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The Narrowing of the Gap Between the Functional And the Organic

BY

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PART II*.

IN the first part of this communication, I tried to illustrate the general futility, from the scientific as well as from the practical standpoint, of trying to treat "diseases" and not "diseased persons". I tried to show that our patients should not be treated piece-meal but as living human organisms. I called attention to the frequent failures of treatment by so-called "specialists" owing to the highly circumscribed outlook which is the bane of all specialisation. I pointed out the absurdities inherent in treating a heart, a nose, an eye, or a genital organ as if each existed as a separate entity and not, as each does,

*Part I of this article appeared in the Journal January 1933.

as a part of a highly complicated living mechanism. I drew attention to the *mental aspect,* if one may so term it, of a so-called bodily ailment and tried to make clear the fact that a "bodily" ailment may be merely a symbol of a mental trouble, and vice versa. In other words, it is the *patient* whom we have to treat and not his (or her) disease.

Those who may feel sympathy with this standpoint in medical practice, may nevertheless find themselves somewhat puzzled as to how far it should modify or influence the examination of a patient. I think that the answer to this question is that one should examine one's patients in the accepted manner but whenever there is the slightest doubt in respect to the etiology of the alleged malady, one should proceed to enquire diligently into the circumstances of the patient's life with a view to ascertain if he (or she) has any worries, social, domestic, occupational, sexual and so on. No doctor should ever forget that a "flight into illness" is an all-too-common attempt of solving private worries or of attaining a measure of sympathy that is not forth-coming in the life of the patient. To go to bed and be looked after is to some natures a thousand times more agreeable than to attend to the affairs of daily life, especially when they are not going well. I remember an eccentric doctor friend of mine who was a bachelor, once saying to me. "Whenever I have any trouble with my servants, I send for the police and then go to bed". Mental conflict always expresses itself sooner or later. Some times the expression may take the form of some disturbance in the mental balance and then we get what

is termed a neurosis or a psychosis. At other times, mental conflict expresses itself in a physical form and then it will show a tendency to utilise as its medium of expression an organ of the body which is, for some reason or another, liable to go out of order. "For hard work", said Thomas Henry Huxley, "give me a man with a big nose and a strong stomach." Right or wrong, Huxley knew from personal experience how worry can upset a weak stomach. Dyspepsia, skin eruptions, such as eczema and psoriasis, neuralgias, (especially trigeminal), are all common examples of a physical expression of a mental conflict. As I have mentioned in the first portion of this contribution, eye troubles, especially astigmatism, are very frequent products of emotional strain. In view of the fact that the sexual instinct is the most potent of all the instincts as well as one to the gratification of which much cultural obstruction is opposed, we find ungratified sexual longing a common cause of disorders of every description. Disorders of this kind are probably more common among Christians than non-Christians, and more general among cultured than among uncultured people. The association of sex with sin, which is so typical a tenet of the Christian religion, has probably caused more suffering, mental and physical, than any other belief, religious or otherwise, which mankind has ever forced itself to adopt. Very few human beings can lead a completely chaste life without suffering. As I have observed elsewhere*, among the more important discoveries

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which have been made in the course of the study of the sexual life of man, one is that the sexual impulse exerts a powerful influence on the etiology of the neuroses and psychoses. In a recently published book, *"Modern Sexual Morality and Modern Nervousness"*, Professor Freud has dealt most cogently with the development of many neurotic conditions through the influence of certain pernicious factors in the sexual life of men and women. Among other things, he points out how closely the aspect of the neuroses corresponds to the nature of these pernicious influences, so that their clinical description often enough enables one to draw retrospective conclusions as to the particular sexual etiology. One of these pernicious influences on the sexual instinct of the modern man is, according to Professor Freud, the powerful demands for the repression of it which modern culture, in spite of all experience, continues to make. Freud maintains that for the majority of men there is a limit beyond which their constitution cannot comply any more with the "cultural" demands. Those, therefore, who try to be better than their constitution permits them to be, succumb to neuroses; "they would have been better off if it had been possible for them to be worse". Professor Freud writes: It is a crying social injustice that the cultural standard should exact from everyone the same behaviour in sexual matters; some people are so constituted that they can easily conform to it; others, on the contrary, are compelled to make the most painful psychical sacrifices". When Freud comes to a discussion of the control of the sexual

impulse through "sublimination", that is, by deflection of the sexual instinct from its sexual aim towards loftier cultural aims, he holds emphatically that sublimination can only succeed with very few people, and then only temporarily. He considers that the majority of persons are constitutionally incapable of sexual abstinence and the more a man or woman is disposed to neurosis the less he, (or she), can endure abstinence. This view of Freud may strike some as extreme, but we must not forget that in our effort to achieve abstinence we are abusing a great source of energy which is constantly generated within the organism. As Havelock Ellis has observed, we lose more than half of what we might gain when we attempt to cover up the sexual instinct with the result that so far from producing harmonious activity in our lives, we end by producing internal confusion and distortion, or even a paralysis of half the soul's energy. Further, we must remember that the psychic desire for sexual gratification is enhanced by the mere fact that it is denied. Even the history of the early Christian ascetics, as recorded by the contemporary *Paradise* of Palladius, illustrates the futility of seeking to quench the unquenchable, the flame of fire which is life itself. These "athletes of the Lord" were under the best possible conditions for the conquest of lust; they had been driven into the solitude of the desert by a genuine deeply-felt impulse, they could regulate their lives as they would, and they possessed an almost inconceivable energy of resolution. Thev were prepared to live on herbs, even to eat grass, and to undertake any labour of self-denial. Yet they

were perpetually tempted to seductive visions and desires, even after a monastic life of forty years, and the women seem to have been not less liable to yield to temptation than the men.

But the question of abstinence does not end now-a-days among the more cultured classes with life before marriage. Cultural and economic conditions demand that married people should only procreate a limited number of children. These considerations limit the period of satisfactory intercourse in marriage to only a few years, so that after three, four, or five years marriage no longer suffices to gratify the sexual needs. This moral disappointment combined with physical deprivation, lead to man and wife finding themselves exactly where they were before marriage, with the difference that they have lost one more illusion, and must now exert their will power to control their sexual appetites and to deflect them into other channels. This situation may have no ill-effects provided that both man and wife are normally healthy, but given any predisposition to "nervousness" in either party, this state of affairs will almost inevitably lead to neurosis.

Furthermore, in reviewing the question of abstinence, we should do well to follow Freud's advice and remember that often too little care is generally taken to draw a distinction between the two varieties of abstinence, abstinence from all sexual activity altogether, and abstinence from sexual intercourse with the opposite sex. Many people, who pride themselves upon having remained abstinent, have only managed this with the help of masturbation, but this does not accord in any way with the ideal

demands of sexual morality, for masturbation spoils the character in that it accustoms an individual to pursue important aims without any exertion. It cannot, in other words, help to build up energetic, independent men of character, original thinkers, bold advocates of freedom and reform, but leads rather to produce good weaklings who become in time completely merged in the great mass of mediocrities.

