crumb of bread. The irritated nerves act upon the muscles, the muscles in their turn open out the lungs, and suddenly force the lungs to throw out a volume of air; the cough has here, you see, no irritating morsel to dislodge. The irritation being in the mucous membrane itself, or due to

the presence of a hard lump of mucus adhering to the membrane.

The cough from a relaxed uvula is caused by the uvula hanging down, and resting on other parts of the sensitive throat: resting on the mucous membrane it sets up an irritation, which irritation causes coughing. Coughing can therefore be caused by a relaxed uvula; so caused, we see it in its simplest form.

With cold in head or throat, deafness is often complained of. This troublesome little symptom arises from the fact that at the back of the throat lies an opening connected with a tube which passes up to the ear. For perfect hearing it is necessary that this tube be free—that is, open; but catarrh brings on slight puffiness, slight swelling of the mucous membrane covering this little tube. The tube may be nearly closed and partial deafness results. Children often suffer much from the cold or catarrh affecting the ear: with them such inflammation causes pain and gives rise to earache. With children who complain of pain in the ear at the beginning of a cold, it is often well to cover up this part of the body with a warm poultice; you may by these simple means ward off an attack of severe pain.

I have already told you that the mucous membrane covering the throat is continuous with that

covering the larynx and windpipe. So you can understand that cold may readily pass on and affect these parts ; we very often find cold affecting the larynx, and we know the larynx is affected, by changes which take place in our voice. In cold we find every degree of change, from absolute loss of voice to slight huskiness.

You know that all the air going to the lungs has to pass through the larynx. It has to pass through a very narrow opening. If this narrow opening, or if the mucous membrane covering this narrow opening becomes inflamed, it begins to swell. Now this is one of those parts of the body in which the *slightest* swelling is most dangerous. A very small amount of swelling will entirely close the narrow slit through which air has to pass ; unless air goes to the lungs the patient must die.

Cold attacking the throat, or rather that part of the throat which has to do with our talking, is a very dangerous illness, and requires every care. It is in these cases you will see the surgeon performing the operation of tracheotomy, which operation is done to make an artificial opening for the air to pass through in its journey to the lungs.

Children not unfrequently get cold in this part of the throat, and many a bad attack of bronchitis begins in this manner. The child wakes up in the

night with a deep croupy cough, breathing with great difficulty. There is an evident struggle for the air to pass down into the chest. Under these circumstances the nurse may do much good by simple means. She should apply hot sponges —as hot as can be borne—to the throat. The sponges should be changed every minute or two. The room should be kept warm and the air moist. This is done, you know, by allowing steam from a boiling kettle to escape into the room. I believe if some such simple treatment as this were to be more frequently used in quite the early stage of cold in the throat, we should seldom find tracheotomy required in the simple ordinary catarrh of the larynx. Cold in the windpipe causes symptoms which we have before discussed—namely, the symptoms of an ordinary cold in the head, to which are added a feeling of rawness over the upper part of the chest; and cough, with probably some slight expectoration.

When we were speaking of cold in the head, we naturally considered the discharge which took place during this troublesome complaint. We saw that it commenced as a thin fluid which gradually assumed the characters and appearance of mucus. After a day or so the mucous characters were less apparent, and the discharge became of the nature of pus and was called muco-purulent. The dis-

charge from the nostril had a ready means of exit, as we all know.

When the mucous membrane of the windpipe becomes the seat of cold—of catarrhal inflammation—the secretion which flows from it is coughed up into the mouth and so expectorated. We shall have to carefully study the various characters of expectoration when we consider the next stage of cold in the chest—that is, when the catarrh attacks the mucous lining of the bronchial tubes. You may remember that I told you that the bronchial tubes arose from the division of the windpipe: a tube goes to each lung. They divide and divide, and we find the whole lung full of these small bronchial tubes—tubes which convey the air to the air cavities: in the disease called bronchitis we find the mucous membrane covering these tubes is the part affected. They are the seat of catarrhal inflammation. The more tubes affected, the greater the danger from the complaint, and still more when a large proportion of the tubes affected are of the smaller kind.

The smaller the tubes, the more they must be affected by any swelling of their mucous membrane. We know that the small tubes end in the air cavities, so we see that any swelling in them will have a dangerous tendency to prevent air getting into the little cavities and giving its oxygen to the

blood. You have seen in bronchitis how breathless and dark-coloured the sufferer is—breathless, because the air is not freely passing through the lungs; dark-coloured, because the dark venous blood does not readily come in contact with air, with oxygen, and so it passes out of the lungs more or less unchanged, unpurified.

In bronchitis, if we have a large number of tubes affected, we have a corresponding large amount of mucus expectorated. At the commencement of bronchitis the cough is dry, the chest tight, the expectoration, if any, being but saltish water. You see here the first stage of catarrhal inflammation, the cough very soon becomes looser and the expectoration more and more copious. It is very important for a nurse to examine carefully the nature of the expectoration. She should know whether it is thin and watery, or thick, mucous or pus-like. She should know whether it is scanty or copious; she should watch carefully for the presence of blood; she should carefully note whether it is sticky, adhering closely to the vessel in which it lies. All these points are of great practical moment, and, carefully noted, may assist in relieving the patient.

You now should understand that even in the watching of common every-day symptoms, such as cough and expectoration, there is much to be done.

It is important to notice the sound made by coughing. It may be but a hack; it may be a severe attack or paroxysm, as in whooping-cough; it may be dry; it may be very loose; it may be a kind of bark with quite a metallic ring; it may be produced by movement, fatigue, or occur immediately on lying down.

Expectoration may be thin and watery, or copious and thick; it may be like mucus or like pus; it may be lumpy or smooth; it may flow easily from the spittoon, or closely stick to the sides of the vessel. It may be of various degrees of colour, bright crimson, and blood-like, rusty, like brick-dust, or dark purple and prune-coloured.

These, I say, are very important points for the attention of a nurse; they tell us what part of the lungs are affected. It is, I say, of the greatest importance for the nurse to take special notes of these symptoms, and to inform the doctor of what has taken place during his absence. You will, for instance, soon find that some patients seem to wish to hide these symptoms; they will use a handkerchief instead of a proper spitting-cup; they often are particularly careful in trying to conceal the fact that the expectoration is coloured by blood: in such cases, it is of course your duty to take special pains in ascertaining the true character of that which is expectorated,

You are not called upon to speak to the patient on the subject, or to attempt any explanation; the explanation should come from the doctor.

Pain is another symptom which occurs with coughs and colds; it may be but the rheumatic aching which often ushers in a severe cold, or it may be the sharp stitch which shows that the covering of the lung has been touched by the inflammation. When this covering, which is called the pleura, is inflamed, we get what is spoken of as pleurisy.

This sharp, stitch-like pain you will often find complained of by patients, pleurisy being a very common disease. When you have to nurse such a case, or when such a pain is complained of by any patient you may be nursing, lose no time in applying a large hot linseed poultice. You will do great good and will give great comfort to your charge.

There are cases of pleurisy in which the breathing becomes quick and difficult. The breathing is often very rapid; the patient is unable to take sufficient air into the chest. You must be careful to see that such a patient is well propped up by pillows; support the back well with cushions and pillows, and you will find the breathing easier and the patient more comfortable.

In nursing patients with bad colds on the

chest—for so bronchitis is often called—you must be very careful to see that the temperature of the bedroom is kept much the same by night as well as by day. I am often surprised to find how little attention is paid to this very important point. You must remember that when we are ill the body is often more susceptible to slight changes of temperature than it is in health. You should also bear in mind that the powers of the healthy body are always lowest in the early hours of the morning. It is in these early hours that your patient may require the most care. It is of course the most trying time for nurse as well as patient ; it is the time when the fire gets low ; and if your patient is old and feeble, you will find that *his* fires also are burning low ; he is losing his body heat. You will find his feet are beginning to get cold ; it is the time for you to be specially on the alert ; see that the thermometer hanging in the room—and always insist on having one—is at the proper temperature, the temperature ordered by the doctor, who will always be ready to advise you on such points. See that the food is nicely warmed, and if the patient complains of feeling chilled, be ready with a warm blanket or hot-water bottle.

