Afternoon Session.

Papers: **"The Relation of Society to Occupational Health,"** by D. STEWART, M.D., F.R.C.P.

"Psychiatry in Relation to General Practice," by JOHN THWAITES, M.B., B.S., M.R.C.S., L.R.C.P.

Friday, 11 July.

Paper: **"The Planning of Modern Psychiatric Units,"** by F. C. WEBSTER, F.R.I.B.A., and J. J. O'REILLY, M.B., B.Ch., D.P.M.

QUARTERLY MEETING.

THE SPRING, 1947, QUARTERLY MEETING of the Association was held at Barnwood House, Gloucester, by invitation of the Committee and Physician Superintendent, Dr. G. W. T. H. Fleming, under the Presidency of Professor D. K. HENDERSON, on Thursday, 15 May, 1947.

The Minutes of the last Quarterly Meeting held on 21 February, 1947, were taken as read and were signed as correct.

The PRESIDENT said that Sir Laurence Brock was unable to be present owing to poor health but he sent his good wishes for a successful meeting. He welcomed Dr. MacMahon from Australia. It was a great pleasure to have visitors from overseas and he hoped she would take part in the meeting.

OBITUARY.

The PRESIDENT announced with regret the death of the following members:

PIERRE JANET, Member of the Institute of France and Professor of Psychological Medicine to the College of France, an Honorary Member of the Association since 1930. Dr. Janet had been a very important link between earlier workers in the school of Charcot and the present-day conceptions of psychological medicine, and one realized more and more what a very great memorial he had left in his writings. In his death psychiatry had sustained a very great loss.

JAMES ADAMSON, who until recently was a Commissioner of the Board of Control. He had been an ordinary member of the Association since 1931.

FRANCIS ELLIOTT FOX, Medical Superintendent of Brislington House, and a member of the Association since 1925.

The members stood for a moment in silent tribute to the memory of these members.

ELECTION OF MEMBERS.

It was agreed to take the elections *en bloc*. Dr. McInnes and Dr. Shepherd were appointed to act as scrutineers, and after the ballot had been taken the following were declared elected members of the Association:

ARON, KARL WOLGANG, M.B., Ch.B.Glasg., Assistant Medical Officer, Lanark District Asylum, Hartwood, Shotts.
Proposed by Drs. W. N. J. Chapman, R. Good and J. McComb.

BONNARD, AUGUSTA JOSEPHINE, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Deputy Director, East London Child Guidance Clinic; 22, Norfolk Road, London, N.W. 8.
Proposed by Drs. E. Miller, K. K. Drury and A. Walk.

CAMPBELL, WALTER WILSON, M.B., Ch.B.Edin., Assistant Medical Officer, Lanark District Asylum, Hartwood, Shotts.
Proposed by Drs. W. N. J. Chapman, R. Good and J. McComb.

CROW, WILLIAM NORMAN, B.A.Cantab., M.B., Ch.B.Edin., Senior Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.
Proposed by Drs. D. N. Parfitt, C. Rutherford and H. G. Bogle.

https://doi.org/10.1192/S0368315X47246261 Published online by Cambridge University Press

DAVIDSON, ESTHER ALICE, M.B., Ch.B., D.P.M., Senior Assistant Medical Officer, Bangour Mental Hospital, near Broxburn, W. Lothian.
Proposed by Drs. W. M. McAlister, C. A. Critchlow and E. J. C. Hewitt.

DUFFES, GEORGE RICHARD, M.B., Ch.B.Edin., Assistant Medical Officer, Lanark District Asylum, Hartwood, Shotts.
Proposed by Drs. W. N. J. Chapman, R. Good and J. McComb.

ELLIS, ARCHIE SAMUEL, M.B., B.S.Melb., D.P.M.Lond., Temporary Medical Officer, Napsbury Hospital, near St. Albans, Herts; c/o National Bank of Australia, Ltd., Australia House, Strand, London, W.C. 2.
Proposed by Drs. S. A. MacKeith, C. E. Roachsmith and R. D. Newton.

