remained, and all opportunity for the further formation of peritoneal adhesions was avoided (Fig. 5).

Fig. 5.

The abdominal wound was then sewn up in stages. There was a little blood-stained uterine discharge, which soon ceased after the uterine tube had come away, on the fourth day, from the vagina.

The patient has returned frequently for examination. She is in very good health, has had no further attacks nor abdominal disturbance of any kind nor any noticeable vaginal discharge.

Conclusion.

As for the operative procedure, it was commenced with the object of relieving the patient by removing the appendix. On finding the appendix normal I went on to separate adhesions and search for the Fallopian tubes. The later stages of the operation had in view the prevention of the recurring attacks of peritonitis by shutting off ovarian follicles from rupturing into the peritoneal cavity, and was concluded by leaving no raw surfaces to re-form adhesions.

NOTE BY MR. ALBAN DORAN.

This case is of much importance, as systematic writers teach that in true arrested development of the Fallopian tubes the remainder of the united portion of Müller's ducts—that is to say, the uterus—is of necessity involved in the malformation. In Mr. Spencer's patient the uterus was well developed. Three features of special interest should be borne in mind. First, traces of the fimbriae of the Fallopian tube were detected on the wall of the ovarian pouch where it was continuous with the broad ligament. This is what the modern embryologists, Francis Balfour, Arthur Keith, and others, would expect. The arrest of the tubal portion of Müller's duct was complete, but these authorities have shown that the fimbriated extremity of the Fallopian tube is derived from the pronephros, and not from Müller's duct at all. This condition is seen in the adult shark. "Kobelt's tubes," on the outer extremity of the paroovarium, Wolffian body or mesonephron, are, we are taught, of pronephric origin also. Secondly, the knob which represented the Fallopian tube on the left side contained a small dermoid cyst. About ten cases of dermoid tumour of the Fallopian tube in our species have been reported, and Fromme and Heynemann review them in the new edition of Veit's *Handbuch der Gynäkologie*. Orthmann's monograph, *Ueber Embryoma tubae*, deserves special study. It is, indeed, strange that a disease so rare in the normal tube was found in this instance, where it was reduced almost to nullity. Lastly, let it be remembered, the round ligaments were well defined. This is the rule in malformations of Müller's ducts, especially in imperfect union of its lower portion with its fellow—that is to say, in bifid uterus. In the *JOURNAL*, vol. i, 1899, p. 1389, I reported "The Removal of a Fibroid from a Uterus Unicornis in a Parous Subject." A small fibromyoma had developed in the fibrous band which represented the suppressed uterine

cornu, yet the round ligament on the same side was very thick, far more developed than that connected with the other cornu, which had been gravid before, and was the seat of pregnancy after I removed the fibroid. The Fallopian tube was well developed on the side where the cornu was suppressed. Some authorities imply that precocious development of the round ligament is the cause of arrested fusion of Müller's ducts.

An Address

ENTITLED

THE QUICKENING SPIRIT.

BY

LEONARD WILLIAMS, M.D., M.R.C.P.,

PHYSICIAN TO THE FRENCH HOSPITAL; PHYSICIAN TO THE MILLER HOSPITAL; ASSISTANT PHYSICIAN TO THE METROPOLITAN HOSPITAL.

In the slow and laborious process of the evolution of man towards his higher destiny certain moments appear as salient. Discoveries of natural laws, as that of gravitation, the utilization of the powers latent in matters of common occurrence such as steam, and the wonders of the microscope, are examples which readily suggest themselves. Even more notable for members of our profession are the discovery of general anaesthesia and the Listerian principles of surgical cleanliness. We are accustomed to regard such events more or less sudden because they have revolutionized hitherto accepted theories and practices. But we are certainly wrong in so doing. These epoch-making events represent in reality the fruition of a process whose germination, growth, and efflorescence have occupied long periods of time. For Nature does not work by hurricanes. We are conscious—it may be unpleasantly conscious—of the hurricane when it comes; but that is merely because we have been heedless, wilfully or ignorantly, of the premonitory symptoms of the cyclone, which the wise might, and ought perhaps, to have foreseen and forestalled.