I have myself seen patients seized with pleurisy from neglecting these little details : remember

that success in life often follows the care of little matters rather than by waiting for some great event to make yourself famous by. The old saying, that if you "take care of the pence the pounds will take care of themselves," is as true when applied to nursing patients as to the care of money. I have no hesitation in saying that the best nurse is the one who carefully attends to little things: care in little things tells vastly when you are taking charge of a severe case of illness.

We have now considered very briefly some of the more important points in connection with inflammation.

I have spoken to you of inflammation localized—that is, shut in—as would be the case in a pimple, boil, or abscess.

This evening we have been discussing inflammation attacking much larger surfaces, we might almost call them paths. We have spoken of that path by which the air enters the lungs. I could as easily have taken another long path—namely, that which we use when eating and drinking—the roadway of the food from mouth to vent; we should have found that this path is, like the air path, covered with soft mucous membrane, which if inflamed give rise to many kinds of symptoms. We should find that these symptoms varied with the position or part of

the mucous roadway most affected by the inflammatory action. Thus we might find sickness, indigestion, diarrhœa, and pain attracting our attention as prominent symptoms.

We see that inflammation attacking such definite parts assumes different characters. That these characters or symptoms depend very largely upon the nature, and structure, and uses of the part affected. We have heard this kind of inflammation called catarrhal, its name being derived from the symptoms found to accompany a cold in the head. We have found that as this catarrhal inflammation creeps from one part to another so it has different names and different symptoms. Thus we have cold, sore throat, bronchial cold, hoarseness, inflammation of the larynx, bronchitis of many different degrees of severity, all occasioned by this form of inflammation, the catarrhal.

I think it quite possible that some of you may be disappointed at my not speaking more fully upon the treatment of all these ills. You might like to know what is good for this or that cough, and so on. My intention, however, has been very different. I wish only to impress upon you the importance of carefully watching your patients, and as carefully noting any changes which you may see in their condition. I have tried to explain to you some of the more important points connected

with simple illnesses, with the hope that such knowledge—slight as it must be—will assist you in appreciating the importance of carefully watching every symptom, every change, brought before you by the diseases you are called upon to nurse.

LECTURE IV.

In our previous Lectures "Inflammation" has largely occupied our time and thoughts. I have tried to explain to you as clearly as lies in my power the meaning of the word, and I hope now that all of you have a general impression as to what takes place when a part is inflamed.

I trust that all of you who have listened to me, now look upon inflammation as a word which brings before your minds, certain well-marked changes which are occurring not only in the blood, but in the minute blood-vessels of the part affected. You also know that inflammation may rapidly lead to disastrous changes in the part. The formation of pus, so-called matter, may speedily occur, and if buried inside the body give rise to an abscess. Or, on the other hand, if the inflammation occurs on the outside of the body it may produce, as we say, loss of tissue: tissue being a word we constantly use to express in general terms the structures of our bodies. Thus we speak of soft and hard tissues, meaning by the former all the mass of muscles, skin, blood, veins,

arteries and the like, which go to form any part of the body. On the other hand, by hard tissue we mean bone cartilage or teeth.

If we speak of inflammation as causing loss of tissue, we mean that the part affected seems to dissolve away under the inflammatory action ; and if occurring on the surface, as in the skin, it would produce an ulcer. A word about ulcers. I have told you that in an ulcer the pieces of tissue are removed bit by bit—very small atoms coming away in the nasty smelling discharge which flows so freely from an ulcerated surface ; these atoms are composed of dead tissue. When we speak of an ulcer eating its way into adjoining tissues, we mean that the ulcerative process is extending, and, as it extends, the tissues apparently melt away under the attack.

Now in treatment we wish to reverse this process, and we wish tissue to be formed and not destroyed. When tissue is being formed, the ulcerative process has ceased and the ulcer is healing. It heals from the margins—that is, from the edges of the sore. If you look carefully at these edges, you will see a delicate, thin, whitish border, which grows from the sound, healthy skin surrounding the ulcer. This delicate border is the new young skin being gradually formed. It

grows but slowly. A large ulcer takes a long time in healing.

The raw, red-looking centre of the sore cannot make skin of itself, and so we sometimes have to assist Nature by giving her a little new skin which acts as a centre for the fresh growth. You will see skin transplanted from the arm maybe, and a small piece neatly snipped off the arm by a cutting instrument, is deftly placed on the ulcerated surface.

Placed here, the little tiny bodies which compose the structure of skin—the cells, as we call them—take root, and moreover grow. These little new patches act as islands, and from them radiate good new skin.

You can understand that if there are several of these little islands, all making healthy skin, the margins of the sore will soon be reached, and the sore may be healed in half the time it would take if left to itself. The red, raw-looking surface which is seen occupying the centre of the ulcer is composed of a substance—a tissue—which is called "granulation tissue."

If we carefully examine granulation tissue, we should again find how important the little capillaries become in aiding the new creation of those parts of the body destroyed by inflammation. We

should find that after the inflammatory action has ceased, and the surface of the ulcer has become healthy, that the capillaries lying near this surface immediately commence their work of repair.

Minute vessels bud from them and force their way to the surface, forming little loops, and these loops of vessels become clothed with the soft bodies—the cells—which ultimately will form the proper tissue of the part, whether that tissue be bone, muscle, or gristle. But these granulations never do form skin. Skin, we have seen, must come from skin, whether it be from the margin of the ulcer or from a fresh supply which is placed on the ulcer by artificial means. Sometimes these granulations grow too fast, the centre of the sore becomes raised above its edges. The granulations are pale and loose. They may quite bulge out and overtop the edge, and when this exuberance of growth is present, it has to be checked, as by astringent washes or by the application of caustics.

When granulations behave in this manner they are often spoken of by the name of "proud flesh;" proud flesh meaning simply granulations which have grown too fast; in fact, made poor sickly growth like a plant deprived of light and air. Pray remember that proud flesh is of very little importance. I have seen patients quite frightened

by being told that the proud flesh must be touched by caustic ; or, to use the more general expression, "burnt with caustic." Doubtless such a condition indicates debility—it may be of the part alone—but more often it shows that the patient is weak and low, and requires a tonic. The application of caustic to proud flesh rarely, if ever, causes the slightest sensation of pain, or even inconvenience ; of this you can assure your patients. Sick people are often terribly nervous, and the very idea of caustic to an open sore is suggestive of suffering pain. Here you can certainly do much to mitigate such anxiety. Your mission is to comfort, and not to alarm.

Supposing the ulcer is completely healed, the skin looks much the same as that which has not been eaten away. Is it much the same? In other words, is the new tissue which composes the structure of a scar the same as that which forms true healthy skin? It is not. If we were to carefully examine it, we should find it was wanting in some very important particulars. We should find that there were no little pits and depressions such as you see upon the surface of healthy skin. These pits and depressions mark the opening of glands which form perspiration, and also a kind of oil, which seems to lubricate and soften the skin. We should also miss the presence of hairs. In the

newly formed skin of a scar we shall find no glands and no hairs. Another very important point about scars is the power they have of becoming smaller—contracting, as we say. A large scar on the hand may at first be very prominent and obtrusive, but month after month it gets smaller and smaller; it never disappears, but slowly contracts. Now when new skin is formed over very extensive surfaces, as where a large mass of skin has been destroyed by a burn, this contraction may assume quite serious proportions and may cause much deformity. Thus occurring on the neck or chest, it will pull down the head and give rise to great disfigurement. I should tell you that a scar is always spoken of under the name of "Cicatrix."

We have also learned that inflammation may attack certain organs of the body, and it has the power of passing along certain roads or paths, which are freely connected together. We followed one of these roads, the road by which the air was conveyed to the lungs, and we found that when inflammation occurred here it gave rise to the various kinds of colds or bronchitis, and we further learned that these inflammatory changes were spoken of as catarrhal; catarrh being the name given to a cold, from the fact that one of the principal results, one of the marked symptoms of

cold, is a large discharge of mucous fluid from the soft skin lining the inner side of the nostril ; the word "catarrh" meaning a "flux" or "pouring down."

