INAUGURAL ADDRESS ON THE MENTAL AND NERVOUS ELEMENT IN DISEASE.

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To well-constituted minds it has a satisfying as well as a stimulating effect to "get hold of a principle." The modern study of medicine consists—necessarily consists, I fear, in its present stage—to so great an extent of the acquisition and storing up in the memory of vast numbers of isolated facts, that one of the greatest services any teacher can render to a student is to impress on his mind leading principles that shall henceforth become a part of his mental furniture, rails along which his mind will necessarily travel when problems have to be solved to which those principles are applicable. They thus become what a great law is to the physicist, both a suggestion and a test. The physician's principles suggest explanations of facts that appear to be unrelated, and enable him to apply tests to show whether facts that appear to be related are so in reality.

I would desire this evening to lay down and to enforce a principle that is, I think, not sufficiently, and often not at all, considered in practical medicine and surgery. It is founded on a physiological basis, and it is of the highest practical importance. The principle is that the brain cortex, and especially the mental cortex, has such a position in the economy that it has to be reckoned with more or less as a factor for good or evil in all diseases of every organ, in all operations and in all injuries. Physiologically the cortex is the great regulator of all functions, the ever-active controller of every organ, and the ultimate court of appeal in every organic disturbance. We all know that every organ and every function are represented in the cortex, and are so represented that they all may be brought into the right relationship and harmony with each other, and so they all may be converted into a vital unity through it. Life and mind are the two factors of that organic unity that constitute a real animal organism. The mental cortex of man is the apex of the evolutionary pyramid, whose base is composed of the swarming myriads of bacilli and other monocellular germs which we now see to be almost all-pervading in Nature. It seems as if it had been the teleological aim of all evolution from the beginning. In it every other organ and function find their organic end. In histological structure—so far as we yet know this—it far exceeds all other organs in complexity. When we fully know the structure of each neuron, with its hundreds of fibres and its thousands of dendrites, and the relation of one neuron to another, when we can demonstrate the cortical apparatus for universal intercommunication of nervous energy, with its absolute solidarity, its partial localisation, and its wondrous arrangements for mind, motion, sensibility, nutrition, repair, and drainage—when we fully know all this, there will be no further question of the dominance of the brain cortex in the organic hierarchy, nor of its supreme importance in disease.

If some people want to imply that a patient's symptoms are unimportant they call them "nervous;" if they want to ticket them as unworthy of consideration altogether they call them "mental;" and if they want to brand them as quite absurd, and out of the pale of human sympathy or medical effort, they call them "hysterical." One would imagine from those things that the phenomena of sensation, normal and abnormal, and those of consciousness, feeling, judging, willing, and memory, and their disturbances through cortical disease, were not comprehended in true scientific work at all, and that mind generally and nervous influence might be left out of account by the physician. A man breaks his leg, and it is said to be put up on "scientific principles." He loses his memory, his energy of will, his social instincts, and in the diagnosis and treatment of his disease the word

"scientific" is exchanged for terms which are often vague and meaningless. The mental attitude of the physician is often changed somehow, when he is treating his patient's indigestion and constipation, as compared to that with which he considers and treats the mental pain that accompanied and perhaps caused the indigestion. The indigestion took its real origin, it may be, in a disturbance of the action of the mind and brain cortex, but the stomach only is thought of or treated by peptones, acids, or laxatives, and this is called "scientific" treatment. We do not need to hypnotise a patient to show that the mental centres in the cortex have the power of directly influencing physiological function and tissue nutrition.