In pondering over the manner in which I could most usefully employ the time so flatteringly placed at my disposal this evening, it occurred to me that, though very far from arrogating to myself a wisdom or a perspicacity above my fellows, inasmuch as I seem to discern in the trend of present-day medical thought a movement which is destined to occupy a great deal of time and interest in the immediate future, I might serve some useful purpose by endeavouring, however crudely, to focus attention on that movement, so that we may learn to utilize even what little is now known on the subject to the joint advantage of our patients and ourselves and the incidental undoing of the quack and the charlatan.

That mind exercises an influence over matter is a formula which most of us have lisped since the days of our childhood. The formula represents a belief, held strongly perhaps, but essentially vaguely, even by those who have had a scientific training, and it has not hitherto assumed anything which could be described as a definite outline. Such an outline I believe it to be now in process of assuming, and it is the part of those who take the profession of medicine seriously to contribute something out of the vast store of material which lies daily to their hands towards the elucidation of some of the difficult but fascinating problems which await solution.

In the human body every motive force is provided with a corresponding controlling force, and it is important to realize that the motive force itself is always developed in advance of the corresponding controlling force. When a child is born it has the power of contracting its muscles and thus moving its limbs, but it is a long time before it can so co-ordinate these muscles as to walk or otherwise accurately accomplish any purposive movement. Similarly, the new-born child, though able to defaecate and micturate, is unable for many months to control these primal acts to the point of bringing itself within the accepted canons of cleanliness. So much is recognized, but it is not so well recognized that the same laws obtain in the region of what is called the mind. Here the motive force is represented by the emotions—a child is all emotion and instinct—and the control force is provided by reason and

experience—that is, by the intellect and the will. Intellect and will are admittedly not identical, and they are associated here with the view of abbreviating the argument, without, I hope, vitiating it. It is of course quite clear that the development of the intellect and the will, with its consequent control of the emotions, will exercise a progressively modifying influence upon character, but is it true to say that this same development of the will at the expense, so to speak, of the emotions can exercise any moderating influence upon the *materies* of the human body, so as to render the tissues both less susceptible to disease and better equipped to combat disease when invasion has been successful? That it must be true is an opinion which is forced upon every thinking medical man by the experiences of his everyday work. They are commonplaces of medical literature which tell of chorea being provoked by fright, of an attack of the gout being caused by a fit of anger, of exophthalmic goitre being brought on by worry and anxiety; and works on psychology will furnish the curious with well authenticated instances of examples even more dramatic. When we come to inquire how such effects can be produced, our attention is immediately attracted by, and becomes focussed upon, the circulatory system. The physical manifestations of violent emotion are preponderantly vascular. The lividity of rage, the blush of shame, the deathly pallor of alarm, and the ashen hue of excitement, are expressions which have been dear to the pens of writers since time began; and they describe, truly enough, what all of us have frequently experienced even in our own persons. Now, it must not be supposed that such vascular changes as these manifestations represent are confined to the integument; for, as Leonard Hill has shown, the pressure of the blood in the system at large is kept in a state of equipoise by the law which provides that a vaso-constriction in one part shall be immediately compensated for by a corresponding vaso-dilatation in another part; so that while the sudden cutaneous hyperaemia of the "blush of shame" proclaims an ischaemia elsewhere, so the cutaneous ischaemia of "pallid fear" denotes a compensatory hyperaemia in some possibly distant area.

If we now proceed to consider the effect of such vascular storms upon the economy generally, we have no difficulty in concluding that the customary working of the human machine must thereby be profoundly disturbed. So long as the circulation of the blood is smooth and orderly, its purification is regularly accomplished by the excretory organs, and its renovation adequately effected by the continuous supply of material from the contributory glands. If, however, instead of being smooth and orderly, the circulation is fitful and spasmodic, the excretory organs and contributory glands will be alternately gorged with sudden repletion and starved into astonished bankruptcy, with the result that the circulatory fluid itself becomes so fundamentally altered in composition that it imposes upon the tissues either an excess of what they do not require or an insufficiency of that which they demand. In view of such considerations it is surely not possible to doubt that violent emotions affect the physical health of their victim.