You will soon find that this mucous flux or catarrh is not limited to the nose, but may come from any part which has the same sort of lining as the nostril—this lining being called a "mucous membrane," and from the throat extends down into the lungs, covering as a delicate skin the bronchial tubes. Such a delicate covering lines the whole surface of the intestines as it stretches from the opening from the stomach to the termination of the large bowel. We may, in truth, get a catarrh of these parts, a sort of cold in the bowels ; and you will find as your experience increases that some people are more liable to take cold in these regions than, as is more commonly the case, in the head and chest. You will find children are very susceptible to this form of cold, which shows itself by giving rise to diarrhœa with the passage of much mucus.

You know that this flux or mucous discharge gave the name of catarrh to the simple common disease known to us all as "cold."

You also know that a cold is attended with other symptoms, especially at its commencement, or before the distinguishing symptom appeared.

These symptoms are, roughly, the feeling of being poorly, headache, loss of appetite, pains in the limbs, disturbed rest, and such-like slight departures from health.

These symptoms are the constitutional disturbances of a disease, and they are much the same in all diseases.

Disease of all sorts, putting aside the distinguishing character, is attended with disturbance of our health. You will find that these constitutional disturbances are severe or not according to the gravity of the complaint. Thus, before an attack of severe inflammation of the lungs, the condition of the patient is much worse than before a simple uncomplicated cold in the head; in other words, the constitutional symptoms are more severe, more marked. The chilly feeling preceding a cold, in inflammation of the lungs assumes another aspect, and becomes a shivering fit or rigor. Again, the condition of a patient before a severe attack of smallpox—that is, before the characteristic rash makes its appearance—is much worse than in a case where the attack is but slight, as is seen after efficient vaccination.

You will sometimes see these constitutional symptoms so severe as to cause death before the complete development of that disease which is giving rise to them. You will especially see such

serious cases, where the illness is caused by a poison which has been taken into the system; and here, by using the word "poison," I do not mean such poison as you would find on the shelves of a chemist's shop, and which are known to us all under the name of laudanum, strychnine, and the like; but I mean those poisons which, taken into the body, produce after a certain time, usually to be measured by days, well-marked, easily recognized diseases.

We meet with these diseases every day of our life; they are known as scarlet fever, measles, chicken-pox, small-pox, typhoid fever, typhus fever, some being more common than others. All these diseases commence by illness to which we may apply the term "constitutional."

You all of you know that the child before an attack of measles is feverish, fretful, disturbed in sleep; you all of you know that added to these symptoms are those of cold in the head, sneezing, cough, and running from the eyes and nose; in fact, at this stage it is well-nigh impossible to say that the illness is more than a severe cold; but the difficulty is soon cleared by the appearance of a few red spots behind the ears, or on the face or forehead, and within a few short hours the body is covered with that characteristic rash to which we give the name "measles." So with other

diseases of this kind: the advent of the special symptom, which stamps the disease, is marked by general constitutional disturbance, which is more or less severe as the disease which is causing it is more or less serious.

There is one of these general symptoms which we speak of under the name "feverishness." You know as well as I do what is meant by the term. You know that when feverish we complain of headache, dry parched mouth and lips, unusual thirst, and a feeling of chill which we know is not a true expression of our real state; for we know that if we ascertain the correct temperature of the body under such circumstances, it is decidedly higher than it should be in health.

In reality it is this one symptom to which the word "fever" is applied—fever meaning "to be hot." In old days people were content to have their illness explained by the use of such a word. In the present day we are always anxious to know the cause for the fever, and we only look upon the fever as evidence of some interference with the health of the body. The causes of fever are legion in number, but it is of the utmost importance to ascertain in every case the true cause.

In an early Lecture which discussed the one important symptom of fever—namely, the rise of temperature which occurs when fever is present—

we considered this rise of temperature in connection with the ordinary symptoms of inflammation. You remember that with inflammation there is rise of temperature ; it may be local, as in the case of a small swelling, as a boil or pimple ; or it may be general, where we have a large surface inflamed or some important organ is the seat of inflammation.

You can therefore understand that if we have the symptom fever—and you must bear well in mind that fever means the presence of many derangements of health in addition to mere rise of temperature, such as parched lips, coated dry tongue, headache, absence of restful sleep, feelings of shivering, loss of proper appetite and changes in the various secretions—if then you have this very complicated state, which we call fever, present in any person, the cause may be a so-called local one. Thus you may have an inflammation of any one of the organs of the body, or you may have an abscess lying deeply inside the body, either of which conditions will cause fever as part and parcel of their symptoms. On the other hand, you may find that the fever is produced by some cause which seems to affect in a much greater degree the entire system. In these cases the symptom feverishness assumes so much prominence, that it gives its name to the disease, and

we speak of a patient as having fever. Each fever produces in the body different results ; each fever behaves somewhat differently when it takes possession of our bodies.

You know that the so-called scarlet fever takes its name from the colour assumed by the skin during the first few days of the illness. It has other peculiarities. It makes an attack upon the throat, and often gives rise to great danger by the severity of the throat inflammation which it produces. Again, it is very liable to attack the kidneys. Evidence of its having touched these organs is seen in the character of the water passed, so that if you are nursing scarlet fever you must remember that the water always has to be carefully examined : be sure and carefully preserve it for the doctors to see.

Measles, again, has a peculiar rash which appears within the first few days of illness. Patients suffering from measles are peculiarly liable to take cold on the chest and to have bronchitis. Therefore in nursing measles special care should be taken to avoid draughts, cold, and sudden changes of temperature. All linen should be carefully aired, and your patients treated as if you expected them to catch cold.

Small-pox, again, has its peculiar effect upon the skin. So has its milder sister, chicken-pox.

These fevers are marked well by their peculiarity in producing easily recognized eruptions of the skin, and they are often spoken of as eruptive fevers. They are also, as you know, highly likely to pass from one person to another—they are eminently infectious ; so that after doing your best for your patient in nursing such cases, you have to take into consideration those around him, and you should use every effort to prevent his disease spreading to others. I shall hope to speak to you more fully upon the management of infectious cases ; at present we are only speaking of their infectious nature as being one of their peculiarities, and as separating them from some other fevers which I wish to bring before your notice.

You will have constant experience, especially in the wards of the hospital, in nursing cases of a peculiar fever called typhoid ; perhaps there are no cases which a nurse has to take charge of which require greater care and watchfulness. While nursing typhoid fever she must always be on the alert, always ready to note every change in her patient, constant in her efforts to induce her charge to take a proper amount of nourishment. Day after day your patient may be delirious, and demand at your hands such care as you would be called upon to devote to an infant child.

Knowing well the anxieties which surround a case of typhoid fever, I have thought it right to give you some little description of the disease, which may perhaps enforce and explain those principles which we endeavour to carry out in its treatment.

It is rare for a patient suffering from typhoid fever to be seized suddenly. Before the true nature of the attack is developed, there are often some days, even weeks, of ill-defined illness. Frequently, during these first days of sickness, there is a tendency to irritation of the bowels—it may amount to diarrhœa; but whether there be diarrhœa or not, there are often troubles which are referred to this part of the body.

The symptoms of indisposition become more and more pronounced. There is much headache, and within a short time the sufferer is feeling thoroughly ill.

The patient who has typhoid fever is usually ill for three or four weeks. The third and fourth weeks are times of much anxiety, as during this time almost all the symptoms are at their worst. This period being passed does not, however, ensure loss of the fever. Patients frequently relapse—that is, they may run through another course of fever. Happily the relapse is not often as long as the first attack. A relapse is necessarily a time of much

anxiety. The body strength has been lowered by the fever, and the patient is weak and prostrate, and is in a bad condition for a second blow.