In view therefore, of our present knowledge of the sexual life of man, and its relation to the genesis of neurotic disorders, sexual hygiene becomes a matter which calls for our gravest attention. Furthermore, sexual hygiene is not only an affair for the consideration of doctors; it is a matter which affects the life of every individual, so that, when thoroughly grasped and scientifically pursued, will affect our religion, our law courts and our legislatures.

In attempting to treat disorders which have arisen from a want of proper sexual hygiene, the doctor is usually handicapped by the fact that owing to the traditional policy as regards matters of sex, his patients, especially his female patients, are generally shy to discuss the topic. However, if the doctor can show himself to be capable of sympathy without curiosity, he can and often does, win the deepest gratitude of his patients by letting them unburden themselves of the difficulties of their sexual lives. Anyhow, the examination of any "mental" disorder and of a great many "physical" disorders too, cannot be regarded as complete without an enquiry into the sexual life of the sufferer. Again, in view of traditional ideas, especially among cultured persons, on matters pertaining to sex, it is by no means easy to

the valve flaps with shortening, curling back and rigidity from gummatous infiltration, results in aortic regurgitation which always occurs sooner or later. (For the same reason stenosis is rare and mitral lesions never accompany, unlike the aortic regurgitation of rheumatic origin). As the mouths of the coronary arteries open just behind the aortic cusps, these are often involved in the pathological process with the effect that the syndrome of angina pectoris may supervene. Thrombosis of coronary arteries may cause sudden death in these patients.

Symptoms and signs of aneurism will not be referred to as they are well recognised.

CLINICAL FEATURES.

As seen in clinical work, these patients are often men in the heyday of their strength, and of robust, sthenic build. They have often led a hard physical life but have been remarkably free from most complaints and have long ago forgotten the venereal infection of youth. Frequently the symptom for which they attend is dyspnoea on exertion, which, unlike that of other cardiac conditions, is often of sudden development, *i.e.* can be dated to a particular day, and is of rapid progress. Others again complain of sub-sternal sensations, varying from a heavy ache or oppression to the severe pain of the fully developed angina of effort. In the latter, gummatous deposit in the coronary orfice can be suspected. A certain percentage come because of throbbing in the chest on lying down at night, when others again complain of acute paroxysmal dyspnoea, chiefly nocturnal (cardiac asthma). Lastly, a good number have

no symptoms, the condition being found on routine examination for another purpose.

On clinical examination, the physical signs of aortic incompetence are found, *i.e.* the condition is already far advanced when the patient is seen for the first time. On going back carefully into the history, however, it may be often found that various substernal sensations of mild nature have been present for a number of years and have been ascribed by the patient to indigestion, rheumatism etc. These sensations are those mentioned above but in milder form, and it is the recognition by the profession of these in persons with a syphilitic history, that is the only hope of getting these patients on to treatment while they are in a curable stage, i.e. in the pre-regurgitation period.

When one is fortunate enough to examine such patients in the early stages of aortitis (i.e. before the onset of regurgitation) one finds a certain degree of dullness to percussion in 2nd and 1st right interspaces, and possibly some pulsation in this region or above the sternum may be seen in tangential inspection in a good light. On auscultation, an accentuated aortic second sound is heard but not like that of hypertension. It is lower in pitch and bell-like "bruit de tombourke". Systolic bruits are uncommon. These physical findings are often difficult to elicit in sthenic patients and here examination of the aorta under the fluorescent X-ray screen is invaluable. The ascending aorta is seen to be unduly broad and pulsatile. To determine this, the vessel should be systematically viewed in all profiles, rotating the patient into the oblique position for this purpose.

treat maladies which owe their origin, partly or wholly, to an unhygienic sexual life. Indeed, on the whole it is better to point out to our patients where they have gone wrong and leave them to do what they like about it. To some, no doubt, it is highly gratifying to have their doctor's assurance that a little sexual indulgence, undertaken with due precaution, will not only do them no harm but a certain amount of good.

Another corollary to this standpoint in medical practice is that treatment, of any sort, to be successful must be acceptable to the mental as well as to the physical constitution of the patient. Let me give an example to illustrate what I mean. Some years ago, I had occasion to consult an eminent London physician about a peculiar type of furunculosis from which I was then suffering. He prescribed ionisation. I begged him to suggest an alternative because, as I explained to him, even the mildest electric shock causes me considerable distress. He poohpoohed my protest on the ground that the electric current would be so mild that I should hardly feel it. In the end I gave way and the treatment began. My physician's own nurse arrived with the apparatus and one of my arms was placed in a basin containing a solution. I warned the nurse to keep the electric current very weak and she agreed to do so. All went fairly well for a few minutes albeit I was in an agony of apprehension. Suddenly the nurse increased the current very slightly but this slight increase was too much for me. I plunged as if I had been tentanised. The contents of the basin went all over the nurse and the battery got such a kick

from me as to send it flying across the room. Now, none of this need have happened had this eminent London practitioner been taught to treat patients and not diseases. Because he preferred, and that too in spite of a warning, to treat boils instead of a man with boils, he procured his nurse a warm saline bath and had his battery broken, not to mention making me worse than I was already for he put me into a thoroughly bad temper.

As I began this communication with a quotation, I will end it with another. My first quotation was from the writings of an eminent French doctor. This one is taken from an English man of letters, namely, Samuel Butler, the author of that remarkable book, *The Way of All Flesh.*

"All our lives long, every day and every hour, we are engaged in the process of accommodating our changed and unchanged selves to changed and unchanged surroundings; living, in fact, is nothing else than this process of accommodation; when we fail in it a little we are stupid; when we fail flagrantly we are mad, when we suspend it temporarily we sleep, when we give up the attempt altogether we die. In quiet uneventful lives the changes, internal and external, are so small that there is little or no strain in the process of fusion and accommodation; in other lives there is great strain, but there is also great fusing and accommodating power; in others great strain with little accommodating power. A life will be successful or not, according as the power of accommodation is equal to or unequal to the strain of fusing and adjusting internal and external change".

Syphilitic Aortitis and Aortic Incompetence

BY

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IT is believed that as a profession, we do not yet sufficiently appreciate the frequency of syphilis as a cause of aortic valvular disease in persons of middle age and over. Analysis of the clientele of any large heart clinique in temperate climates reveals the fact that nearly one half of the cases are patients suffering with chronic cardiac valvular disease and that a very large majority of these are young adults in whom there is a definite history of rheumatic infection (rheumatic fever, chorea) in earlier life. The known association between rheumatic infection and subsequent valvular disorders is so strongly impressed on the minds of most physicians, that other possible etiological factors are apt to be overlooked. There is, however, a very important group of patients, who have definite signs of aortic valvular

disfunction in whom the etiology can be definitely shown to be syphilitic. It is essential to recognise this group in that the prognosis and treatment are so different.

PATHOLOGY.