We talk and laugh and weep, we blush and shiver, we hunger and sweat, we digest and defæcate all through the brain cortex. Not one of these physiological acts but can be instantly arrested by a mental act. Every one of them may through morbid cortical action become excessive or diseased. In mental disease, which means cortical disease, every one of these functions is commonly enough affected. The dry skin, the foul tongue, the constipation and malassimilation of certain melancholics, the greasy odorous perspiration, the phosphatic urine and the constant flow of speech of many maniacal cases are every day examples. All physicians now recognise that so-called hysterical paralysis, hysterical temperatures, hysterical anaesthesia and paraesthesia, and hysterical convulsions, are from the cortex. The well-known cases of the doctor who loathed purgatives, suffered from constipation, but always could get a good motion in the morning by putting a dose of salts by his bedside at night; or the non-medical student who, thinking all pills were laxative, got a good purge from a lead and opium pill, show how the brain cortex in certain circumstances can affect the action of the bowels. It seems to be certain that the scientific medicine of the future will be able to utilise this power more extensively and so lessen the amount of purgatives and other physic prescribed. Surely a mental suggestion, an effort of the imagination will be a more pleasant thing than a dose of castor oil, and surely it will be quite as "scientific" treatment.

The evidence that the brain cortex regulates absorption, secretion, vascular tone, and the anabolic and katabolic processes in the cells of the tissues may now be regarded as complete. Sores in many melancholic persons will not heal. The gland and the lung tissues in idiots and demented are unable to resist the attacks of the tubercle bacilli, so that two-thirds of our idiots and one-third of our worst demented die of tuberculous affections. Brown-Séquard showed that section of certain cutaneous nerves, thereby cutting off the cortical influences on the hair bulbs, will cause the hair to become white on these spots. When we have localised cortical destruction on one side of the brain we have, as we all know, resulting on the opposite side not only motor paralysis, but also wasted muscles, liability to bedsores, altered texture of the skin, and a lowered or heightened temperature.

The history of medicine is full of examples of emotional conditions causing and curing disease. Froude says that the Duke of Norfolk, when suspected by Queen Elizabeth of conspiracy, and anxious to clear himself in her presence, found his heart fail him, and "fell into an ague, and was fain to get him to bed without his dinner." Sir Samuel Baker says that any severe action of the mind, such as grief or anger, is almost certain to be succeeded by fever in certain parts of Africa. Rheumatism and gout are frequently caused by anger, fright, and depressed emotion. Shakespeare says (*Merchant of Venice*):

Why should a man, whose blood is warm within,
Sit like his grandsire cut in alabaster?
Sleep, when he wakes, and creep into the jaundice
By being peevish?

It seems, indeed, as if certain persons who are predisposed to special diseases have, as their great protective and prophylactic against them, a sound and well-working mind and brain cortex. When well in mind, they are sound in body. When disturbed in mind, they fall victims to their diathesis. I have no doubt myself that this is the strongest of all the forces from within that preserve health and protect from disease. It is now generally recognised that death takes place with most men, not because disease is overmastering, but because the resistive power against it at the time is

lessened. A man gets over many attacks of bronchitis till he is over 70, and then his nervous resistance becomes too weak effectually to save his life. The degenerating cortex, as old age comes on, not only loses its faculties of memory and keen volition, but of trophic energy which it has hitherto supplied to the organs and tissues, so that we have atheroma, the senile heart, a shrivelled skin, and many other tissue degenerations. In reality a bad memory and an attack of senile eczema in a man of 75 may result from the same central nervous cause. For the healing as well as the prevention of disease, a sound cortex and a cheerful and a buoyant mind are all-important.