The whole course of typhoid fever, whether the fever run a long or a short course, is a time fraught with the gravest anxiety to those who are responsible for the management of the case. It may be a time, the greater part of which is spent in unconscious delirium, the sufferer requiring every attention and care—attention which is demanded by night as well as by day.

In these cases remember that life itself often hinges upon your care and forethought. From the fact that irritation of the bowels is so common in cases of typhoid fever, you would naturally infer that some trouble of the bowel has to do with the complaint.

If you could see inside you would find part of the bowel is suffering severely; you would find that this part is the seat of a kind of inflammation. You know that in small-pox the skin is covered more or less with inflamed pimples. Well, in typhoid fever, a part of the bowel is covered with inflamed spots. They are not like pimples you would see on the skin, but it will be enough for you to consider these typhoid spots as a sort of inflamed patch. So we will consider the part of the bowel affected in

typhoid fever as covered with small inflamed patches.

You all know how thin is the gut or bowel. There is little difference in substance between the gut of an animal and man. You know that if you were to take a piece of gut such as would be used in covering sausages, and wash and clean it, how thin and poor it would appear; you would think there was scarcely room for inflammation, much less for a sore to form. During three long weeks or more these sores have to form and perfectly heal—if the patient is to get well.

You can now understand the anxiety of such an illness, and you can understand the strict orders which the physician leaves as to the food the patient is to take, and as to the care the nurse is to take in watching her patient.

If you know the nature of the illness, it is more easy for you to appreciate the reason for many of those orders which you would otherwise fail to understand.

With such an affection of the bowel as exists in typhoid fever, it would be of the utmost danger if indigestible food were to pass along the bowel and irritate the inflamed portion of gut; hence the great care in feeding typhoid cases. You know that usually the food is as bland and unirritating as possible. In many cases it consists

almost entirely of milk—milk being one of the most nutritious, and yet easily digested, foods we can find. In some cases even milk does not digest perfectly, and in these cases the nurse will find evidence in that which passes from the bowel; in the evacuations will be found hard pieces of curd, broken up curd of milk. It is always important to note this, and for this reason, you should always carefully examine all the stools passed by the patient, and on seeing the smallest portion of curd acquaint the doctor of the fact.

The gut, although looking so thin and transparent, has its blood-vessels, large and small. The inflamed sore-like spot may eat its way into one of these vessels, and give rise to bleeding. It is therefore important to examine the stools for the presence of blood. Severe bleeding from the bowel is one of the numerous dangers to be feared during an attack of typhoid fever. The hæmorrhage arises from ulceration of the inflamed spot; the spot ulcerates, and eats its way into a blood-vessel.

This liability to hæmorrhage renders it highly important that the patient should remain *as quiet as possible;* should never be allowed to move suddenly, to rise from bed, or use the night-commode. By making sudden movement or exertion another danger is incurred. The in-

flamed spot may tear, and a hole right through the bowel may be formed in consequence. This is the most dangerous of all complications arising during the course of the fever. It is spoken of as perforation ; and you know now that it means a hole forming in the bowel, which allows the contents of the bowel to escape into that part of the body called the abdomen, which is a large space, in which lie the stomach, bowels, and other important organs. This large space is completely lined with a membrane or skin, called the "peritoneum." Perforation leads to inflammation of this membrane, thence called peritonitis. You must learn to distinguish between the word "stomach" and "abdomen." Medically, the stomach means only the organ into which our food passes when we swallow. It lies under the ribs on the left side. The abdomen includes the entire space from below the ribs to the upper part of the hip-bones in front. From the brief sketch which I have given you, you can understand that the path of typhoid fever is one beset with difficulties. At any moment we may be called upon to exert our knowledge and presence of mind.

Apart from the more serious complications, as hæmorrhage and perforation of the bowel, there are other states of the patient which require all

your care. He may be so delirious as to necessitate your not leaving him for an instant. In these cases, turn your back but a minute, and there is danger of your patient getting out of bed and doing himself much harm. Patients in this state of delirium have thrown themselves from the window.

Again, there may be so much fever as to require some artificial means for its reduction. The means will be suggested by the doctor, but in numerous cases the nurse will have to carry them out. The more usual method of reducing the excessive temperature is the use of cold water, in the form of baths of various degrees of temperature. For the same reason, you may be required to sponge the body, or even apply ice to its surface. In each case you should ask for your special instructions; it would be wrong to trust to any general rule.

If any of you were to sow a pinch of mignonette seed, you would naturally expect that mignonette would spring up where the seed was properly sown. You would not expect to find that the seeds had produced a crop of onions. You know that throughout the vegetable kingdom—that is, with all plants and flowers—the seeds when sowed produce the same plant or flower as that from which the seeds were taken.

You will find that fevers grow much in the same way. The seeds from small-pox never produce a scarlet fever; the seed of measles never that of typhoid fever.

What these seeds of fever really are is not truly known. We only do know that fevers have a peculiar power of spreading from one person to another. We further know that some fevers spread much more easily and much more rapidly than others.

We have therefore two important things to think about when taking charge of these peculiar diseases. We have first to think of our patient. We are called upon to do everything in our power to help him through his illness; but at the same time, we must always bear in mind that his disease can spread to others, and it is therefore our duty to try and prevent the disease extending to others.

It will help us if we know what part of the body gives off these seeds, which carry the disease from one person to another.

We know more about some diseases than others. Now, in typhoid fever we know that the poisonous seeds come away from the bowel. You know that the poison seems to spend its force on part of the bowel; so it is not very surprising to find that the evacuations coming from this part

carry the seeds of this horrible complaint. It is a very nasty idea, but none the less true, that these seeds, to work their harm, must be swallowed. Perhaps I ought not to say "must be," but in nine cases out of ten they have been swallowed before producing an attack of typhoid fever.

It is important for every one to know how this happens. We will suppose the evacuations from a patient are thrown down an ordinary w.c., they fall down the soil pipe and pass into the sewer. Perhaps the adjoining house has a faulty drain, a drain not properly trapped ; the smell from the sewer carrying with it the seeds of the typhoid poison is wafted up this drain. The drain will thus be full of poison ; it only wants a little opening to bring it into the house, and distribute it seed by seed through every room in the house.

Maybe the larder has a small drain which goes direct into the drain from the house. Up this small pipe the poisonous elements fly ; they find a suitable resting-place upon a bowl of fresh milk which the cook has placed in readiness for the children's breakfast. The milk is swallowed, it has no nasty taste, no disgusting smell ; for all that it may be carrying its death warrant. A week, ten days, or even later, a child falls ill with typhoid fever. No one can understand how it

has been taken, and so the disease is conveyed from one house to another, and from one town to another. For you can understand that, supposing the seeds of typhoid fever are to be found lurking in the farmer's dairy, two hundred miles from town, there is nothing to prevent the milk being then contaminated, and so giving rise to the disease when distributed from house to house by the London milkman.

There are, I am sorry to say, many ways by which the seed of this disease can be distributed from one person to another. I have only given you one illustration. I might have taken many more—to prove how important it is that you should do your best in preventing the spread of such a disease. How can you do so? It is not of course in your power to see that the drains of the house you are nursing in are in proper order; but you will have the opportunity and the power to kill the seeds, thus preventing them from growing up into typhoid fever. You can, by adding disinfecting fluid to the stools of your patient, completely prevent their power of conveying the disease to others.

It is therefore necessary in all cases for you to use a powerful disinfecting fluid, which you should pour freely over the evacuations as soon as they are passed. By such means they can be

passed down into the drains without fear of causing harm. The best fluid for this purpose can be easily and cheaply made by dissolving an ounce of green vitriol in a pint of water. Pour this on a stool passed from a patient suffering from typhoid fever, and you will effectually prevent any subsequent emanation of poisonous seeds.