JENNINGS, HENRY BRIAN NAPIER, M.B., Ch.B., D.R.C.O.G., D.P.M., Assistant Medical Officer, Brentwood Mental Hospital, Essex.
Proposed by Drs. R. B. Morton, G. S. Nightingale and N. Copeland.

LASSALLE, FRANK GERALD, L.R.C.S., L.R.C.P.Edin., L.R.F.P.&S.Glasg., Assistant Medical Officer, Edinburgh District Asylum, Bangour Hospital, Broxburn, W. Lothian.
Proposed by Drs. W. M. McAlister, C. A. Critchlow and E. J. C. Hewitt.

REES, MARY ISABEL HEMINGWAY, M.B., Ch.B.Edin., M.R.C.S., L.R.C.P., 116, Bickenhall Mansions, Baker Street, London, W. 1.
Proposed by Drs. J. D. W. Pearce, J. Rickman and J. Bowlby.

ROSENFIELD, HERBERT ALEXANDER, M.D.Munich, L.R.C.P., L.R.C.S.Edin., 32, Vernon Court, Hendon Way, London, N.W. 2.
Proposed by Drs. W. C. M. Scott, J. Rickman and D. W. Winnicott.

SHAPIRO, ALEXANDER, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Medical Officer, Middlesex Colony, Shenley, Herts.
Proposed by Drs. E. D. Taylar, S. A. MacKeith and C. E. Roachsmith.

Re-election of an Ordinary Member:

SHERIDAN, ALFRED, L.R.C.P.&S.Ireland, Resident Medical Superintendent, District Mental Hospital, Castlebar, Eire.
Proposed by Drs. J. Kearney, K. K. Drury and A. Walk.

REPORT OF THE COUNCIL.

The HON. GENERAL SECRETARY (Dr. K. K. Drury) presented the Report of the Council as follows:

Dr. Arthur Finegan, who retired from the Medical Superintendency of the Mullingar Hospital in the year 1906, made a deed in memory of his wife giving the annual interest on a sum of money to be presented to the nurse from Mullingar Hospital who attained the highest marks in the R.M.P.A. Examinations. As the R.M.P.A. Examinations were no longer held at this hospital he had asked the Association to allow him to change the terms of the Deed so that the Prize might go to the nurse from that hospital obtaining the highest marks in the State examinations. To this the Council had agreed.

The Council heard with regret that the supply of paper for the *Journal* had again failed, but the Editors hoped to be able to issue the April number of the *Journal* at an early date.

The Council heard with regret of the serious illness of Dr. Colin McDowall and of his consequent retirement from the position of Secretary of the Library Committee. It was proposed to ask at the Annual Meeting for a grant of £100 for the Library for this year for general purposes, and also a further sum of £100 to cover abnormal expenses. It was hoped to increase further the usefulness of the Library.

The Parliamentary Committee had passed a resolution viewing with alarm the multiplicity of bodies arranging salaries, wages and conditions of service in the mental hospital world and the Council were making representations on this matter.

The Curtis Report was discussed, and a letter is being sent to the Minister and to the Secretary of State for Scotland, stating the willingness of the Association to help to the utmost of their powers in these matters.

The representatives on the Negotiating Committee gave an account of their stewardship, but as the Sub-Committee had not yet reported to the parent body

https://doi.org/10.1192/S0368315X47246261 Published online by Cambridge University Press

the matters were still in a confidential stage. It might be said that satisfactory progress had been achieved.

The Annual Meeting would be held at Eastbourne under the Presidency of Dr. MASEFIELD from Wednesday to Friday, 9 to 11 July, with the committees' meeting on Tuesday, 8 July. It was hoped to hold the Autumn Quarterly Meeting on 12 and 13 November in London.

A large party of members had accepted the invitation of the Dutch Society of Neurology and Psychiatry to visit Amsterdam in June. The Council had been informed that an International Congress of Psychiatry would be held in Paris in 1949, and the Association had been asked to send a representative to the preliminary discussions on the programme.