Mental therapeutics are, fortunately, had recourse to far more now than of old. The exhilarating and nutrition-stimulating effects on health of pleasant social intercourse, change of scene, of beautiful landscapes, of the summer sea shining in the sunshine, are now universally recognised. Bright and cheerful surroundings in our hospital wards are no unimportant part of the cure of their patients. The cures effected at our hydropathics and watering-places are surely mental in a large degree. What tonic and promoter of convalescence is equal to the "merry heart" which the wise man says heals like a medicine? If we fully accept and apply the sound principle that the brain cortex and mind constitute the great central resisting energy against the occurrence of disease and one of the great forces that make for its cure, we thus get an explanation of many facts that cannot be explained on any localising theory. Such a conception prevents us from falling into that evil sort of surgical-mindedness which takes account only of the gross anatomy of the part affected, and such things as can be seen and felt by the surgeon. It enlarges our conception of the human organism into something of that degree of complication which actually exists in Nature. It affords an explanation of many of those miscalculations and disappointments which we all only too frequently experience. It explains to some extent the extraordinary differences in the action of the same remedy in different persons, and in the same person under different conditions. You are probably aware what enormous doses of certain drugs an acutely maniacal or an excited melancholic patient will tolerate, and, indeed, will require for us to get the effect desired. The brain cortex, in a state of disturbance and disease, inhibits to a large extent the action of many drugs. I have given in old times a maniacal patient half an ounce of tincture of opium within a week after beginning to use the drug, and we frequently use paraldehyde in half-ounce doses before sleep can be obtained, while, in some cases, several drops of croton will not purge. In melancholia and some other forms of insanity we find intense sluggishness of the bowels, of the skin, and of the secretory glands that result entirely from the morbid cortical condition, which the usual laxatives, sudorifics, and cholagogues will not remedy. Nothing is more common than for the menstrual discharge to be diminished, arrested, or increased by mental and nervous influences. Any practitioner of physic who treats menstrual disturbances without reference to the patient's mental and general brain condition, will certainly not succeed fully in his efforts. The whole subject of the function of reproduction and sex is quite as much mental as bodily. It relates as much to the brain cortex and the mind as to the organs of sex and generation. A man who treats spermatorrhœa, masturbation, impotence, hysteria, and the allied affections without taking into account the affective and inhibitory state of his patient, and without using moral and mental means as well as physical agencies, is certainly acting on unphysiological lines.

I cannot help adverting here to what I consider the rash and unjustifiable way the operations of castration and removing the ovaries and appendages were recently looked at, without any reference to their mental effects on the subjects of them. We know that there are two primary instincts in all the higher animal kingdom—to live and to reproduce. No philosophic-minded gynaecologist can look lightly on the deliberate extinction, by surgical means, of the essential organs of reproduction. Profound mental changes commonly follow after this in young subjects. The difference between the mental qualities of an ox and a bull should be sufficiently evident even to the most surgical-minded gynaecologist. Yet

I have seen the operation recommended with as little consideration of mental consequences as the opening of a whitlow. Depend upon it, gentlemen, it may be almost as great a crime to castrate as to kill.

All febrile conditions are strongly influenced by the mental and general cortical state of the patient. Some children will habitually become delirious at night at a temperature of 99°. The mental equilibrium of others will resist a temperature of 103° or 104°. This difference I attribute entirely to difference of quality of the brain cortex. The prognosis in many cases of fever largely depends on the mental state the patient was in when he took ill, or that in which he has remained during its course. The vasomotor and the special thermal cerebral centres in the cortex have the power of raising the body temperature, without any sepsis, by electrical or mechanical irritation. Claude Bernard long ago came to the conclusion that "fever ought to be regarded as a phenomenon purely nervous. We may, in short, produce all the disorders of the organic functions which mark its course by acting on the nervous system and upon it alone." I would point out that Bernard's expression "nervous" must be held to include the greatest of all the functions of the nervous centres, the mental, and it is in accordance with clinical fact that mind may, through the brain of course, set up or stay a fever. The temperature in acute mental conditions not uncommonly runs up to to 103° or 104° without sepsis, from over-cortical action alone.