Study of these cases reveals that the average period of time from the primary infection to that at which is felt the first symptom referable to the heart, is on the average 20 years. As a result the usual age of such patients is from 40-50 onwards. This contrasts with the rheumatic group who are usually much younger and many of whom die before middle life is reached. The aortic wall is invaded probably shortly after the initial infection but it seems that a long latent period follows, during which pathological change is taking place in the vessel wall with absence of any clinical symptoms (Aortitis). The lesion is usually confined to the first part of the aorta (ascending and transverse arch), especially to the area immediately above the valve orfice, and is of such a nature as to cause a weakening of the vessel wall so that it yields at that point to the intra-aortic pressure. In the course of time, depending upon the distribution and amount of the syphilitic lesions, a diffuse dilatation—often typically confined to the ascending aorta—or a localised one (aneurism) results. This, of course, is a late stage and we must always attempt to diagnose it before this. A very favourite place for deposition of lesion is in the interval between the points of insertion of adjacent aortic cusps. Yielding here increases the size of the aortic valvular orfice, and this together with deformity of

The heart is usually not enlarged at this stage unless there is hypertension, but with the onset of regurgitation, left ventricular hypertrophy occurs. Cardiac rhythm usually continues regular even with the onset of congestive failure, i.e. it is not the nature of the disease to induce fibrillation. Wassermann is + + in 80% of cases, so that a negative reaction in the presence of definite clinical and radioscopic findings does not negative the diagnosis.

In a certain number of these cases, signs of neurosyphilis are present, e.g. a pupillary abnormality, changes in the reflexes, alteration in temperament etc., and so the nervous system should always be carefully studied. Per contra, in all cases of tabes, general paresis etc., the possibility of aortitis should also be kept in mind.

The termination of these patients may be by congestive heart failure or death may take place quietly and unexpectedly during sleep. A certain number die of coronary thrombosis and cardiac infarction. When angina of effort is a prominent symptom this usually ceases with the onset of congestive failure. The cases who are likely to die from coronary thrombosis are those with the anginal syndrome.

TREATMENT.

If the mortality from this disorder is to be reduced, diagnosis at an earlier stage than at present is essential. Consequently no patient under treatment by a syphilologist should be discharged until a careful examination from the cardiological and

neurological standpoints has been carried out by a competent physician. This examination should include radioscopy of the aorta.

While treatment cannot be expected to restore a scarred aortic valve or to reduce a grossly dilated aorta, in the stage of early aortitis definite arrest of the process can be expected. Even in the advanced cases, relief from angina pectoris and paroxysmal dyspnoea is very striking—possibly by removal of gummatous deposits in the coronary orifice.

It is a good plan to commence treatment with a few weeks, rest in bed, and in cases with congestive symptoms, i.e. oedema or dyspnoea, this is essential. In the latter cases, treatment should be first directed to improving the general circulation by digitalisation, diuresis etc. Patients who are overweight should be dieted—exercise and thyroid cannot be used for this purpose. Antispecific measures should commence first with iodides—10 drops of a saturated solution increasing gradually to 30-40 drops t. i. d. With this, mercury should be given e.g. by inunction with ung. cinereum or by intra-muscular injections e.g. mercuric succinimide gr. 1|5—2|5 once weekly for a total of 4 grs. After iodides and mercury have been administered for 3-4 weeks, a salvarsan preparation should be given. Suitable commencing dosage would be 0. 15 gram, increasing to 0. 30 gram, 0.45 gram once weekly, repeating the last dose until 4-5 grams have been given. It is important the drug be injected slowly. With this precaution and with the above preceding preparation with potasium iodide and mercury, no accidents need be anticipated.

This treatment should be repeated 2-3 times a year, continuing with iodides intermittently during the rest periods. The criterion of when to stop treatment is the clinical condition of the patient rather than the results of the Wassermann reaction. Statistics have shown that such treatment, when persistently and conscientiously carried out, will certainly prolong life and bring about amelioration in the symptoms, as compared with those cases who are abandoned to their disease.

Interpretation of the Results of the Wassermann Reaction

BY

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"SYPHILIS is protean in its manifestations, protracted in its course, variable in its activity, passing often into a condition of latency.....and a positive Wassermann reaction is at once the most constant as well as the most delicate *single* symptom of the disease". Wassermann reaction will be of immense value in clinical medicine if the limitations of the test and the interpretation of its results are properly understood. Too much reliance has often been placed on the results of isolated blood examinations and a diagnosis of the presence or absence of syphilis made, with the result that the test has become the target of much comment and criticism. The following figures will show that the Wassermann reaction is not 100 per cent positive in any stage of syphilis. In the primary stage 34 per cent positive reactions are obtained in the first week after the appearance

of the chancre, 57 per cent during the second week, 67 per cent during the third week, 76 per cent during the fourth week, and 80 per cent during the fifth week. In general in primary syphilis Wassermann reaction will be positive in about 80-92 per cent of cases. Positive reactions are obtained in 98-100 per cent of cases in the secondary stage; 96 per cent of cases in the tertiary stage; about 90 per cent of cases of tabes dorsalis; about 100 per cent of cases of G.P.I.; 60-75 per cent of cases of cerebral syphilis; 64-80 per cent of cases in the latent stage; about 82 per cent of cases of congenital syphilis. These figures refer to cases which have not received any antisyphilitic treatment.

It is customary to report the results of the Wassermann reaction as negative or in three degrees of positive,—weak, moderate and strong; rarely one comes across results reported as anticomplementary. It is important to know the exact significance of these reports in evaluating them.

Negative Reactions.

A negative reaction does not conclusively exclude the possibility of syphilis. It may be obtained (1) in the primary stage of the disease before the antibodies are formed in the blood (2) occasionally in early malignant syphilis (3) very rarely in the secondary stage (4) sometimes in late congenital cases in adults (5) in some late stages of syphilis, especially in those cases with involvement of the brain and the spinal cord—the cerebro-spinal fluid in these cases may be positive (6) ingestion of

alcohol in large quantities just before the examination is supposed to convert a positive reaction into a negative one. In Kolmer's experience, however, the reaction is seldom negative in the presence of active syphilis after the primary stage. Reactions which are persistently negative are strongly against the case being syphilitic. Hence it will be seen that a single negative reaction never possesses the value of a single positive one in cases presenting lesions of a suspicious nature.

Positive Reactions.

A positive reaction indicates that the individual is syphilitic, and that the infection is or has been till very lately alive in the patient's tissues. It does not mean that a particular lesion is a syphilitic manifestation, e.g. cancer in an individual may be mistaken for a gumma and secondary fever may be suspected in a patient suffering from chronic malaria or tuberculosis on the strength of a positive Wassermann reaction. Hence it must be emphasised that laboratory results must be properly evaluated in diagnosing conditions of a dubious character.

Different Degrees of the Positive Reaction.

A strong positive reaction is an undoubted evidence of the presence of syphilis and is uniformly obtained in secondary syphilis, in a large proportion of cases in the tertiary stage, and in general paralysis of the insane.

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A moderate positive reaction is met with in the early stages of the disease, in old visceral syphilis, in late congenital types and in cases undergoing treatment. Antisyphilitic treatment in cases presenting moderate positive reactions is justifiable provided the clinical condition is not entirely overlooked on the strength of the result.

A weak positive reaction. The results of the Wassermann reaction are sometimes reported as weakly positive, weakly negative, trace positive etc. A weak positive reaction may be obtained (1) a few days after the appearance of the primary sore (2) in cases treated without the aid of the Wassermann reaction (3) occasionally in scarlet fever, during the rigor stage of malaria, in urticaria pigmentosa, and in some other skin conditions. A weak positive reaction in a treated case calls for further treatment, in an untreated case little if any weight should be placed upon it and the reaction must always be regarded as negative in the primary diagnosis of the disease.