Agreement had been reached with the Joint Nursing and Midwives' Council of Northern Ireland on the handing over of the R.M.P.A. examinations in that area. The agreement was most satisfactory, and was on the lines already reached with the General Nursing Council for England and Wales.

Dr. DRURY moved the adoption of the Report, which was seconded and *carried*.

PAPERS AND DISCUSSION.

" Pre-frontal Leucotomy : Effect on Creative Personality," by E. L. HUTTON, M.B., B.S., D.P.M., and Mrs. BASSETT.

Dr. HUTTON : A great part of the experimental work on which this paper is based has been and is being done by Mrs. Bassett here at Barnwood House. Owing to the nature of the material we cannot demonstrate much of it in the hall, but for any interested, a great deal is on exhibition in the Psychological Laboratory.

The following took part in the discussion : Drs. COLEMAN, MCINNES, FITZGERALD, PETRIE, BRODY, POOL, MACLAY and GARMANY.

" Urethral Smears in Mental Disorder," by R. SESSIONS HODGE, M.R.C.S., L.R.C.P., and Y. GOLLA.

Dr. SESSIONS HODGE : There are two points about this paper which I should like to make—first that it is extremely short, and second, it is an example of what can be discussed in these days of co-operative research. There are no less than four authors ; Miss Golla has done the microscopic work, Dr. Jackson and Dr. Owen George of Gloucester Mental Hospital have taken the major portion of the smears, and it is only through the kindness of Dr. Logan of Gloucester and Dr. Bailey of Tone Vale Hospital that the majority of these investigations have been made. The following took part in the discussion : Drs. BAILEY, PETRIE and POOL.

" Demonstration of Simultaneous Recording of Speech and Emotional Reaction in Pre-frontal Leucotomy and Other Cases," by Professor F. L. GOLLA, M.D., F.R.C.P.

Professor GOLLA said that there was nothing new in the concept of recording the emotional changes in one form or another, and for a long time an endeavour had been made to take down the stories that patients told. All that was done here was to try to combine the two in an objective system so that there was a permanent record. At the same time one used a " musical " accompaniment which was operated by the patient's resistance, passing through an oscillator ; as his resistance went down, the " note " went to a higher pitch, so that one knew when his emotional state rose and when it fell. The reaction was subject to a two seconds' delay. It was proposed to overcome that by a little arrangement which would enable the worker to anticipate the emotional reaction by two seconds. Some records of two conversations had been made and would be demonstrated. The " musical " note would be heard going on in the record of the person's talk, and two seconds after his reply or whatever it was which had an emotional significance, one could hear the rise in tone which indicated that his resistance had gone down or his conductivity had gone up and he had had an emotional reaction.

Professor Golla then gave a demonstration of the apparatus recording a conversation with a patient, and the " musical " note could be clearly heard rising and falling with the rise and fall of emotion.

Dr. GREY WALTER then gave a description of electrotoposcopy, which was later demonstrated with other apparatus in the Laboratories at Barnwood House.

https://doi.org/10.1192/S0368315X47246261 Published online by Cambridge University Press

"Electro-Toposcopy": An experimental instrument for the study of electrical brain activity displayed on a spacial co-ordinate system.

"A scheme of lines and nodal points, gathered together at one end into a great ravelled knot, the brain, and at the other trailing off to a sort of stalk, the spinal cord. Imagine activity in this shown by little points of light. Of these some stationary flash rhythmically, faster or slower. Others are travelling points streaming in serial lines at various speeds. The rhythmic stationary lights lie at the nodes. The nodes are both goals whither converge, and junctions whence diverge, the lines of travelling lights. Suppose we choose the hour of deep sleep. Then only in some sparse and out-of-the-way places are nodes flashing and trains of light points running. The great knotted headpiece lies for the most part quite dark. Occasionally at places in it lighted points flash or move but soon subside."

"Should we continue to watch the scheme we should observe after a time an impressive change which suddenly accrues. In the great head end which had been mostly darkness spring up myriads of lights, as though activity from one of these local places suddenly spread far and wide. The great topmost sheet of the mass, where hardly a light had twinkled or moved, becomes now a sparkling field of rhythmic flashing points with trains of travelling sparks hurrying hither and thither. It is as if the milky way entered upon some cosmic dance. Swiftly the head mass becomes an enchanted loom where millions of flashing shuttles weave a dissolving pattern, always a meaningful pattern though never an abiding one. The brain is waking and with it the mind is returning."