And if this be true of sudden and violent emotions overtaking people who are normally controlled, it must be equally true of those who, owing to defective education of the will, live a life of constant subordination to the caprices of their emotions. For it is not necessary that profound changes in blood distribution should be seen in order that they may be appreciated. Vascular perturbances may occur without either blushing or pallor; indeed, the emotional vascular see-saw, when it takes place between important internal organs, is even more likely to prove deleterious to the economy than when one of the parts affected happens to be the skin. Professor Osler,¹ in his recently delivered most illuminating Lumleian Lectures, says that "the profession is now riding on the top of a cardio-vascular wave," and I suppose I may be considered to have been caught in the trough of that wave when I ask you to believe that the physical ills which beset emotional patients are due primarily to circulatory causes. Such, however, is the position, and if I have succeeded in making myself clear up to this point, I have said enough to show that uncontrolled or misdirected emotions may, and do, by their action on the calibre of the blood vessels which supply the excretory organs and the replenishing glands, so affect the

composition of the blood itself that the nutrition of the tissues is impaired.

If it be true that we are on the crest of a cardio-vascular wave, it is at any rate equally true that we are poised on the apex of a laboriously erected hillock of microbes, which I may say in passing has attained to such dimensions that we are in serious danger of forgetting that, important though the microbe may be, the soil is at least equally so; and I therefore make no excuse for drawing my first inference from the foregoing considerations with this hillock in full view. With the nutrition of the tissues impaired, the tissues themselves become bereft of their normal powers of resistance to bacterial invasion; in other words, the soil becomes unduly receptive, with the result that acute specifics of all kinds have a peculiar tendency to show themselves. I need only call attention to the fact that the period of life during which such troubles are most prevalent—namely, childhood and early adolescence—is precisely that period at which the emotions are fully developed, and are as yet but very partially controlled by the exercise of the will to point the moral of the example.

In the matter of the so-called functional neuroses, of which hysteria is the type, it is now very generally admitted that the ebullitions and caprices and vagaries for which they are famous are due primarily to the uncontrolled sway of the emotions, which, acting on the calibre of the blood vessels, produce profound changes in the easily modified functions of the brain and spinal cord. In the case of the hysterical seizure, for example, there would seem to be an ischaemia in some part of the central nervous system which is compensated for by the hyperaemia in the renal area, which is clearly the cause of the abundant flow of light-coloured urine which occurs as soon as the attack is over.

So far as metabolic diseases are concerned, I am myself inclined to believe, though I do not expect many to agree with me, that they are in a large measure the result of some disturbance of function in connexion with the internal secretory glands—the thyroid, the pituitary, the suprarenal, the ovary, the pancreas, and others. A study of one of these, the thyroid, will show that its functions are very easily disturbed—they are so far more frequently than is generally supposed—and that such disturbances are invariably associated with serious modifications in the normal circulatory phenomena. The same may be said of the ovary to an almost greater extent, and to a less extent of the pituitary and many of the others. Now, we have to remember that the function of each of these internal secretory glands is to supply its own particular essence to the blood plasma, and that if such essence is either excessive or insufficient in quantity, or if it is defective in quality, serious results will ensue. Nothing, surely, would be more likely to bring about any or all of these results at different times than such a fitful supply of blood to these glands as we have already seen to result from a general inadequacy of emotional control.

We have now reached the stage in this argument at which it ought to be clear that, surgical injuries apart, there is no type of disease which may not be provoked or encouraged by the action of the emotions when insufficiently curbed and guided by the development of the will. This proposition, stated baldly, would have seemed difficult enough to sustain, and I have purposely examined it at some length because I believe it to be a truth which we as a profession must hasten to recognize and act upon. For there are already serious unqualified competitors in the field; competitors who, having blundered upon this truth, are ignorantly exploiting it for their own purposes, to the detriment of the public when they fail, and the discredit of the profession when they succeed. For though the wholesale application of the principle provides them with a large measure of almost incredible success, their ignorance of its limitations will always ensure for them a wide margin of ignominious and disastrous failure. It is hardly necessary for me to say that no therapeutic agent of this nature, however potent, will avail anything against a large class of morbid conditions, such, for instance, as advancing degenerative disease, malignant neoplastic growths, or other conditions in which surgical aid is necessary or expedient.