No one can refer to the part the brain cortex plays in disease without referring to the epochal work in this department of the late Professor Laycock of our University. Gentlemen, you have many privileges and educational opportunities that we, your predecessors of forty years ago, did not enjoy. But all the advantages are not with you. We were examined less, I believe, but we speculated and theorised more. And our great master and exemplar in medical speculation and generalisation was Laycock. He was a truly remarkable man, to whom modern neurology and medical psychology owe far more than they acknowledge. He was one of the pioneers of modern neurology before the term was coined. No man before or since has had so wide a grasp of the position and functions of the brain and its relations to mind, to development, to bodily function, and to pathological processes. I fear his work and his actual writings are largely forgotten in his old University, but his writings and teachings stimulated other men, who have since done great work. Hughlings Jackson and Ferrier were his students. It was he who suggested the infinite range and depth of brain function in organic life. He filled in the gap between Charles Bell and Marshall Hall and the modern British school of neurology. He first grasped the true brain significance of the hysterical and many of the nervous diseases of women. He first formulated the law of the reflex and automatic action of the higher brain in complicated motor and mental acts. He first detected and pointed out the direct action of the brain and of mind in causing certain trophic, vasomotor, glandular, and temperature changes. His work on *Mind and Brain, or the Correlations of Consciousness*, was a marvellous piece of labour and thought, to which every man, who has since then done any neurological and medico-psychological work, has been more or less indebted. He devised a nosological system of medicine of extraordinary ingenuity. He classified all fevers into groups, species, and genera on principles unthought of before. His mind was by far the most deductive I ever knew. He generalised and saw laws in regard to every series of phenomena he came across.

PHYSIOGNOMICAL DIAGNOSIS.

Every physician, and I think most surgeons of any experience, know the immense value in the diagnosis of disease or injury of what can be seen in the patient's face, or eye, or attitude, or movements. A wise and observant man often comes to most important and perfectly sound conclusions about the state of his patient's heart and lungs before ever he takes out his stethoscope. What is thus observed at least makes out a *prima facie* case for special examination in certain directions. Some men have an instinct for correct physiognomical diagnosis, and all men ought no doubt to cultivate the observation of such facts. Our greatest physicians have almost all done so, and their power in this respect has

conducted in large measure to their success. It is analogous to that wonderful faculty which the great leaders of mankind in all ages have possessed, that of reading their fellow men's characters and estimating their capacities rapidly but surely from slight indications. Now, as Dr. Cuming truly said, our greatest physicians have also been mostly great men. Not that this faculty does not need to be supplemented and corrected by the facts of ordinary observation and minute "scientific" examination. Laycock was a great physiognomical diagnostician, and constantly preached its value to his students. I well remember a talk he gave me on the subject one quiet Sunday, when he and I were alone in his side room, in which he assured me that in time I should be able to diagnose half my cases at sight without further examination, if I gave proper attention to what he told me. I have seen him arrive at marvellous diagnoses thereby. Now, what are the foundations of all physiognomical diagnosis? There are two such foundations. One rests on the effect of local or general disease on the features, attitude, skin, and eye through the brain cortex. The muscles of the face are emphatically the mind muscles, and they often express in readable form to those who observe them acutely many most important and striking mental relationships of disease. The cortex is the key common to the normal expression of face and to the facial expression of disease.

Laycock says: "Study well the physiognomy of disease—that is to say, all those external characteristics in the patient that reach the unaided senses, and which are associated"—associated, I would point out, chiefly through the brain cortex—"with morbid states, whether they be sounds or odours or visible and tangible modifications of form, complexion, expression and modes of functional activity, taking cognisance of minute modifications as well as of the more obvious, for they are only minute in a popular sense." If this is done, it is as truly a "scientific" mode of diagnosis as any stethoscopic or chemical investigation. No doubt some persons are more tell-tale physiognomically than others, that is, there is in them a closer and more constant relationship between the organic and sensory centres in the cortex, and the mental and motor centres that control the face and attitudes; their mental reflexes are, in fact, more acute. Take as an example a case. A patient comes to you, and, before you ask him a question, you notice a peculiar glazy complexion, especially under the eyes, the eyes themselves showing a combination of brilliancy over the cornea, with pallor over the conjunctivæ, the skin of the face being rather muddy, the lips and ears a bit dusky, the breathing rather heavy, and the activity of the muscular movements diminished. These are signs of organic distress in the general mental expression of the countenance. If still further the patient has the typical outward signs of the arthritic diathesis, namely, tall figure, broad thorax, full abdomen, large muscles and frame, limbs large, movements rather sedate—and this observation of diathetic signs was one of Laycock's strong points, and forms the second basis of physiognomical diagnosis—then founding on all those outward phenomena, which by the experienced can be taken in at a glance, you form a valuable *primâ facie* case of renal-cardiac disease. Beyond any doubt, there may be a "gastric" or a "renal" look, and there may be a "cardiac" or "pulmonary" look in a man's face. It will be seen that almost all these outward signs arise through the brain cortex being acted on by the diseased organs, this action being reflected in the face.