This quotation from Sherrington presents a view of central nervous function still somewhat neglected. The difficulty is that all EEG records are displayed as changes of voltage with respect to time. This is only one parameter and not necessarily the most important one. In most EEG studies several recording channels are used to display the activity from different parts of the brain simultaneously, but there is a limit to the number of channels which can be conveniently employed. The limit is set both by expense and by the psychological factors involved in reading the records; it is tiresome to interpret a record containing more than six traces, particularly when an analysis and signal marks are superimposed thereon. It is found, in fact, that the attention given to each trace diminishes rapidly when the number of traces to be examined is above four, but the importance of the information in each trace does not diminish in the same way, and indeed, considering that the brain contains 10,000,000,000 cells it seems rather childish to attempt to study it with so few recorders.

The dilemma can only be resolved by considering what other parameters must be taken into account. One has to acknowledge that at present no system is capable of displaying the variations in respect of time and those in respect of space simultaneously with comparable resolving power, and an attempt has been made to provide a different sort of display system in which the voltage changes are exhibited in relation to their place of origin, instead of as a function of time.

The apparatus exhibited is extremely crude, and uses very simple scanning systems rather comparable with those used in the earliest television receivers. If this experimental equipment turns out to be useful in practice, the arrangement can be very greatly inproved by the application of modern television and radar techniques.

In this experimental model 12 recording channels are used. Each channel consists of a 2-stage balanced amplifier similar to the pre-amplifier of a conventional EEG apparatus, but constructed on novel principles to permit cheap and rapid construction of a large number of channels. The outputs from these pre-amplifiers are fed to the contacts of a motor driven scanning switch, the rotors of which are connected to a modulation amplifier which varies the brilliance of the beam in a cathode ray oscilloscope. This modulation amplifier is therefore connected in turn to the various pre-amplifiers, and the brilliance of the spot as seen on the screen depends upon the output from each amplifier; thus the spot appears to flicker at the frequency of the signal from the brain. Another section of the same scanning switch is used to move the spot across the screen in synchrony with the scanning of the pre-amplifiers, so that when the modulation amplifier is connected, for example, to Channel I, the spot appears on the screen in a position equivalent to that occupied by the electrodes of Channel I on the head of the

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subject. The switch is rotated at about 1,000 r.p.m. and the whole scanning process is repeated four times in each revolution, so that the complete picture is repeated about 65 times per second. At this speed the flicker due to the intermittent contacts is invisible, provided that the switch is reasonably clean and carefully adjusted. The present model is rather unsatisfactory in this respect, since the switch used was not constructed specially for this function. The whole pattern on the screen accordingly resembles the outline of the head, upon which appear flickering lights, which represent the voltage changes in the brain correctly displayed in relation to their position.

Since only 12 channels are in use the pattern is still greatly over-simplified as compared with the true state of affairs, but it does seem to permit observation of local function in a satisfactory manner, and gives the observer a rather better idea of the inter-relations of the various areas than does a conventional recorder. It has the advantage that no recording material is used, but the screen can of course be photographed continuously, or at suitable intervals, and a conventional EEG can also be taken at any time when the experimenter notices that something of interest is going on.

The judgment of frequency of the flickering spots is not very accurate, but a photo-electric cell of the miniature type can be used to view either the whole screen or any part of it, and the output from this photo-cell can be taken to a recording equipment and analyser, thus permitting frequency analysis at the same time as a topographic display. A further refinement is that the system can include a tuned element similar to those used in the analyser, and in this way any given frequency can be selected to the exclusion of all others. Only components at the selected frequency will then appear on the screen, and by manipulation of the tuning dial the various modes of activity can be tuned in at the same time as their location is observed.