The nostrum in which these people, Christian Scientists and others, deal, however variously it may be dressed, is the same in all cases. Whether with real piety it be

encased in a religious vestment, as at Lourdes and other shrines, or whether, with brazen effrontery and a crafty eye to business possibilities, it be smothered in a tornado of high-sounding but utterly meaningless verbiage, as in the book of Mrs. Eddy, the mainspring of all these systems nakedly expressed is the control which they impose upon the emotions. It is, doubtless, true that they substitute one overpowering emotion, faith, for a host of minor ones; but, so far as the health of the individual is concerned, the net result is all to the good, for his faith instils into him that all-essential control over the multiplicity of emotions whose unrestrained play had hitherto exercised such a baneful effect upon him. Now, how does faith accomplish these results?

Before setting myself to answer that question, let me say parenthetically that it is no longer possible to dismiss the whole question by casting doubts on the results themselves. Any one who will take the trouble to investigate the matter with an open mind will very soon be convinced of their reality. An attitude of obstinate unresponsive scepticism leads only to stagnation and death, and has certainly no place in an atmosphere where men are striving to unravel difficult and elusive problems.

But to return to the question of faith and its workings in the present connexion. I have already said that it teaches people to control their emotions, which is not only obvious, but is indeed its primary object from a religious standpoint; and from what has gone before it follows, I think, that by its control of the emotions it makes directly and strongly for an improved state of material health in the individual. That explains its prophylactic power, which is no less pronounced, and is indeed, in a sense, more remarkable than its curative power. It explains also its therapeutic power, though not perhaps in quite the same way.

A person who is thoroughly imbued with faith in an omnipotent and omniscient deity reconciles himself to tribulation by the consideration that his trials are imposed upon him by the inscrutable will of God; and his belief in the unfailing loving-kindness of that God leads him to turn his attention from his own pains in order to think intently upon his relations with the Deity. It is in this way that martyrs have suffered not only with equanimity, but, according to their own showing, with a degree of physical pain which was practically negligible, ordeals which to ordinary people would have been impossible tortures. The strength of their position is their power of turning their attention away from what is painful in order to concentrate it upon what is agreeable and hopeful. To accomplish this, however, the guiding and sustaining faith must be something better than the academic acquiescence which so often does duty in this direction; it must be the overweening and ever-present faith of the convert. Now, in ordinary people, this power does not come of itself, it must be educated. That which characterizes the hysteric is an entire absence of the power to concentrate the attention on anything except her own person. Faith, when it touches her, compels her to think of other and higher things, on which, by degrees, she learns to concentrate her attention. With her powers in this direction properly developed she ceases to be unduly emotional, and is able to relegate bodily discomforts to their proper sphere and to see them in their true perspective. What we have to realize is that this end can be achieved by means less questionable—and I say this with all reverence—than by appeals to the supernatural; for at their very best such means have the disadvantage of being in themselves essentially emotional, and at their worst are apt to sink to the lowest depths of quackery and charlatanism.

It may be objected that the question of a rational education of the will with a view of subduing the emotions is one which concerns parents and teachers rather than medical men. In its widest sense this is no doubt true; but as medical men we are called upon to deal with the individual, whom it is our duty to help in every possible way. Now I make so bold as to say that if we fail to place before him the power which resides in him—and in him alone—of ameliorating his condition, then we are neglecting or evading an obvious and paramount duty. It is a good thing to engender in the patient a confidence that we and the methods we employ are able to guide him into the way of peace; but it is

a much better thing to arouse him to a full sense of his own powers in the same direction. This is the factor which in modern therapeutics is being neglected. Patients have learnt to expect from us only such aid as is purely material, whether it be surgical or medicinal, because it is this kind, and this kind only, which we have been in the habit of offering them. We do not speak to them of the mental aspect of affairs, largely, I suppose, because this aspect is so often regarded as being entirely concerned with character—a matter in which it savours of impertinence in us to interfere. That such is very far from being the case I have already endeavoured to show, and I am here to plead for a change of policy in this direction; not that we should turn aside from the study and investigation of material phenomena which we have been, and still are, prosecuting to such excellent purpose, but that we should combine with the benefits thus opened to us those which are to be obtained by enlisting the aid of the mind.