Or to take a third example of a still more manifest kind. A woman with well-marked characters of the nervous diathesis, which is usually characterised by medium stature, small muscular development, spare habits, features marked and expressive, muscular movements in health abrupt and energetic, sensory power keen, reactive power to impressions from within and from without quick and intense. Your patient has the looks and the a-sexual shape of the climacteric on her. But she has a hopeless, fearful, depressed expression of eye, the skin is muddy, and the attitude and movements show a lack of nervous force. Before she has said six sentences you see that she suffers from climacteric melancholia, one of the innumerable neuroses that arise primarily out of the nervous diathesis, secondarily from the great

epochs of life, and lastly from ordinary exciting causes of disease. Why does one man develop tertiary syphilitic disease of the nervous centres, or have locomotor ataxia, or Jacksonian epilepsy, or local paresis, or cerebral syphilomata, while nine-tenths of the other men who have tertiary syphilis develop its symptoms in the bones and joints and skin? Because he has a nervous diathesis or neurotic constitution, no doubt, which means that all causes of disease are attracted to his nervous tissues. His brain cortex is his weak point. When he becomes tired he is irritable, sleepless, and perhaps craves for alcoholic stimulants which affect him strongly. When he has losses, misfortunes, or worries, they exhaust his nervous energy unduly and paralyse his volitional power, so that he is utterly cast down. When he marries he probably indulges in sexual intercourse to an inordinate and hurtful extent. When he is reduced by ordinary disease, he becomes sleepless, dyspeptic, nervous, or neurasthenic. When he is getting old, he fails in memory and in energy all at once. If predisposed specially to mental disease as well as being generally neurotic, any one of those reducing causes which I have mentioned may bring on an attack of melancholia or mania. When he has influenza, it attacks specially his brain cortex and he is never the same man again. And, by the way, if one wanted a special illustration of the mental and nervous relation of an infective fever, one would select influenza. The microbe or its ptomaines have a special affinity, there can be no doubt, for the higher nervous centres. They eat up and destroy the nerve and mental energy. No mental and no nervous effort is possible while the disease lasts with most people; and the nerve cells, being the highest and most delicate in the organism, take by far the longest to recuperate. The simplest but most effectual mode of conserving and restoring nerve energy by going to bed at once, and staying there a long time, is never so necessary as in influenza. In some respects the influence of the brain cortex on existing diseases in any organ or tissue and in warding off disease is measured by the amount of its nerve supply. A richly innervated tissue, like the skin of the finger pulps, is not nearly so liable to cutaneous eruptions as the less endowed skin of the back and limbs. And when we have in the same organ different tissues of different vitality and innervation, the higher and the more innervated tissue resists the effects of poisons far more effectually than the lower. Take for example, the way in which the alcoholic or the syphilitic poison affects the brain and the liver. They do not touch directly the nerve cells or fibres or the hepatic cells. They do all their pathological damage to the less innervated and less active connective tissue and vascular and lymphatic constituents of these organs. The neurine and hepatic tissues proper only suffer secondarily by pressure or irritation. It seems as if any tissue might effectually resist the assaults of its enemies if it had nerve influence enough from the brain cortex.