Disinfection, as usually carried out in the sick chamber, is but a farce. How often do you see a small saucer of Condy's fluid and water placed under the bed! You might as well place it in the next street for all the good it can do, used in such a manner. Another point bear in mind: it is, that all these sorts of poisons—that is poisons which give rise to infectious diseases—grow and flourish in animal dirt. By animal dirt, I mean the filth which comes from our bodies, whether it be in the form of perspiration or discharge from nostrils or bowel. The stools from a typhoid patient probably become much more malignant some time after they are passed; therefore give them no time, destroy the poison at once.

Add the disinfecting fluid to the bed-pan itself. Do not empty the pan down the closet and think you have done your duty by pouring after it a few ounces of very dilute carbolic acid.

As nurses, you need have but little fear of taking typhoid fever. You are not likely to catch it from the patient you are nursing; of course you should take ordinary precautions. You should be careful to wash your hands after changing soiled linen, and you should avoid breathing as much as possible when bending over a case or when removing the stools.

With scarlet fever, measles, small-pox and typhus fever, the case is entirely different. In these cases the whole body seems to have the power of giving off seeds capable of reproducing the disease in another person—that is, if the other person is capable of receiving the seed and, as it were, growing the disease. This will largely depend upon the fact as to whether or not the recipient of the poisonous seed has previously suffered from the complaint. You know it is rare to have any of these diseases a second time.

In nursing these very infectious cases it is of the utmost importance for you to take every trouble and care to prevent the disease passing on. Much can be done by putting the patient at the top of the house, isolating him in this way from other members of the household; the doorway of the room should be kept closed by a sheet well wetted with a solution of carbolic acid and

water ; and another sheet so wetted should, if possible, be suspended in the passage leading to the room or rooms in which the patient lies. All the linen, handkerchiefs, and clothes used by the patient, should be plunged into disinfecting fluid before being allowed to leave the room and sent to the wash. If no special orders are given to you as to the disinfecting fluid to be used for wetting the suspended sheet, or for the fluid into which the soiled linen is to be plunged, you may safely rely upon a solution of carbolic acid and water. You can mix it in the following proportion—namely, half an ounce of Calvert's No. 5 acid to a pint of water.

It is always well in the sick chambers where you are nursing infectious cases to remove, as much as possible, all rugs, curtains, and carpets, and bed-hangings. Remember, that where dust can cling, there the infectious seeds are sure to rest all ready for harm. For this reason be careful about the dress you wear. Give up stuffs and use simple washing prints. Be particularly careful as to the cleanliness of the room ; let not an atom of dust be seen. If the dusting is not done properly, do it yourself, and do not feel inclined to draw that sharp line between what is usually called the housemaid's work, and that more strictly belonging to the sick nurse.

You must also bear in mind that, after nursing infectious cases, you are bound to take every precaution to have your own clothes disinfected. It is, as you must see, highly dangerous to go from an infectious case to another patient without attending most carefully to this point. I would further tell you that *under no consideration whatever* should a nurse go from a case of scarlet fever to a lady recently confined or about to be so.

Women in this condition are highly liable to take the poison into their systems, and it becomes with them one of the most fatal dangerous diseases possible to see.

I have told you that in these infectious diseases it appears as if the whole body had the power of giving off the seeds of disease; but you have to know that there are certain parts of the body which are more powerfully inclined this way. For instance, with scarlet fever the skin carries the infection for days and days after the disease is seemingly over. After these diseases the skin frequently peels off, and the small particles of skin which fall off are most dangerous as carriers of infection. It is therefore important that you should carefully examine the skin of the different parts of the body, especially the skin of the scalp; and as long as you perceive the skin coming off—it may

be but fine powdery particles—so long is the patient dangerous to others.

With small-pox the poison lurks in the spots which form on the skin, and the patient is not safe until all the dried-up crusts which collect on these spots have fallen off and left the surface of the skin sound.

With measles, the discharges from the throat and nostrils appear specially poisonous. It is well to use pieces of fine old linen for cleansing purposes. Burn them as soon as done with.

In attending to these cases, there is one point which nurses should pay the greatest attention to. They should see that the sick room is well ventilated and abundantly kept supplied with sweet pure air. Good pure air has very great power for preventing the spread of all infectious diseases, and moreover it has a most invigorating influence on the patient.

LECTURE V.

THIS evening I should like to say a few words to you about a very important matter. I wish to speak to you about what are called the Symptoms of Disease.

Symptoms of disease. It sounds a very large subject, in fact I might almost say that it embraces the whole study of medicine. It is not in this sense that I wish to bring the matter before you. Rather I wish to impress upon you, who have so much to do with sick folk, the importance of recognizing how very slight, how very masked, are but too often the signs or symptoms of disease.

Of course it is not possible for a nurse to make herself acquainted with the various symptoms which appear as signals that disease has taken possession of our bodies.

There are, however, certain broad facts which she should lay to mind, and it is my intention in this lecture to bring some, at least, of these facts before your notice.

If you were living on the banks of a small

stream which you were accustomed to see full of pure, sweet water, and one morning you found this stream turbid and offensive, you would know that it had been polluted. You would wish for the pure water, and you would use every means in your power to ascertain the cause of the pollution, and you would doubtless use your best endeavour to remove this cause. Now suppose, if you were much troubled about the matter, and a friend came to see you, and told you that the best method of getting back your good water would be to empty into the stream bucket upon bucket of sweet water from a neighbouring well, your common sense, your every-day knowledge, would tell you that such a treatment of the diseased stream would be of no avail.

Your common sense would tell you that if you wished to rid yourself of the impurities, you must journey up and up the stream until you came to the cause—the cause of that impurity which was changing good, wholesome water into that which was foul and impure.

Now what can such a story have to do with disease? I think those who have listened to me will see that by the pure, good water, I mean our healthy bodies—bodies as they should be, without the contaminations of disease.

The foul, polluted state of the stream is the

condition brought on by disease, and the moral for your attention is the importance of ascertaining the true first cause of disease.

Again, it may occur to you that all this has very little to do with nursing the sick. It may have more to do than at first sight appears likely.

In your homes, in the houses where you are nursing, among your friends, those who meet you, knowing that you are accustomed to sickness and illness in every form, will often ask your opinion on simple matters connected with health and disease. You will be constantly tempted to pour in water out of your bucket for the purpose of purifying your foul stream.

To speak plainly, you will be constantly tempted to give advice for symptoms of disease, because such symptoms are very common and of every-day occurrence.

Remember it is the symptom which you are asked to treat; the symptom, the sign, the outward manifestation of disease may be very prominent; the true cause of it may be as hidden and concealed. If the cause remain, it is but of little good treating the symptom. You will soon find that the real great difficulty in appreciating the truth of what I am saying, lies in the fact that the names of many of our most prominent

easily recognized symptoms are used to express forms of disease. I shall explain this to you more fully. For the moment understand that I mean we use the word headache as expressing a disease or illness; and yet if we look closely at the headaches that come before us, we constantly find that they depend upon some cause, which is quite apart from the head itself.

Every one knows that headache comes from what we call biliousness, and I think every one knows that it also comes as the result of fatigue. From headache being so common we almost always speak of it as if it were a disease and not, as it always is, a symptom only, depending upon definite causes, which may be as far opposed as the poles of the earth.

Take another common, every-day state of ill-health—pain over the region of the abdomen, roughly spoken of as colic or stomach-ache. You know the usual means taken for its alleviation; you know that nine times out of ten a dose of castor oil is administered. Any one is clever enough to order such a "simple, harmless dose of medicine."

I wonder how often I have seen patients who have had this "simple, harmless remedy," with the result that it has caused them weeks of illness and suffering. I wonder how often this simple,

"harmless remedy" has caused the death of the patient? We had better not ask, but rather turn our attention to the reasons why it can be dangerous.

Unfortunately for mankind, serious as well as simple diseases begin—that is, make their first appearance—by similar signs and symptoms; thus the pain over the abdomen, which may result from the effects of taking indigestible food, will be of much the same character and kind as that which foreshadows inflammation. Now inflammation of the bowels is a very serious complaint; it is a complaint in which it is important to keep all parts quiet and at rest. You would never dream of rubbing, pulling, or twisting an inflamed boil, but think of the twisting and discomfort an aperient must cause in the neighbourhood of that piece of inflamed intestine which is, as yet, only complaining, by a pain, which need not be very severe in character. Now remember, never in any case of decided stomach-ache, where the abdomen is tender, especially when the tenderness is at the lower part, on the right side, and where, maybe, there is some very slight increase of temperature; never, I say, countenance the administration of any form of aperient.