I should indeed be inviting you to make bricks without straw if I were to call upon you to do this thing without appending some suggestions as to how it should be done. Such suggestions as I have to make are of the simplest possible description, for in a matter of this kind each individual must develop the details of the method along the lines which most befit his character and temperament. The essential point is that he should have a clear idea of what he wants to do, and that he should pursue that end with determination and perseverance. I have tried to show that his object is to awaken in his patient a sense of her own powers, her own dignity, and her own superiority to the littlenesses by which our lives are inevitably beset; that he should teach her so to educate and control and order her thoughts and sensations that she may learn to dominate them, instead of allowing them to dominate her. In our attempts to do this, which at first may seem fruitless enough, let us consent to do without such adventitious aids as hypnotism. But do not misunderstand me on this point. Not only have I nothing to say against such methods, but I can testify with admiration to the benefits which in the hands of the competent they are capable of conferring in suitable cases. But the public distrusts these methods, and inasmuch as it is essential to our mission that we should merit the confidence of the public, they are in ordinary circumstances much better discarded. Moreover, except in very extreme borderland cases, they are unnecessary. What in general practice can be accomplished by hypnotism can be accomplished even more effectually by a direct appeal to the patient's better self, supported, it may be, in the case of the very young, by specially directed educative efforts. In the next place, bearing in mind the difficulty and complexity of the subject and the necessity for training ourselves in the most successful methods of evoking and fostering the necessary control in our patients, let us content ourselves with small beginnings. It is well to make the first essay in a person of breeding and intelligence, in whom we feel that there is something to which an appeal can effectively be made. Take, for example, a woman of over 40, who is just beginning to feel the stress of the approaching climacteric, with its vague but intensely unpleasant subjective sensations, its vascular vagaries, and its internal secretory chaos. Such a woman may be intellectually above the average, and not, hitherto, conspicuously uncontrolled; but she is face to face with a trial in which all the control she can command will prove too little unless it be provided with reinforcements. Such reinforcements are now sought in various directions. A few find comfort in religion; others, less fortunate, invoke the aid of drugs, among which brandy, morphine, and cocaine are the most common, while a third set appeal with confidence to the operating surgeon. But these, except perhaps the first, are vain things, for the only really effective aid must come from within; and this is the point upon which it is our duty continually to dwell. In connexion with such a case let us consider a symptom about which we are so often consulted, namely, insomnia. To have recourse to drugs is a procedure which every conscientious physician will, in such circumstances, postpone until all else has failed. To appeal to the influence of mind over matter may fail—in the hands of the inexperienced it probably will fail—but it can at any rate do no harm. And how is that appeal to be made? There may be better ways, but the one which I usually adopt

is as follows: I begin by pointing out that it is a mistake to elevate sleep into a fetish; that the world does not come to an end because one person, however important, is unable to sleep; and that the most certain method of keeping such an elusive entity from embracing one, is in pity to implore its advent with outstretched hands or to summon it peremptorily and impatiently with clenched teeth. In order to prevent the question of sleeplessness from obtruding itself, I then explain the importance of concentrating the attention on something definite. Then comes the difficulty. Everyone has tried the expedient of contemplating imaginary lambs jumping over a gate, which has always proved useless. It is then necessary to insist that it has proved useless for a very obvious reason. To think of lambs jumping over a gate for half an hour on end requires a degree of concentration given to very few; and seeing that the patient's power of concentration is weakened by her present state it is well to embark upon some less heroic venture. The desire for the heroic in these patients is insatiable. To bring them down to earth, baldly and even brutally, is a necessary preliminary to any successful appeal. With this end in view, instead of the saltatory sheep I invite them to think of something pleasant and attractive, but calm and reposeful. To the romantic I suggest the moonlight on a quiet sea, the sun on upland meadows; to the more material, a comfortable armchair in front of a fire, or a warm bath, scented, it may be, with pumeline or other essence; but—and here is the crux—they must go on thinking about it. They must concentrate all their attention upon it, and must not be surprised if at first the charm fails to work. When the attention tires, a not too interesting book may be temporarily appealed to, and then the experiment repeated. If the patient can be induced to act thus for several nights in succession without allowing her thoughts to revert in pity to her sleepless state, it is astonishing what success will often ensue; more especially if, by an appeal to her reason and proper pride, you have succeeded in enlisting her real co-operation.