There is no reason why the number of channels should not be greatly increased, but a limit is set by the minimum inter-electrode distance which can be used on the head. This would limit the number of channels to about twice the present number for each hemisphere, giving a total of 48 for the whole head. The present scanning system is bi-polar, giving fair location accuracy, but other scanning systems are possible and their various advantages will be investigated. Unipolar electrode systems and scanning would be simpler but are untrustworthy in principle, since no indifferent reference electrode can be placed on the head. Inter-channel phase discriminating scanning is another possibility, and this gives the best location accuracy, and may turn out the more trustworthy system.

The PRESIDENT thanked Professor Golla and Dr. Grey Walter for bringing their original investigations to the Association and showing this pioneer work.

LUNCHEON.

A Luncheon was held at the Bell Hotel, Gloucester, at the invitation of the Barnwood House Committee.

After the Loyal Toast, Mr. CROOME (Chairman, Barnwood House Committee) said that his first word would certainly be to discharge the duty which had been laid upon him by the Committee of Barnwood House, to welcome the Association and say how pleased they were to have the Association as their guests. He hoped the members would feel that the Governing Body of a registered mental hospital was an appropriate host, because that body did feel that it was in a degree partners in the work of research. It had felt that nowhere better than in a mental hospital where the results of labours could be applied could the value and importance of such work be better appreciated. Barnwood House Committee felt—and he did not doubt that in every other mental hospital to-day there was the same feeling—that it was the business and work of a hospital to engage in research with a view to determining the nature and the causes of mental illness and disturbance, as well as to engage in the care and reception of patients. That work was begun at Barnwood House many years ago, at the time when insulin shock treatment was first introduced. Immediately before the last war there was an increase in the development of research in conjunction with the Burden Neurological Institute, Bristol, and it was immediately after the outbreak of war in September, 1939, that the very first electric shock treatment used in England was administered to

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a patient in Barnwood House with apparatus devised and made at the Burden Institute. It was at the close of 1940 that the first operation for prefrontal leucotomy was performed in this country, again at the Burden Neurological Institute, and it was only in April, 1941, that the first patient at Barnwood House was treated by that same operation and it had been in regular and constant use ever since. It had brought the most gratifying and satisfactory results.

In that same year it was decided to make research work into mental problems an integral part of the hospital's work, and a research department, with the necessary laboratories, had been established. Dr. Meyer, who had been evicted from his own country by political circumstances, took charge and the work produced most promising results. The war put a stop to that and recalled Dr. Meyer to London, but immediately the war was over the research department was reopened in the closest co-operation with the Burden Neurological Institute. Dr. Ashby was in charge, and it was hoped through this research department to link up the mental research problems of those mental hospitals which lay in the northern part of the South-Western Division of the Association.

He wished to pay the most grateful tribute to that Institute in general and to Professor Golla in particular for the unceasing kindly encouragement and help which he had afforded to Barnwood House in every research problem. It was believed that research into these mental problems, carried on in the closest association with the care and treatment of patients, was both the duty of a hospital such as Barnwood House, and the course which offered the fairest prospect of solution of both aspects of the problems of research and treatment.

The PRESIDENT said that it was a great pleasure and privilege to acknowledge the very cordial greeting which Mr. Croome had given the Association. He had given an interesting and inspiring historical summary of the developments which had taken place in Gloucester during the past few years. When Mr. Croome mentioned the history of Barnwood House he was reminded that he would go back just a shade further than Mr. Croome, and remind the members that in Gloucester in 1841 Dr. Samuel Hitch, the superintendent of the Gloucester Mental Hospital, founded the Royal Medico-Psychological Association, so that there was not merely a link with the past in Gloucester, but a development now whereby these recent methods of treatment were proven successful. He would congratulate Dr. Fleming and Professor Golla on having instituted in this part of the world a form of medical work and practice which would go forward very much further in the years to come.

He would wish to express to Mr. Croome and to his board of management the members' very sincere thanks for the most hospitable way in which they had been entertained, and he would again say that Mr. Croome and men like him were of inestimable help to those who were attempting to carry on this very specialized branch of medical work.