When such a case comes before you, when the friends of the patient say to you, "Cannot a pill

or a dose of oil be given, it can do no harm, before the doctor comes?" be firm, and if you like, give your reason, say that such pain you know may be due to simple indigestion, but that on the other hand it may mean the commencement of an inflammatory attack, and if so, an aperient would be most dangerous. In such cases you can always do good, and no harm, by applying warmth, whether in form of poultice or fomentation.

When I tell you that it is of the utmost importance to ascertain the true cause for an illness, the statement must appear so obvious as to be almost uncalled for.

In ascertaining the true cause for a disease, one of the first difficulties, which is almost sure to stand in our way, is the fact that so many diseases have much the same prominent symptom or sign; indeed, so much alike are these symptoms or signs of disease, that we shall find, even at the present day, that in medicine we retain names, which although only marking a principal symptom of a diseased part of the body, in days gone past were looked upon as distinct, separate diseases, and were consequently named and treated as such.

We shall find that many diseases are extremely insidious in their growth, that is, they take a very long time in declaring themselves. They are chronic in their course; the word "chronic" being

used to distinguish those diseases which are long in making growth, and is the opposite of the word acute, which means that the disease has come on with great rapidity.

You may with advantage look upon disease as having a life of its own. You know that a human being has a life which, if not cut short by illness or accident, will last for many years. Well, with disease there is also a natural life. We know that one disease is likely to last for a long time, another for a much shorter period. Thus, an attack of scarlet fever comes on rapidly, and the whole illness is soon past. Another disease, as, for instance, a liver disease, may be years in coming to maturity. As it advances, it saps the strength of the patient, who, as the disease progresses gradually, loses strength and dies.

There are diseases over which we have but little or no control; they march their terrible course, and we are powerless to do more than alleviate the time of pain and suffering which they bring in their train.

There are diseases which, although slow in progress, yet if detected in their early life, in their infancy—and remember we are using this word as applied to the disease and not to the individual—can be stopped, can be cured.

As a general rule, the first beginnings of all

disease are marked by very slight symptoms. The signs seen at quite the commencement of a disease are but very small ; it therefore follows that it is always very important to take notice of very small departures from health. It is by taking notice of these very slight symptoms that we may hope to stop the disease which threatens and undermines the health.

Perhaps from these remarks you may now understand why I have touched on this matter, which of course pertains more to the doctor than to the nurse. I often find that advice is asked of a nurse about apparently trivial symptoms—symptoms which, although they betoken the commencement of an illness, yet in their early stage give rise to only a moderate degree of inconvenience.

Tenfold is this the case with the little ailments of children. Some poor, unfortunate children are brought up on a system of continual dosing ; they are considered fit subjects for the innumerable medicines supposed to act upon the stomach, liver, or bowels ; the truth being that these organs are doing their work well enough, but it is in reality the constant dosing which is affecting the little sufferer. If we were to carefully trace the first symptoms of typhoid fever, or a still more dangerous disease, inflammation of the mem-

branes of the brain, we should hardly find a single case where the first symptoms had not been treated as if the disease were some slight affection, commonly called gastric or hepatic, and why? Simply because the first symptoms, the first signs of these diseases, are usually marked by a disturbance of stomach or bowel, and such a disturbance may be accompanied with a loaded tongue, foul breath, or sickness, which is quite sufficient in the judgment of most to justify a brisk purge, the administration of which intensifies the true disease.

I have told you, that in bygone days many diseases were so called from the marked prominence of, perhaps, the very *last* symptom of their course; in other words, names which should only indicate a symptom of disease, are used to indicate a disease itself.

These names have become so generally used that we find them in constant use at the present day. I reminded you of the name headache, and I told you that headache might be an important sign of many different states of ill-health. Let us now look at another symptom of deranged health, a symptom which is of great importance in the majority of cases in which we meet with it.

You know there is an illness which we call

dropsy. It is often spoken of as if it were a disease, and in the wards you will not unfrequently find the word "dropsy" written on the bed-card, to denote the illness from which a patient is suffering.

Dropsy means the presence of a watery fluid in the substance of the skin or in some of the cavities of the body.

You may remember that, when speaking of the blood, we found that it was partly composed of a watery fluid. This watery fluid or serum may escape from the blood-vessels. Thus we see it as resulting from inflammation when the skin has been irritated by a blister.

In good health the blood passes freely through arteries, veins, and capillaries. No water should ooze out; if water does ooze out, it means that there is something wrong with our health. Now, one of the most simple causes for this oozing out of the watery material of the blood is seen when people are weak and poorly. You know that people may be weak and poorly without having very much wrong with them. But even in this simple state of ill-health you will often find a "dropsy" one of the most prominent symptoms.

Dropsy is rather a serious word to express the symptom I am alluding to. It is a symptom which, I have no doubt, I should find in several

of you nurses this evening. I have no doubt that several of you are at this moment suffering from a symptom which is dropsy. I must, however, ease your minds at once, and tell you that, if I am right, your dropsical symptoms are very slight, and need not cause you a moment's uneasiness.

Now, what is this symptom? After a hard day's work, when you have been on your feet all day, when perhaps you have not been feeling very strong and well, when your complexion has been pale, and your friends have said to you that you are not looking well, have you ever noticed, on taking off your shoes and stockings at night, that there was a slight puffiness of one or both ankles? It is gone in the morning, and may be so slight as scarcely to attract your notice.

Now this symptom, slight as it is, is nevertheless the symptom of dropsy—dropsy in its mildest, most simple form.

If you could carefully examine the ankle so swollen, you would find that some of the watery part of the blood had oozed out, and was lying outside the blood-vessels among the muscles, tendons, and other structures which compose that part of the body.

In health the heart has no difficulty in pumping the blood down into the foot, and then up again

into the lungs. In weak states of the system, this up-hill journey becomes more difficult; a little blood lags behind, its water oozes out drop by drop, and a swelled ankle results. You often see similar swellings of leg and ankle in old people, whose vigour has gone, and left them enfeebled by age alone.

You see the same result follow recovery from a long, tedious illness. The first time a patient sits up, the legs are sure to swell; and it must be the veriest beginner in the art of nursing who does not know that she can truthfully assure her charge that the inconvenience is but one of weakness, and will soon pass away as strength returns.

Although the conditions here are exactly the same as those found in other forms of dropsy, it is not usual to express by such a serious word, the swelling of the foot and ankle arising from weakness or fatigue. We usually call such a symptom "œdema"—œdema meaning simply a swelling or puffiness from the presence of water-serum in the skin. Water under the skin may then be a sign of the most simple state of ill-health. We shall see that it is also the sign of most serious disease.

Œdema of the lower extremities, which is in reality a slight form of dropsy, may be, as I have

shown you, a symptom of the most simple common state of ill-health we are ever accustomed to meet with. On the other hand, although as far as outward aspects are concerned it looks exactly the same, it may denote serious disease. It may mean that *through disease* the heart is *not able* to pump the blood properly round the body. Some part of the heart may be diseased, and this disease impedes the flow of blood; the parts of the body furthest away from the heart will feel this loss of power; and so we find that there is some swelling about the feet and legs owing to the difficulty which the heart has in accomplishing its daily duty.

Again, the heart may be quite sound and healthy, but the blood is in an impure state; it is not purified as it should be. All the blood passing through the various system of blood-vessels suffers, and the result is that the fluid does not pass along its channels as it should do in health. This impure state of blood is more commonly met with in disease of the kidney than in any other disease; one of the functions of the kidney being to take out of the blood those impure substances which, if permitted to remain, will cause much the same symptoms as if a poisonous substance had been swallowed by the mouth.