False Positive Reactions.

Different workers have from time to time reported positive reactions in diseases other than syphilis. Yaws is the only condition in which consistently positive reactions are obtained. Since the treatment of both the diseases is identical this reaction is not of much significance. In all cases in which false positive reactions are supposed to have been obtained syphilis must also be suspected.

Anticomplementary Reactions.

A certain proportion of sera destroy the complement used in the test and the results of the reaction are not read or interpreted but are reported as anticomplementary. This state of affairs occurs (1) under certain pathological conditions such as ureaemia, jaundice, etc. (2) in bacterial contamination of sera due to faulty preservation (3) when traces of chemicals are mixed with the specimen-aether being used in the sterilisation of the syringe (4) in sera deeply tinged with haemoglobin "Anti-complementary reactions are without any significance per se" and the test must be repeated, serum being collected with due precautions.

A few lines on "provocative test" "effect of treatment on the Wassermann reaction" and "Wassermann-fast syphilis" will not be out of place. A provocative test consists in the administration of 0. 3—0. 45 grm of neosalvarsan intravenously and testing the blood on the seventh day if only one retest were possible. Indications for a provocative test are (1) cases with a definite history of primary or secondary lesions but with a negative Wassermann reaction (2) treated cases to see if further treatment is necessary (3) obscure bone or joint lesions (4) history of miscarriages without any obvious cause (5) mothers of syphilitic children without any clinical signs of the disease (6) mental deviates (7) syphilis in husband or wife (8) cases with a previous history of a positive reaction but negative at the time of the examination (9) cases showing weak positive reactions.

EFFECT OF TREATMENT.

Wassermann reaction is an invaluable guide in the treatment of syphilis. The effect of treatment generally speaking depends upon the individuality of the host, virulence of the parasite, and upon the method of treatment adopted. In the primary stage, under treatment, the reaction becomes negative in about 3 weeks, in the secondary stage in about 12 weeks, in the later stages more time and treatment are required for it to become negative. As a test of cure the blood must be taken after all the treatment has been suspended for at least two weeks and a single negative reaction must not be accepted as proof of cure, but the blood must be tested every three months for the first year, and six monthly for the second year.

"Wassermann-fast Syphilis. Occasionally one meets with cases of syphilis in which the Wassermann reaction remains positive inspite of all treatment, the reason being that drug resistant forms of the parasite are probably developed. These cases require continued observation and treatment with frequent changes in the drug-from arsenic to bismuth to mercury.

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The Human Brain

BY

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IN this article I shall deal exclusively with that part of the human brain which is the instrument of the high powers of intelligence, the human cerebrum, and which distinguishes man from other animals. To understand the human brain properly, it is necessary to gain some knowledge of its development and to examine the morphological aspects of its various regions. The natural division of the brain based on morphology has been made possible mainly by the researches of Professor G. Elliot Smith, and as such, in this article I shall mainly confine myself to his work on the subject.

The brain expands and increases according to the scale of the animal, in evolution and to some extent to the habits of its life. New portions are added to it, which develop and take on most of the functions of the already existing old brain, and perform also new duties. Thus the cerebral hemisphere falls into two main divisions, namely, the old brain which

is inherited by the animal and is common to all the species, and the new brain, which is characteristic of the mammalia, and which continues to develop and expand, often at the expense of the old brain, and finds its highest expression in man. Professor Elliot Smith has given it the name of Neopallium.

In order to appreciate the natural divisions of the cerebral hemisphere, a series of brains of vertebrates from those of the most primitive animals to that of man had to be examined. In the more primitive vertebrates such as the fishes and reptiles, and in the lower orders of the mammals, the animal's behaviour is dominated by smell. The cerebral cortex is little more than a receptive centre for the impressions of smell which influence the animal's behaviour. Impulses from the olfactory organ reach the cerebral cortex directly, and do not pass through the thalamus, as is the case with the other sensory tracts. It is the chief organ of discrimination, of the appreciation of space and time, and is the repository of the impressions of past experience. The animal finds its food and determines its quality only by the aid of smell. By smell it distinguishes its friends from foes, and selects its sexual mate. In such animals audition and vision are only secondary factors. The sense of smell, which is akin to taste, gives these animals a foretaste of food, before they actually catch it. It links together the actual taste and the period of anticipation. Such an experience, conveyed by the sense of smell, is of the vaguest kind. A fish is attracted by the smell of food, and goes round it in narrowing circles, till it perceives it. It is then only that the

eyes convey to it the more precise information as regards its position and movement in space. In other words, the animal is primarily influenced by the sense of smell, and the information gained by other senses is secondary and is only added to it. These other senses increase in importance in the higher vertebrates and culminate in the vast mental powers in man. If the brain of a low reptile is examined, its cerebrum is found to be almost entirely olfactory. Its anterior part is the large olfactory bulb with its three tracts. The thickened mesial wall of the vesicle, in front of the lamina terminalis is the paraterminal body. Its thickened posterior and inferior wall forms the pyriform lobe. The basal part shows a rounded olfactory tubercle. The rest of the cerebrum is occupied by the hippocampus, save a very narrow neopallial strip in front. Therefore in a mammal the part of the cerebrum concerned with the sense of smell is the oldest part, and the portions dealing with other senses as well as psychical powers are of later development, and form the new cerebrum.

In vertebrates other than mammalia, the domination of the vision, the centres of which end in the mid-brain, leads to its precocious development and specialisation. This development is at the expense of the forebrain which remains mainly the organ of smell. But in the absence of the visual impulse, a sense not represented in it, the development of the forebrain towards human intelligence is stopped. In the dog-fish, all the visual fibres terminate in the mid-brain. Even in the mammals other than the primates, the olfactory lobes are comparatively very

large and the parts of the cerebrum connected with the sense of smell extensive. This indicates the comparative importance of the sense of smell in these animals. Vision is represented in the cerebral hemisphere of the mammals and acts as a powerful stimulus to its growth and progressive development. The world and most of what is going on in it is mostly appreciated by sight. Muscular skill is determined by the correlation of eye and hand. Form, colour, and movement are perceived by the eyes, and thoughts, emotions and intentions are indicated by them. Thought was communicated by the eye, before speech was formed by acoustic symbols. The names could only be given to objects, when they were definitely observed by the eye. Mammals with adaptable hands depended more on vision than on the olfactory sense, and thus were able to develop the power of discrimination, which led to the highest function of the new brain, the intelligence. In fact, man's ancestors diverged from other mammalia on account of the increased reliance on vision by animals which possessed less specialised limbs, and whose hands had retained five digits, and their primitive structure, adaptable to various movements. This primitive structure of the limbs was important and necessary to enable the animals to adapt them to any movement. Such unobstructed use of the adaptable limbs, made the animals fit for more skillful muscular movements and for further development. Such animals, possessing less specialised limbs, were the "Tarsius spectrum" and the tree-shrew, both small and insignificant arboreals. The "Tarsius" stands at a point in evolution, where the

primate line branches off from the common mammalian stem. It is almost a monkey. It differs from the monkey in the absence of the prefrontal expansion. In this animal the snout is greatly reduced and is out of the way. Consequently the eyes come to the front of the head and look forwards, enabling the two visual fields to over-lap. This is necessary for the psychical fusion and the stereoscopic vision. In the mammals that had previously specialised their limbs for one kind of function only, the power to respond to other needs was lost. Thus, the increased vision was unable to influence their further development. Vision was the first step therefore in the development of the new brain, in animals that had retained the primitive structure of their hands which responded to any purpose which the brain directed.