I have used insomnia as an instance, but the principle of which it is an illustration is of almost universal application. We have to teach our patients to exercise determination in thinking of the agreeable and the hopeful in order that their thoughts may be deflected from the unpleasant and the material. The practice of the moment is unfortunately in the opposite direction. By a legitimate and laudable interest in our work, coupled, it may be, with a pardonable pride in our special knowledge, we are led—far too often led—into a little disquisition, a miniature clinical lecture, upon the malady in question, with the result that the patient's whole attention becomes morbidly focussed thereon, to the utter nullification of our best directed textbook therapy. To abandon this position in order to occupy that for which I plead would be something in the nature of a revolution; and it is because I feel that such a revolution is upon us that I have preferred to discuss this somewhat thorny question rather than invite your attention to some subject of more strictly medicinal interest. We can no longer afford to neglect the aid of the mind as a therapeutic agent. It refuses to be neglected. It is daily and hourly becoming more insistent for the recognition of its legitimate claims, and, if it does not obtain recognition at our hands, it will seek and obtain it elsewhere. It has been my endeavour to place these claims upon a scientific basis, and if I have been even partially successful I shall be encouraged to feel that I have done something to merit the honour, which I esteem so highly, of having been invited to address you to-night.

REFERENCE.

¹ *Lancet*, March 6th, 1910.

THE second International Congress of Alimentary Hygiene will be held in Brussels from October 4th to 8th. Among the subjects proposed for discussion are the following: Professor M. Dastre of Paris, "The ultra-violet rays and their application to alimentary hygiene"; M. Bordet, Director of the Pasteur Institute, Brussels, "Hygiene and bacteriology." Members and associates (subscription 20 fr. and 10 fr. respectively) are admitted free to the Universal Exhibition during the time of the congress. Special railway facilities have been arranged. Further information may be obtained of the Honorary Secretary, Mr. Cecil H. Cribb, 136, Shaftesbury Avenue, London, W.

SEVENTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association.

Held in London on July 22nd, 23rd, 25th, 26th, 27th, 28th, and 29th.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Sir VICTOR HORSLEY, F.R.C.S., F.R.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

SIR VICTOR HORSLEY, acting in accordance with the unwritten rule that Presidents of Sections should not deliver formal introductory addresses, initiated the proceedings by a few words of welcome to the foreign guests and ordinary members of the Section, and then called for the opening of the first discussion.

DISCUSSION ON

THE SURGICAL TREATMENT OF GRAVES'S DISEASE.

OPENING PAPERS.

I.—PROFESSOR KOCHER,
Berne.

WE have gained, during recent years, a clear comprehension of the etiology of Graves's disease and of the differences in the symptoms and prognosis of different cases, and this has naturally brought us to the choice of different ways of treatment. Surgical treatment has given decided proofs of the correctness of Möbius's theory of thyreogenous origin of Graves's disease. On the one hand we can show (as I did in 1883, by analysing my first 100 cases of excision of goitre) that by taking away the goitrous thyroid gland entirely we produce myxoedema in the form of cachexia strumipriva and that slighter cases of the same condition sometimes follow partial excision. On the other hand, we can now show with equal precision (according to a law I formulated at the Congress of International Medicine at Munich in 1906) that by taking away more or less of Gravesian goitres we produce no myxoedematous state, and obtain a more or less complete cure of the Graves disease. There cannot be much doubt, therefore, that in the latter disease we have a pathological condition of the thyroid gland opposite to that which exists in myxoedema; in other words, we have hyperthyreosis instead of hypothyreosis.

Then again, we can, thanks to Murray, cure myxoedema by administering either the extract of thyroid gland or injection; and conversely, we can aggravate Graves's disease by thyroidine, iodothyroine, or other thyroid preparations. Moreover, it has been proved that with thyroid extracts we may even produce an artificial Graves's disease, even in cases of aplasia thyreoides in myxoedematous people. Again, therefore, we must conclude that it is an excess of substances produced by the thyroid gland which causes the symptoms of Graves's disease; and lately more direct proofs have been given that it is the excess of a real secretion of the thyroid gland which is the initial feature in Graves's disease.

I made, at the Congress of the German Society of Surgery at Berlin, April, 1908, a communication on the changes observed in the blood in about a hundred cases of Graves's disease, and then came to the conclusion that—always taking into consideration the whole clinical features of a case—we have in such examination of the blood a very important assistant in diagnosis as well as prognosis in this disease.

I found that the essential feature of the blood change consists in a great diminution of the polynuclear cells, these going down from 5,000 of the normal blood to 1,260 per millimetre cube, whilst the small mononuclear cells—that is to say, the lymphocytes—show a relative