One of the first results of this impure, unwholesome blood passing through the body, is the leaking out of some of its watery materials. This water may leak out in almost every part of the body, and the patient will be suffering from almost universal dropsy.

Wherever the blood goes, there we may find evidence of this water. Its presence causes that puffy, bloodless hue which you often see presented by patients suffering from so-called Bright's disease.

Whenever there is an obstacle to the passage of venous blood, that is, blood on its journey back to the heart, there shall we also find a tendency to this exudation—this oozing of its watery parts. When, for instance, a vein is inflamed, the vein may be almost closed by the inflammation, and there is scarcely room left for the passage of the blood through it. The heart still keeps up its pumping, pumping the blood down through the arteries, through the small capillaries, and up again into the veins. When it arrives at the spot which is closed by inflammation it cannot go on further, the blood collects behind the point, the vein below the obstruction swells and lets out its water, and so we get a dropsy or œdema below the seat of inflammation ; the swelling may assume such proportions as to

make the affected limb well-nigh double its proper natural size.

We often find this sort of dropsy follow the bad habit of taking too much stimulant. The veins which arise from the bowels—and they are very numerous and large (for they have most important duties to perform in connection with taking up nourishing particles derived from our food)—all join together, and form one large vein which goes into the liver. The liver in health is very elastic; it not only has to secrete the bile, but it has also to permit a very large quantity of blood to pass freely through its substance. No obstruction to the passage of the blood can take place without much interference with our health. If obstruction exists for any length of time, serious disease *must* ensue as a result. Suppose the substance of the liver be diseased in such a way that it no longer will expand and permit the blood to pass through, there is of necessity an obstruction to the passage of the blood; it tends to accumulate in the big vein, the veins swell, and at last the water leaks out and dropsy results. Here the water which causes the dropsy falls into that great cavity of the body which we call the abdomen—this cavity containing the stomach, bowel, liver, kidneys, and various other important organs. The water passing

into this cavity gradually makes the abdomen appear bigger and bigger; so much water may accumulate here that we are sometimes obliged to draw it off by artificial means; the patient comes to that condition that he requires tapping. But tapping can *never* cure the hard, shrunken liver.

Now, we know that people who drink beer and spirits to excess gradually produce in their livers this hard, unyielding condition, which eventually is almost sure to lead to abdominal dropsy. The change may not come on at once; it may take years to take place, but it creeps on bit by bit until it produces this horrible, fatal disease—a disease brought on by self-indulgence.

Now, people often fall into this terrible form of ill-health, not from a love of intemperance, not from the love of the drink itself, but because they are careless or ignorant of the rules which should always guide us in taking care of our health. The word intemperance may be applied to eating as well as to drinking; very often the first commencement of drinking to excess arises from the bad habit of taking too much food, especially food of an animal nature.

Let me explain to you what I mean. As I am actually writing these lines a letter is put in my hands from a lady, who writes to me that she

should like my opinion as to the health of her butler. We will examine the case together.

I am told the following history. The man has been in the service of his present master for twenty years; he considers that he always had good health until about two years ago, when for some little time he suffered from loss of appetite, and he was often sick the first thing in the morning; indeed, he felt nauseated and sick till after his mid-day meal, and, as a matter of fact, the only thing he could take up to this time was a little bitter beer, which seemed to clear the stomach and give him appetite. During the last few months he has been feeling wretchedly ill and has scarcely been able to do any work; he has lost pounds in weight, and, according to his own account, which is fully corroborated by my own opinion, is utterly unfit for his work. His history almost tells its own tale, and there is scarcely a question to be asked. He owns to have been for years a very heavy beer drinker. I conclude that such a confession means a large quantity—many pints in the twenty-four hours.

Now let us look at his shrunken, attenuated frame. It is scarcely more than skin and bone; the abdomen is swollen, not, however, by a diseased liver; the liver has been shrinking away, bit by bit, for these many years, and, as a matter

of fact, there is but little good liver now remaining. I find in the abdomen the commencement of that dropsy we have just been considering. The big veins from stomach and intestines, which should convey good, rich blood direct from these parts to the liver, are becoming choked, the blood cannot pass freely along. Two results must follow: the veins all through the whole digestive road are full, are congested, digestion cannot take place properly. For we learnt, in the early part of our course, that a part of the body to be in health and vigour, must be constantly supplied with pure fresh blood. Digestion, therefore, being hindered, the nourishing particles of the food do not pass into the blood, into the circulation, and so the powers of the body suffer from insufficient nourishment. Secondly, the turgid vein soon begins to leak, the serum oozes out, drop by drop, and the first stage of abdominal dropsy is reached. Now, directly this form of dropsy seizes its victim, the final scene is not far removed.

By our remedies we can undoubtedly for a short time alleviate the distress, but the disease grows apace, and no remedy in the world is able to restore to the unfortunate patient a healthy, natural liver, the tissue of which has been gradually wasting for the past many years.

Now let us examine how such a condition of affairs comes on. I told you that there were two states of intemperance: the one connected with the food we eat, the other connected with drink. Intemperance in drink is often part and parcel of an unnatural, uncontrolled appetite. One man may be intoxicated, drunken, from taking too much beer or spirit, and such a state may be produced by the mere love of liquor; these, indeed, are the most hopeless cases we are ever called upon to advise or help.

Another patient may habitually take more stimulant than is actually good for him; he never becomes what we call the worse for liquor; but, nevertheless, week after week, and month after month, he is putting into his stomach more stimulant than the stomach can properly digest. Therefore, week after week, and month after month, there is a constant, extra strain going on; the stimulant, whether it be in the form of beer, spirit, or wine, passes into the circulation; by the circulation it is carried into and through the liver; the liver is constantly in a state of irritation—it is constantly in a congested condition—and this finally will surely lead to the disease which produces dropsy, or rather one of the forms of dropsy. The amount and quality of the food we should take to keep in perfect health is largely dependent

upon the life we lead. To the patient lying in bed there is but little of the so-called wear and tear, the food required may be of the simplest character: a little milk, some nourishing broth, with perhaps a small quantity of bread and butter, is quite sufficient to maintain well and securely the health of the body. Such food given to a hard-working navvy, or to any one out all day and taking violent exercise, would soon reduce him to the verge of starvation. Such workers require a much larger amount of food, and also food of more strengthening character, and we shall find the milk and broth replaced by meat, cheese, and the like.

Between these two extremes, we shall find many variations as regards the food required to support health. The domestic servant who takes but little exercise, and eats heartily of heavy diet, as meat and cheese, three and four times a day, is assuredly building up the stepping-stones for disease. Moreover, such a condition of life is only too likely to lead to intemperance in drink. The stomach, constantly loaded with food it cannot properly digest, becomes sluggish. The healthy digestion goes; a stimulus is wanted; beer or spirit may act as such a stimulus; it acts in much the same way as a spur to a tired, jaded horse, and you know that spurred

in such a state the horse is likely to stumble, to fall.

The stomach, perhaps stimulated to fresh exertions by the drink added to the food, again and again pours into the system more nourishment than is required ; the organs throughout the body have all of them additional work to perform. In some individuals these organs are stronger than in others, they hold out longer, and so we see the different effects of intemperance. The one man may have delirium tremens ; another may have disease of the kidney, and another disease of liver. I hope you now understand how intemperance in eating can produce intemperance in drink, and how the one can react upon the other, and so both tend to bring the individual to his grave.

Now why should I refer to such matters to you nurses ? I do so, that I may put before your minds some of the points which should dictate prudence, self-denial, and abstinence in your daily walk through life. I doubt not you will have abundant opportunity of here and there offering a hint, which, if given in season, may possibly be the means of rescuing a fellow-creature from future pain, suffering, and disease.

I have now spoken to you about four different kinds of dropsy—namely, dropsy from simple

debility, dropsy from disease of the heart, dropsy from disease of the kidneys, and, lastly, dropsy from liver disease.

Here, then, is a symptom which is common to four entirely different states of illness. Each kind of dropsy has its peculiarities, and as we get accustomed to the varieties of disease, these peculiarities become more and more clear: by a beginner many important distinctions would not be seen or appreciated.