The ability to perform skilled movements is regulated by increased visual powers. Remarkable increase is noticed in the range and the precision of the conjugate movement of the eyes. The only mammals besides man that really see the world and can appreciate the three dimensions in space are the monkeys, due to the co-operation of the two eyes, and to the psychical fusion of the two images. The monkey is able to utilise these powers on account of the great development of the prefrontal area in the cerebral cortex. This expansion is distinctive of apes, and is absent in the "Tarsius". This great development separates the primates from other mammals. The other noteworthy developments in the monkey are the expansion of the tactile, motor and auditory areas. There is nothing in the human

brain which is not anatomically represented in the brain of the ape. The only difference is the increase in man of the three cortical areas, the parietal, temporal, and the prefrontal. The parietal area forms the link between the visual and tactile receptive centres. In man the parietal lobe is associated with the discrimination of weight, form and texture, the appreciation of objects appealing to the sense of touch and vision, and the recognition of the object and the result of action.

Upon these areas of the new brain, man depends for the ability to understand the nature of things and events in the outside world. Under the guidence of vision, the hands of man, that had not lost their plasticity or adaptability by too early specialisation acquired an increasing sensitive tactile descrimination. This fine discrimination led to great muscular skill. This skill reacted on the ocular movements and led to the stereoscpic vision. This fuller cultivation of the muscular skill of the hand necessitated and assisted in the production of the erect posture of the body, and consequently led to more precise and exact movement of the muscles of the body. All this was the result of the development and expansion of the prefrontal area. Fuller appreciation of details of objects made possible the development of the macula lutea. These vast products of the increased vision acted as a stimulus for the further enhancement of the vision itself. The continual handling of objects, and information gained about them by means of vision and touch taught man the appreciation of form, which cultivated in him

the aesthetic sense. The knowledge of objects induced man to make an effort to name them by means of the organs already provided. Man's ancestors acquired speech by a variety of signals, which were of the nature of cries. The necessary vocal symbols were gradually acquired. Thus the acquisition of speech and of the auditory symbolism was based on the fuller understanding of the world; delicate and precise movements of the fingers made possible the reduction of speech into writing. The expansion of the cortical areas necessary for the interpretation of experience resulted in the special development of the regions dealing with the reception of the acoustic and visual impulses, and in the control of the musculature of the head and the neck.

The parietal, temporal, and the prefrontal areas were imperfect in the extinct members of the human species, such as *Pithecanthropus of Java, the Piltdown, the Neanderthal, and the Rhodesian

*Pithecanthropus;—Found in Java by Dr. Eugene Dubois. It is the most primitive and the earliest member of the human family, though probably not on the direct line of ancestry of the higher races of man. Some authorities maintain it to be an ape. Period—Early pleistocene.

Piltdown Man:—Discovered by Sir Arthur Smith Woodward in Sussex, 1912. Period—Beginning of the pleistocene age. It is as ancient as the Pithecanthropus; both belong to the same period though thousands of miles away from each other. The Piltdown man, Eoanthropus, was found to be much further advanced in the direction of Homo Sapiens than the low browed or obtrusively simian Pithecanthropus. Both retained many apelike features.

Neanderthal Man:—was discovered at Dusseldorf in Germany in 1856. This species was succeded in Europe by Homo Sapiens to which the modern man belongs.

man. Pithecanthropus erectus, was found in Java in 1891 and, before the recent discovery of the skeleton of Sinanthropus in China, was considered the most primitive member of the human race. The skeletons of other prehistoric men, belonging to a different human branch in the evolutionary stem were found at Sussex in 1912 and in Africa in 1921, and in Germany. These skeletons belong to the Piltdown, the Rhodesian, and Neanderthal men. It is noteworthy that the portions of brain which present a contrast in the brains of ape and man are the same that expand progressively from a more primitive to a highly developed man.

The new brain or neopallium which gradually develops and expands in mammalia along the dorsal borders of the pyriform area is thus distinguished from the archipallium, which consists of the hippocampal formation and the pyriform lobe. As the neopallium develops, it expands at the expense of the archipallium which is pushed to the limited areas on the medical and inferior surfaces of the cerebrum.

Rhodesian Man:—Found at the Broken Hill, Northern Rhodesia, in 1921, by a metallurgical chemist. It provides a most primitive example of the human face, and more brutal than that of any other human being, living or extinct. The nose is more definitely ape like than that of the Neanderthal man. Its brain was of a type intermediate between those of the Neanderthal and Piltdown men. The Rhodesian man is definitely more primitive than the Neanderthal species, or any other known member of the human family with the exception of Pithecanthropus and Eoanthropus from Java and Piltdown.

This neopallium, which is a speciality of the mammals, possesses unlimited powers. The most important function of the neopallium is the recording of the results of the past experience and to place this knowledge, at the service of the muscular system.

The cerebral hemisphere of a mammal consists of distinct regions, each presenting definite histological features. They are demonstrated very clearly in a hedgehog. The following regions may be recognised:

1. The Olfactory bulb.
2. The Olfactory peduncle.
3. The Olfactory tubercle.
4. The Pyriform lobe.
5. The Paraterminal body.
6. The Anterior perforated substance.
7. The Hippocampal formation.
8. The Corpus striatum.
9. The Neopallium.

1. The olfactory bulb needs no discription.

2. The olfactory peduncle is the prolongation of the layers of the olfactory bulb.

3.The olfactory tubercle covers ventrally the corpus striatum. In the human brain it is a small elevation in the anterior perforated substance.

4. The pyriform lobe is a distinctive mantle. It can be recognised even when coloured by ordinary

stains. Its anterior portion is attached to the lateral aspect of the corpus striatum (Fig. 5). It is the direct continuation of the olfactory peduncle. Its antero-ventral part is covered by the lateral olfactory tract. The caudal part of the pyriform lobe extends in the caudomesial direction and becomes continuous with the hippocampus. In the human brain, it is represented by the uncus, and the anterior part of the hippocampal gyrus

5. The paraterminal body (Fig. 3) is a large ganglionic mass continous with the olfactory peduncle (Fig. 2). It extends backwards as far as the lamina terminalis and upwards occupies the space between the corpus collosum and the hippocampal commissure. In the human brain it is represented by the septum pellucidum and part of the subcallosal region, being divided into these two parts by the rostrum of the corpus collosam, the great commisure of the neopallium.

6. Anterior perforated substance needs no special mention.

7. The hippocampal formation consists of the hippocampus, the fascia dentata, the fornix and the supra and precallosal vestiges of the hippocampus.

8. The corpus striatium is a ganglionic mass separated from the cerebrum by the olfactory tubercle, the pyriform lobe and the neopallium.