The nervous and mental element in disease is a universal and constant fact, but it prevails in different cases to a different extent. I could have related remarkable cases to you from my own experience, and out of the books, of functional disease being brought on and being cured by mental impressions only, of functions being suspended and altered from the same cause—nay, of actual organic lesions being directly caused and cured by mental impressions; as when blisters are caused by suggestion during hypnotic conditions. Constipation has been cured by doses of medicine containing no laxative, but with dogmatic assurances that a stool will follow in an hour. Warts have been "charmed" away; scurvy among sailors has been cured by the prospect of a naval fight; gouty swellings have disappeared when "Mad dog" or "Fire" was cried out suddenly to the sufferers. All these things have happened, but they occur only rarely, while some influence or other for good or evil is taking place, in some degree or way, from the patient's brain cortex and mind in every case of ordinary disease that you will have to treat. This is a fact that I am far more anxious to impress on you than to relate the marvels and the miracles of medicine. To keep in mind the ordinary laws of Nature as they ordinarily manifest themselves in life and disease in their sure but commonly unconscious and quiet manner of acting, is of far more importance

to each of us than to know the wonders and cataclysms that only occur once in a lifetime. The brain habit should be early formed in a physician to take account of, and instinctively and without conscious effort to apply the principle that the condition of the patient's brain cortex and mind can never be an equation to be left out of account in his treatment. Most people recognise that there are rare and striking effects of mind on body, few fully realise its everyday effects. It is of far more consequence that our profession should remember the common than the uncommon in treating disease. If one desired to adduce one of the strongest illustrations of the influence of the cerebral cortex and mind on diseases, one would take the differences between day and night in nearly all disorders. We know that at night, and especially during sleep, the brain cortex is in a totally different state from its condition during the day, and the mind is then practically in abeyance. What is the result on function and disease? Do not all febrile affections become aggravated at night? Are not all mental affections then at their worst? Do not all pulmonary diseases then cause most pain and distress? Do not all the worst exacerbations of the neuroses of sensibility then occur? Do not the worst and most intractable of the convulsive disorders then come on? We can control the day fits of many epileptics wonderfully by the use of the bromides. We can seldom do any good to the night fits thereby. Is not asthma always worse at night? And is not night the time when the vital forces sink so low that mankind mostly die in the early hours of the morning? Gentlemen, many of you here present will, I fear, personally suffer much in fatigue and exhaustion of body and mind, and some of you even in life and limb, from this great law of the effect of the nocturnal depression of the brain cortex, for you will be called on to ride many a weary mile at night in darkness and danger to see patients who ought to have sent for you at midday, but who waited till midnight when the aggravation of their complaints came on. The night work of the doctor is largely due to many diseases being at their worst then; but in addition to this there is a mental state peculiar to the night both in the patient and in his relatives from the same cortical cause. Fears, depressed views of the result of the trouble, anticipations of evil, want of courageous common sense are then most manifest, and the doctor is hurriedly sent for, not, it may be, because the patient is much worse, but because he and his friends think so. This is a bit of practical psychology that touches us all in a very tender place, for who likes to turn out of a warm bed and be awakened out of a sound sleep to go out on a cold rainy night? What man's courage is as great at three in the morning as at midday? Nay, what man's judgment is as clear then?

It is during the night that hallucinations as well as fears are most apt to appear. Shakespeare rightly places in the night Macbeth's dagger scene, and Lady Macbeth's false vision of the "damned spot" of blood that she so vainly tries to wash clean. During the day his crime in no way disturbs him. As night approaches—

Then comes my fit again : I had else been perfect ;
Whole as the marble, founded as the rock ;
As broad and general as the casing air ;
But now, I'm cabin'd, cribb'd, confined, bound in
To saucy doubts and fears.

By day—

I cannot taint with fear.
The mind I sway by, and the heart I bear,
Shall never sag with doubt, nor shake with fear.

By night, the ghost of Banquo appears and Macbeth cries with terror—

Thou canst not say I did it; never shake
Thy gory locks at me.

Though he tries to bring back his courage by vaunting, "What man dare I dare," but his cheeks are "blanched with fear." His hallucination was then intensely vivid—

Is this a dagger which I see before me ?
..... Come let me clutch thee :
I have thee not and yet I see thee still.