To a beginner, the swelling of the body would attract attention; the swelling itself would be looked upon as a disease, and remedies might be given to remove the swelling, without taking into consideration the cause which gave rise to it.

I have told you that the dropsical swellings which attend complaints of the heart are generally first noticed in the feet and legs, and that such swelling, the result of kidney disease, is more general, affecting the whole body; and, again, I have told you that when the disease of the liver causes dropsy, the first indication of the fluid is found in the abdominal cavity. You might therefore think, that if you noticed swelling commencing in any of the ways I have just described, you would have no difficulty in forming an opinion as to the organ diseased. And you might

feel it in your power to name the true seat of the disease which was giving rise to the prominent symptom "dropsy."

You would soon find out your mistake; you would find that there were many other diseases which might give rise to swelling of the abdomen, and, moreover, to swelling caused by fluid. Again, you would soon find that there were numerous swellings of the legs which did not arise from heart diseases. All these facts should impress upon your mind the truth, that all symptoms taken singly—thus looking at dropsy as a symptom—may be caused by many different forms of disease. If you once understand and appreciate this truth, it follows that you will recognize the futility of attempting to cure *symptoms* alone.

Now, in taking as my text the symptom dropsy, I have sketched an extreme case, and I have done so on purpose, that I might with force impress on your minds what I had to say upon the subject. I might just as easily have spoken about sore throats or headaches.

Sore throats are often very simple little illnesses, so are headaches.

I could easily have pointed out to you that, whereas a sore throat, which has perhaps resulted from sitting in a draughty room, is a symptom of a local chill, and but of little moment, looked at

as a symptom alone, may point to a far graver disease.

Sore throat may mean that the patient is suffering from scarlet fever ; in these cases it is sometimes the prominent symptom of the disease. It may mean that the patient has diphtheria, and here again it may be but the prominent symptom of a most serious disease. Now in these three cases—namely, sore throat from chill, scarlet fever, and diphtheria—the actual appearance of the throat may be much the same, so that a casual observer might be inclined to express an opinion that all three were caused by the same disease, maybe, catarrh. I have myself seen a sore throat of diphtheritic character, which, when it first appeared, presented, I have no doubt, symptoms like a so-called ulcerated throat ; and I have seen such a throat give rise to an attack of diphtheria which ran through an entire household. And why ? Simply because the patient—a servant in a large family—sought advice from a neighbouring chemist, who assured her that her symptoms were of no importance, that her throat was sore from cold alone.

A headache, again, is but a simple matter, but it may mean that there is most serious disease of the brain which is giving rise to it. It may mean, maybe, but the irritation of a decaying tooth.

When you come to nurse patients in private families, you will often find your knowledge sorely tried. You will often find people who expect you to know almost as much about the illness as the doctor who is attending the patient. Now, when you are in such a position, remember that your first duty is towards the patient you are nursing. It is doubtless flattering to feel that you are thought to have so much knowledge, but do not let such a position tempt you to explain states of illness—in other words, symptoms—unless you thoroughly know their value and meaning.

You must not now think that I am speaking from my imagination. I remember once seeing a lady who was paralysed, and I remember her family being placed in a great state of alarm by the nurse stating that the patient was in a dying condition, which she knew from the character of stool that had been passed, and from the peculiarly earthy smell which she noticed as arising from the poor lady. Now such an assertion was unwarranted under any circumstances. It may have been made in good faith; the patient undoubtedly was very ill; but I do not know myself of any characteristic discharge from the bowel which tells us death is at hand; indeed, in the case that I have cited, the patient lived many years. There was not a shadow of excuse for

such an assertion of knowledge on the part of the nurse.

A nurse is constantly having the various symptoms of disease brought before her, and she often *has* to judge of their value. That is, she has to say whether the trouble her patient complains of is one requiring immediate attention or not.

It would be absolutely impossible for me to tell you even in a long course of lectures what symptoms are very serious, and what are the reverse. Your constant study of sick people in our wards will help you more than all the books and all the lectures in the world.

The great fact to remember, is never neglect, never pass over without thought, any complaint which may be made to you. You will soon find out that some patients make constant complaint without much cause, and, on the other hand, many patients scarcely complain at all; they bear their sickness without a groan, and make light of all their troubles. You will often find such cases among patients suffering from consumption. It is quite painful to hear such poor patients talk; they speak of what they are going to do as soon as they are well, and make the most complete plans for the future; one can almost tell by looking at them that they are not long for this world.

Patients suffering from consumption require

much kind consideration and care from those nursing them. You will see how every little exertion makes them cough and breathe quickly. They are fastidious about their food, and require much care in providing for them that which is most nourishing and pleasant to take. Remember, such fastidiousness, which you may think is ungrateful, and might be kept in check, is part and parcel of the disease. It is one of the symptoms of the disease, and if you look upon it as such it may make your nursing more easy.

Another common symptom is that we know by the name "diarrhœa." Diarrhœa may arise from numerous causes ; perhaps in its most simple form it may come from catching cold ; just as cold may give you a catarrh in the nose and head, so cold may give a catarrh in the bowel. A diarrhœa may, as you know, arise from eating food which disagrees ; in such cases the food, instead of being properly digested in the stomach, passes into the gut, and there, by reason of its crude undigested state, sets up irritation. This irritation gives rise to pain, the gut tries to throw out the irritating morsels, and so diarrhœa results.

We have spoken about diarrhœa as the symptom of typhoid fever, and you know that in this disease the cause of the irritation is in the bowel itself. Well here, then, are three different kinds

of diarrhœa, all produced by different causes, and you can understand it would not do to treat all the cases alike. The remedy for the first is the remedy one would take for a catarrh ; the remedy for the second would probably be some medicine which would help the bowel to get rid of the offending matter. As for the third—that produced by the poison of typhoid fever—the general treatment of that fever.

Such cases as these may easily come under the care of a nurse before medical advice is sought. You can see that she would do harm if, without thinking, she recommended a dose of castor-oil to each case. It might not do much harm to the first case, but it would not be the best remedy. To the second, undoubtedly it would do good. Given to the third, it might possibly mean loss of life.

You may think that as nurses you can hardly be expected to know much about the symptoms of disease.

It is doubtless your duty to nurse, or, rather, take charge of, those different states of the body which occur during illness, and to which we apply the name symptoms ; and although you may not have often to express your opinion as to the meaning of these very different states, still it will make your work more interesting if you

have but some slight idea as to the so-called value of the multitude of symptoms which are daily brought before you.

There are some extreme cases which a nurse is bound to recognize at once. Thus, she is bound to notice the soft, red blush which occurs when erysipelas shows itself in a surgical case. She would certainly be far from fulfilling her duty if she permitted such a rash to exist many hours without acquainting the surgeon of its presence.

In erysipelas, as indeed in all diseases of an infectious or contagious nature, time is of the utmost importance: perhaps of not so much importance to the patient as to those around him. It is therefore very important that you should constantly examine all those cases which come under your care in which a rash appears as the symptom of disease.

Rashes appear as symptoms of measles, small-pox, scarlet fever, chicken-pox: these rashes you should take every opportunity of looking closely at, so that you may recognize them when they appear on a patient.

In some cases these rashes are simulated by other diseases; I mean, that a rash like that produced by scarlet fever is really produced by some other cause. Remember, it is always best to be on the safe side, and to regard such a rash as

scarlet fever, dealing with it as such, until a skilled opinion is given.

And now I feel I must bring this long disjointed Lecture to a close. It has been my endeavour to impress upon you all, as attendants upon the manifold sicknesses which our poor bodies are afflicted with, the importance of fully recognizing the first stages of the advance of the enemy, disease. I wish also to impress upon you the utmost importance of accurately and conscientiously carrying out all the directions which are laid down by the medical adviser, in each case you may be called upon to nurse. I also have wished to impress upon you, that sometimes the truest form of wisdom, is the recognition of our own ignorance.

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