9. The neopallium is a structure which differs from the other eight regions. It exhibits the distinctive gradations of the pyramidal cells which is

Case Report. Strangulated Hernia in Association with Dracontiasis and Hydrocele

BY

W. E. THOMPSON, M.B., Ch.B. (Edin.)

Mission Hospital, Medak.

THE following case, recently under my care, is of interest as illustrating the precipitation of an acute abdominal crisis by a tropical complaint in itself rarely dangerous.

A villager, male, aged 40, was admitted to the Mission Hospital, Medak, on the night of April 9th with vomiting, intestinal stasis and a large, tense and painful scrotum. The swelling had appeared 3 days previously and had subsequently increased in severity. No stool or flatus had been passed for 2 days. Vomiting of an offensive, dark fluid had occurred several times in the previous 24 hours. On admission, the pulse rate was 130, temperature 99.8°, and the respiration 32. The patient, who belonged to the subcaste of fishermen, gave a history of right inguinal hernia, reducible, of 3 years' duration. A threatened strangulation had occurred one year previously, but had subsided spontaneously after a few hours. A diagnosis of strangulated inguinal hernia was made.

Under chloroform anaesthesia, on an open mask, an inguinal incision was made and the coverings of the hernial sac exposed. On cutting through the inflamed and oedematous external spermatic fascia, the white coils of an adult, live guinea-worm were exposed in the interfascial space below, in close relation to the proximal end of the inguinal canal. The worm was followed up into the roof and posterior wall of the canal and quickly dissected out, without difficulty. The constricting band at the internal ring was divided with the aid of a director and the hernial sac opened. Omentum was found adherent to the tip of the sac, drawn out, and a plum-coloured portion was excised. A loop of intestine, after inspection, was returned to the peritoneal cavity as viable. The sac was amputated at the neck, the stump obliterated in the usual way and the canal closed by Bassini's method. A simple hydrocele which was also present on the same side was treated by eversion of the serious sac. The wound was closed and a rubber drianage tube left in for 24 hours. Some distension on the day following operation was treated by turpentine enemata and by Eserine gr. 1|100th hypodermically, repeated. A slight evening rise of temperature was observed for one week. The sutures were removed on the 10th day, the wound remaining clean.

The worm was identified as a female specimen of Dracunculus medinensis, 52 cm. in length. The patient gave no history of having ever suffered before from guinea-worm infection of any part of his body, although the disease is common in the neighbourhood from which he came.

The case demonstrates a very definite casual relation between a parasitic infection of the tissues and an acute abdominal emergency. It also leads to speculation as to whether the larval worm, after freeing itself in the alimentary canal from its intermediary host, Cyclops, passes down the small intestine before entering the skeletal tissues; and also whether, in this particular case, its selection of the scrotal region was due to the presence of a hydrocele acting as an attraction to the female worm with its embryo-filled uterus. There was no hydrocele in the tunic vaginalis of the other testis.

Abstracts
Medicine

INTERMITTENT CLAUDICATION TREATED WITH MUSCLE EXTRACT

Maurice Newman reports of ten cases of intermittent claudication treated with muscle extract. In all cases except one, the improvement marked was definite. The preparations used were Lacranol and Padutin manufactured by Bayer. The former is nucleoside extract prepared from mammalian skeletal muscle. It does not contain histamine and is free from suprarenin and choline. The active principle is probably a non-specific chemical substance. In some of the cases which were progressively deteriorating in spite of all other methods of treatment, remarkable improvement occured after the administration of muscle extract.

The extract was first injected into the gluteus muscle; a course of six daily injections of one ampoule was given, followed by 20 minims of extract by mouth, three times a day for some weeks. A general examination was then made, the amount of improvement, particularly the intensity of pain and the frequency of attacks noted, and a further course was adopted to obtain the maximum amount of improvement. (*British Medical Journal April* 8, 1933).

PNEUMOCOCCAL INFECTIONS

Cruickshank in his Milroy Lectures for 1933 delivered before the Royal College of Physicians of London during February and March of this year gives some interesting facts about

pneumococcal infections based on clinical and laboratory experience both of his own as well that of his colleagues. In the first lecture dealing with lobar pneumonia in the individual, he lays stress on the importance of the serological determination of the pneumococcal type both from a treatment as well as a prognostic point of view. Evidence is adduced that the quantity of the capsular substance is different in each of the groups and that this capsular substance is intimately associated with the specific soluble substance (S.S.S.) which these organisms produce and which is specific for each group. According to him the most probable explanation of the mechanism of infection is of an early penetration of the bronchial mucosa by the pneumococcus, a lymphatic spread to the root of the lung and a rapid lobar invasion of the susceptible lung tissue. The chief types involved in the causation of lobar pneumonia are type I, type II and type III. The difference in the severity and the mortality of these different types of infections has been explained by the qualitative and the quantitative vasiation of the specific soluble substance produced by these different types of organisms. This specific soluble substance has a definite antileucocytic effect and hence a leucocytic count will indicate the presence or absence of bacteriaemia. Infection is said to be overcome naturally by a general humoral antibody response. The value of antiserum in the treatment of type I infection is undoubted, while due to great severity of infection and difficulty of obtaining a highly potent of type antiserum, the effect is less convincing in type II infections.

In the second lecture dealing with the lobar pneumonia in the community, he came to the conclusion that a comparison of death-rate from this disease in different communities or in the same locality in different years, can only be made if attention is given to such matters as the percentage incidence of several pneumococcal types, the age distribution and the constitution of the exposed community, and the climatic conditions. Evidence is adduced in favour of the view that lobar pneumonia is an infectious disease endemic in large cities, with an annual winter epidemic, reaching maximum prevalence, during the spring. Experimental as well as clinical evidence is produced

showing the presence of both contact and convalescent carriers who form the reservoirs of infection.

The third lecture deals with broncho-pneumonia and other pneumococcal infections. Except in the case of influenza primary broncho-pneumonia is caused by the pneumococcus although absolute evidence for such a statement is difficult to adduce. As a result of typing pneumococci recovered from the majority of cases they fall into the heterogenous group IV or "X". The pneumococci of this group are usually saprophytic but potentially pathogenic. Predisposing cause is a lowering of local or general resistance due to climatic changes, faulty nutrition poor social or environmental conditions. An investigation of pneumococcal infections other than those of the respiratory tract confirms the view that types I and II pneumococci are more invasive than type III and group "X". The lecture concludes with a discussion of preventive measures for lobar pneumonia as well as broncho-pneumonia. For the former, isolation of cases, immunisation of the community exposed, by prophylactic inoculations, and detection and control of carriers are suggested. For the latter all methods by which the general power of resistance in the community can be raised, are recommended. A well balanced diet is recommended as deficiency in the vitamins A, C, and D creates a tendency to infection of the mucous membranes. (*Lancet, March* 18, 25 *and April* 1, 1933).

Annual Report of the Hyderabad Medical Association from May 1932 to July 1933.

MEMBERSHIP

The year opened with 93 members and at the close of the year there were altogether 101 members on the roll. But out of these 101 members those who did not pay their subscriptions on the receipt of the President's letter were removed from the roll. The total number removed were 36.