He questions the truth of his sense impressions, and he reasons as to their apparent contradiction.

Art thou not, fatal vision, sensible
To feeling, as to sight? Or art thou but
A dagger of the mind, a false creation
Proceeding from the heat-oppressed brain?

And when the real knocking is heard, how his courage vanishes—

How is't with me when every noise appals me?

The picture is perfect of the mental differences between night and day, and comment would spoil it. Macbeth's fears and fancies cover the whole psychology of night. Every man is conscious of having within him the same lessened power of judgment, and lowered emotions at night as compared with day, and this lowered feeling means lowered resistive power against disease, and lessened recuperative energy.

If mind and brain so powerfully affect the conditions of disease, one naturally turns to them in looking for means of cure. And beyond all question we can often get effectual help there. Half the diseases that kill, as I have already said, do so because there is no sufficient power in the organism to resist them. The physiological commonly passes into the pathological, because the nerve energy is below par. To check many diseased conditions we cannot employ better therapeutics than to stimulate the cortex and strengthen the mental energy. To this end the first thing a good doctor does is to inspire confidence in his patient. What is this but a bit of psycho-therapeutics? And it is an all-important one in many cases. So to condition the patient that his brain and mind are kept up to the very highest mark attainable, to remove irritations (mental and nervous), and to distract attention from a lowering to a cheerful view of the whole situation may make all the difference between life and death in many a case. Hope and a calm cheerfulness are often the best general aids to healthy metabolism. We know that a joyful emotion will at once fill the cortical capillaries. It is a true cerebral stimulant. Aided by medicinal cortical tonics and stimulants, like strychnine, quinine, the mineral acids, etc., mental stimulation is an undeniable adjuvant to the local treatment of disease, and is used largely by the most successful physicians.

To explain all those mental and nervous effects on nutrition, on function, and on disease, we must not forget that it is gradually being demonstrated, even in our present state of histological knowledge, that we have a sufficient apparatus in the brain cortex and its peripheral connections. Experimental physiologists and histologists can tell us much about the way the local centres are demonstrably connected with vasomotor, motor, and sensory action throughout the body, and that each centre has a direct connection with every other. It is not a vague question of "mind acting on body," of imagination producing physical effects. The highest mental centres can be demonstrated to have abundant and direct connections with the lower motor and trophic centres. All the centres can now be proved to have strands of fibres passing from the one to the other, and every centre can be proved to act on its organ, and to be reacted on in return.

Year by year the number of deaths returned as caused by nervous diseases is increasing. I believe that one effect of our modern universal education, universal newspaper reading, and the democratic spirit of self-government will be to give the brain cortex more dominance in general diseases than in former ages. The nervous and mental element will have to be more and more considered in the future in his work by the physician and surgeon, in its prophylactic, etiological, and therapeutic aspects.

THE Committee of the Œuvre de la Tuberculose, founded by the late Professor Verneuil, have elected Professor Bouchard to succeed that distinguished surgeon in the office of President. Professor Lannelongue was at the same time elected Vice-President, and Dr. L. Henri Petit, General Secretary. The next Congress on Tuberculosis, which had been fixed for July, 1896, has been postponed to 1897.

MANCHESTER MEDICAL SOCIETY.—The list of officers, etc., nominated by the Committee for the year 1896, is as follows: *President*: Dr. Ashby. *Vice-Presidents*: Dr. Brooke, Dr. Bury, Dr. Edge, and Dr. Moritz. *Treasurer*: Dr. Glascott. *Secretary*: Mr. Coates. *Committee*: Mr. Bishop, Dr. Faulkner, Dr. Griffith, Dr. T. A. Helme, Mr. Milner, Dr. Railton, Dr. Reynolds, Mr. E. Roberts, Mr. Thorburn, Dr. Torrop, Dr. Walter, and Dr. Woodcock. *Library Committee*: Dr. Kelynack, Dr. Wild, and Dr. R. T. Williamson. *Auditors*: Dr. J. G. Clegg and Mr. J. E. Platt.