MEETINGS

There was only one General Body Meeting held during the year and that was for the election of the office bearers. Managing Committee held two of its meetings and besides these there were two clinical meetings, both of which were held in the Osmania Hospital. The last clinical meeting was held in connection with the Osmania Medical College Old Students' Day celebrations and there was a record attendance at the meeting. Members from the Districts also took part in it.

JOURNAL

Three issues of the Journal were published during the year and the fourth is under preparation. The cost for publication as shown for the three numbers is H. S. Rs. 1,125-14-2 and B. G. Rs. 43-7-8. The Editor has a complaint that he is hard pressed for articles and this complaint also existed during Dr. Jabbar's Editorship.

FINANCES

The opening balance of the year was H. S. Rs. 711-4-2 and the balance at the end of July 1933 is H. S. Rs. 183-10-10 and B. G. Rs. 0-0-4. It is needless for me to say that the financial condition of the Association is unsatisfactory. The great difference is accounted for by the regular publication of the Journal at a cost of H. S. Rs. 1,125-14-2 and B.G. Rs. 43-7-8 and owing to the non-payment of subscription by members amounting to Rs. 273.

CONCLUSION

In these days of constitutional and scientific advances all around us it is superfluous to state that Associations like ours are a great necessity. They can only exist, if all the members actively co-operate and strive for their promotion. This is one of the oldest Medical Associations in Hyderabad and it is up to us, the members, to see that its existence continues. All that is needed is active co-operation from members and timely payment of dues.

I would here mention before closing, the help I have always received from the President and the Managing Committee for their help and kind advice throughout my tenure.

C. F. CHENOY,

Honorary Secretary,

The Hyderabad Medical Association.

subsequent history of all cases once treated was not known. It is also to be noted that the possibility of reinfection could not be excluded.

There had been two deaths one from B.T., and another from M.T., in both of whom the infection was very heavy and who were admitted in a critical condition. Large retinal haemorrhages were observed in three cases (B.T. 1 and M.T. 2). The prognosis as regards the eye-sight in these is good, the blood getting absorbed in the course of a few weeks. His experience with milk injections for enlarged spleen was not favourable.

He showed a case of a Quartan malaria who after a five days' course of atebrin (0. 3 grms daily) still showed parasites in the blood. The routine course of treatment in the Hospital is the quinine hydrochloride mixture three ounces daily for 7 days. This mixture also contains one minim of liq. arsenicalis in each ounce. Atebrin when used was given in 0. 3 grm. dose per day for 5 days. In malignant tertian cases plasmoquine 0. 020 grm. per day for 7 days was used along with quinine.

Intramuscular injections of quinine are not favoured. Intravenous have been found very rarely required. Vomiting is usually controlled with lemon squash and a laxative.

The President, Col. J.Norman Walker in his summing up laid stress on the oral route for quinine administration and invited particular attention of medical men to this point.

* * * *

The annual general meeting of the Hyderabad Medical Association was held on the 20th September 1933 at 5 p.m. in the Osmania Hospital. Col. J. Norman Walker, President of the Association was in the chair. After confirmation of the minutes of the last general meeting, the Honorary Secretary of the Association, Dr. C. F. Chenoy read the report of the working of the Association for the year 1932-33 and also submitted the audited accounts for the same period (both have been published elsewhere in this issue of the Journal). These were adopted unanimously. After much discussion the meeting passed a resolution for the discontinuance of the Deccan Medical Journal

and instead of it to publish small pamphlets whenever any interesting papers are read or cases demonstrated before the Association.

The Rules of the Association as amended by the Subcommittee specially appointed for the purpose and approved by the Managing Committee were then placed before meeting. With slight amendments here and there the rules were adopted in toto.

The meeting also adopted a resolution requiring the present Office-bearers and the Members of the Managing Committee to continue for one more year. Dr. S. Raghavender Rao having expressed his desire to resign from the membership of the Managing Committee on account of his leaving the station shortly, Major M. R. W. Hart was duly elected in his place. The meeting then came to a close with a vote of thanks to the Chair.

The Hyderabad Medical Association

FINANCIAL STATEMENT FROM MAY 1932 TO JULY 1933...

Particulars.	H.S. Amount.	B.G. Amount.	Particulars.	H.S. Amount.	B.G. Amount.
INCOME			EXPENDITURE		
	Rs. a. p.			Rs. a. p.	
Balance brought forward	711 4 2		Salaries of the staff	267 0 0	
Subscriptions from members	705 0 0		Journal publication charges	1125 14 2	43 7 8
Subscriptions for the Journal	10 8 1		Postage	8 8 0	
Sale of Journals	72 0 0		Printing & stationery	23 2 0	
Advertisement charges	135 7 2	43 8 0	Miscellaneous	43 12 0	
Interest on Savings Bank A|c	17 11 7		*Closing balance	183 10 10	0 0 4
Total	1651 15 0	43 8 0	Total	1651 15 0	43 8 0

*Cash in Bank H.S. Rs. 172 13 3

Cash with the Hon. Secretary H.S. Rs. 10 13 7 B.G. Rs. 0 0 4

Total H.S. Rs. 183 10 10 B.G. Rs. 0 0 4

Verified and found correct.
S. A. RAHIM,
Hon. Auditor. 24—7—1933.

M. F. CORREA,
Hon. Auditor.

J. NORMAN WALKER,
President.

C. F. CHENOY,
Hon. Secretary.

Association Notes

A clinical meeting of the Association was held on 19th September 1933 in the Osmania Hospital. Dr. L. D. Khatri, the Chief Malaria Officer spoke on the prevention of malaria with special reference to mass treatment with plasmoquine as a preventive measure in certain selected localities in Hyderabad city and also in one village—Otnoor—in Asifabad District. This was, however, accompanied with simultaneous vigorous anti-larval measures. He quoted figures showing a marked reduction in the number of malaria cases down to a certain level below which it did not go.

Dr. S. W. Hardikar then spoke of his experience of malaria treatment which is being carried on in the Osmania Hospital for more than one year at the suggestion of Col. J. Norman Walker. During 1342 F., upto the date of the meeting, 173 cases of malaria confirmed by blood examination had been treated. Of these there were

Malignant tertian	85
Benign tertian	66
Mixed B.T. & M.T.	19
Quartan	3

29 cases were admitted with relapses, of whom there were 14 of B.T. (6 treated previously with quinine and 8 with atebrin), 11 of malignant tertian and 4 of mixed infection, all treated with quinine and plasmoquine. He further stated that the actual number of relapses might be more or less as the

The Hyderabad Medical Association Rules and Bye-laws

NAME.

1. The Association shall be called "The Hyderabad Medical Association.

OBJECTS

2. The objects of the Association shall be:—

(*a*) To promote the study of medical and allied sciences by reading of papers, demonstration of cases and discussions in periodical meetings, and to maintain the honour and interests of the medical profession in the State.

(*b*) To cultivate social intercourse and help to encourage loyal co-operation among its members.

MEMBERSHIP

3. The membership of the Association shall be open to all persons holding qualification registerable, by the British, British Indian, or any of the Indian State Medical Councils.

4. Every service member of the Association shall pay an annual subscription of Rs. 6 payable in two six monthly instalments of Rs. 3 each, according to the English year. Sub-

Assistant Surgeons should pay at half the above rate. Retired doctors and private practitioners will be invited to join the Association at Rs. 3 per year.

5. Persons desirous of enrolling as members shall send in their application on the prescribed form to the Honorary Secretary.

CONSTITUTION

6. The Office-bearers of the Association shall be:—

(*a*) a President,

(*b*) a Vice-President,

(*c*) a Secretary who shall also be the Treasurer,

(*d*) an Editor.

7. There shall be a Managing Committee consisting of the above office-bearers and other six members of whom one will be a lady.

8. Election of the Office-bearers and the members of the Managing Committee shall be annual but every one of them shall be eligible for re-election.

9. The election will be always by ballot.

MEETINGS

10. *General Meetings*:—There will be an annual General meeting of members at which the report will be submitted by the Secretary as regards the working and the finances of the Association during the year under review. Election of Office-bearers and of the Managing Committee for the ensuing year will take place.

11. *Extra ordinary General meetings* may be convened for special purposes by the Secretary with the approval of the Managing Committee.

12. Notice of meetings mentioned in Rules Nos. 10 and 11 shall be given by the Secretary to all members at least one week before the date of the meeting.

13. *Clinical and ordinary meetings*:—These meetings will be held once a month for reading of papers on professional subjects and discussions of cases etc. At such meetings non-members may be invited by the Secretary to read papers or take part in the discussions.

Meetings of the Managing Committee

14. The Managing Committee shall meet every three months.

15. No one shall be eligible for election to the Managing Committee unless he has been a member of the Association for not less than one year and has no arrears against his name at the time of election.

16. If any member of the Managing Committee absents himself from three consecutive meetings he shall be considered to have vacated his seat.

Chairman

17. At all meetings either of the General Body or the Managing Committee, the President or in his absence the Vice-President shall take the Chair. In the absence of both, the members shall nominate one of the members present to the Chair.

18. The authority of the Chairman elected or nominated under the above rule shall be, as far as that particular meeting is considered, that of the President of the Association. In any matter requiring a ruling from the Chair, the decision of the Chairman shall be final.

19. All resolutions either of the General Body or of the Managing Committee shall be passed by a majority of votes, the Chairman having a casting vote in case of equality of the votes.

20. Every member will usually be allowed to speak for ten minutes on any professional subject and seven minutes on that of a business matter, but these limits may be extended at the discretion of the Chairman. No member, shall speak more than once on the same subject except on a point of order or when called upon for explanation.

21. A matter once disposed of by the General Body shall not be allowed to be placed again before it within six months from the date of passing of a resolution thereon.

22. Not less than one fifth of the total number of the resident members on the roll shall be empowered to make a requisition in writing to the Secretary to call an extraordinary meeting of the General Body to consider matters of importance; and the Secretary shall, after bringing it to the notice of the Managing Committee, convene the desired meeting within a fortnight from the date of the receipt of the requisition by him.

POWERS OF THE MANAGING COMMITTEE.

23. The managing Committee shall admit members and accept resignations but the removal of the name of any member from the rolls will only be done by the General Body of members.

24. (a) The Managing Committee shall be in sole charge of the funds of the Association, and is authorised to incur any expenditure up to O.S. Rs. 300(three hundred) at a time, above which amount a sanction of the General Body of the Association shall be required.

(b) No sanction beyond the available funds of the Association will be allowed.

25. The Managing Committee shall be the executive body of the Association and the Secretary shall be responsible to it in connection with all the affairs that conducts on behalf of the members. The Managing Committee shall be responsible to the General Body for the affairs of the Association.

26. The Managing Committee shall have the power to appoint Sub-Committees from amongst its body and delegate them with such powers as may be deemed necessary.

27. All accounts either in the Bank or in the Post Office belonging to the Association shall be operated jointly by the Secretary and the President.

28. The Managing Committee shall have the power to appoint one or two of its members to carry on the work during the temporary absence of the Secretary or the President.

29. The General Body shall have the power to remove from the rolls the name of any member whose dues are 12 months in arrears, or if so recommended by the Managing Committ e, without assigning any reason except that such removal is in the interest of the Association; such a resolution will only be valid if supported by 2/3 of the members present.

30. The Managing Committee shall have the power to frame such Bye-laws, from time to time, as may be found necessary and submit them for ratification to the General Body.

31. The notice of the Managing Committee shall be given by the Honorary Secretary for all its members at least three days before the day of the meeting.

32. In case, a sanction for an extra-ordinary expenditure or decision on any matter is urgently required, the Secretary may obtain it by circulation amongst the members of the Managing Committee and in all such cases decisions will be taken by the majority of opinion.

QUORUM.

33. The quorum for an annual or extra-ordinary General meeting shall be twelve. If a quorum is not formed the meeting shall stand adjourned to a another date within a fortnight, when no quorum will be necessary.

34. The quorum for a meeting of the Managing Committee shall be four.

35. The duties of the Secretary shall be:—

(*a*) to collect subscriptions,

(*b*) to deposit money in the Banks,

(*c*) to carry on all sanctioned expenses in connection with the Association.

(*d*) to keep an account of the expenses and submit a balance sheet in the annual meeting at the end of the year,

(*e*) to keep a list of all the members with their addresses,

(*f*) to keep a record of the proceedings of all the General Body and Mananging Committee meetings,

(*g*) to prepare agenda for all meetings,

(*h*) to send the notices of the meetings to all members,

(*i*) to conduct correspondence on behalf of the Association,

(*j*) to keep a list of all articles belonging to the Association,

(*k*) to attend all meetings of the Managing Committee and General Body.

36. The Secretary shall work generally under the instructions from the Managing Committee.

37. The Secretary shall place before the Managing Committee all matters except those of routine correspondence.

38. The Secretary shall have the power to spend in case of emergency, an amount not exceeding O.S. Rs. 25 (which will be his imprest money) between any two meetings of the Managing Committee and obtain sanction thereof at the next meeting of the Managing Committee.

39. In case of an unavoidable absence of the Secretary he shall by the permission of the President ask one of the members of the Managing Committee to act for him for the time being.

40. The Secretary shall have the direct charge of the staff of the Association and shall have power to fine any one of them for neglect of duty or misconduct.

41. The Secretary shall see that the Rules and Bye-laws of the Association are enforced and shall bring to the notice of the Managing Committee any infringement of them.

42. The Secretary shall be responsible for the collection of subscriptions and other dues of the Association and shall bring to the notice of the Managing Committee the names of the members in default.

Privileges of the Members

43. All members shall have a right to vote at General meetings.

44. A member may in the interest of the Association make any suggestion to the Secretary, who will place it before the Managing Committee.

Amendments or Additions etc. to the Rules

45. If any amendment or addition to the existing rules of the Association be desired, it shall be duly proposed, seconded and communicated in writing to the Secretary who shall lay it before the Managing Committee, and if approved by it the proposal shall after due notice be brought before the General Body of the Association and accepted if carried by the majority of 2/3rds of those present.

46. No decision on any matter concerning the interest of the Association shall be taken at any meeting unless a notice to all members has been given at least one week previous to it, and in such cases written communications of absent members shall carry the same weight as the opinions of those present.