" The Existence of Critical Levels for the Actions of Hormones and Enzymes with Some Therapeutic Applications," by W. R. ASHBY, M.D., D.P.M. (see p. 733).

DISCUSSION.

The PRESIDENT thanked Dr. Ashby for his paper, which had put not merely the effect of care on patients but also the research aspects of their work very much in front of them, and the correlation of the research aspects with the ordinary problems of care and treatment were matters on which Dr. Ashby had touched very pertinently. He had made suggestions with regard to aetiology and possible implications of treatment by a study of brain metabolism, which to those who were biologically minded should be stimulating and helpful. He would thank him for the paper and for the very suggestive statements which he had made.

Professor F. L. GOLLA wished to add his congratulations to those of the President. They were all grateful to Dr. Ashby for his novel approach to some problems which had proved some of the most difficult in physiology. It was many years ago when they were first exercised as to why a very small dose of a drug would cause an opposed action on the blood system to that of a large dose; with one there was constriction, with the other dilatation. In 1912 one saw the exact reversal on the musculature depending entirely on the state of the organ. Right away through there had been this curious action of drugs, and it had been very illuminating to

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listen to Dr. Ashby because he had given some clue as to why it happened in the catastrophic way it did. It was almost a sort of quantum action in biochemistry. It was particularly interesting because there was such a lot of loose talk in endocrinology. It was said that the pituitary gland did so and so, but if Dr. Ashby's paper had been followed one should be able to say why, and one would be able to predict what would be the best and most appropriate circumstances for its action.

Dr. PICKWORTH wished to congratulate Dr. Ashby for showing so clearly what happened with regard to the enzymes, and to ask whether he would suggest that the taking of vitamins in enormous doses was wrong. What relation had receptors to the enzyme mechanisms he put forward? One heard a lot about receptors for enzymes, and he would be very interested if there was any connection if Dr. Ashby could explain it.

Dr. ASHBY replied that with regard to the question of large doses, his view was that if it worked that was the last word on the subject. It was the therapist who said who should or should not have a large dose. Often the enzymes worked deep down in the cell, and of the total dose given only the smallest fraction reached the place where it worked, so that the large doses given in many cases were simply compensatory to the enormous loss in getting enzymes to the place where they worked.

With regard to the relation of the receptors to the enzymes, there were many very suggestive developments going along apart from the question of acetylcholine and its production of a nervous impulse, but one was not in a position to say anything more definite except that these things would develop shortly.

Discussion on Electro-Convulsion Therapy.

Professor F. GOLLA: I really feel that I should usurp the duties of our President and say that the subject is now open for discussion, for all that I have to say is that it is open to discussion. I do not pretend to have any settled views on the matter at all, but it may be a little useful if I recall some of the problems with which we are called to deal. It is, I suppose, clear to all of us that we are not to presume to discuss the efficacy of electro-convulsion therapy; we do not want to talk about the number of cures or the type of patient we can cure with it. What we are concerned with is how it acts, and I think that we cannot take electro-convulsion therapy as a single method of treatment and consider it alone. The most hopeful way of looking at it will be to say that a certain number of procedures which alter physically the body have been found to be useful and to have an immediate effect in mental disorders, and among those procedures we can go back to the old ones. Our ancestors used to flog people; they did not do it out of cruelty, but they found a certain number of people got better with treatment of that sort.

Milder days have come: we find the Americans administering huge doses of sodium amytal, or giving for 5 minutes, 10 minutes, 15 minutes, inhalations of CO_2. Then we have various forms of fever treatment; both seemed to result in remissions. In the old days one knew that remissions occurred. At the beginning of the last war it became fashionable to attempt intensive fever therapy, and, again, there were not wanting a large number of undoubted remissions following the treatment. Then one came to the period when insulin therapy was introduced, and there one has a much more profound effect. Then we came to the cardiozol therapy, and all the various other drugs associated with that form of treatment. One came a little further, but before we go on to electro-convulsion therapy, let me take you to another form of physical therapy, where we inject sodium amytal, and there is a complete remission lasting possibly the rest of the afternoon.

Then we come to the electro-convulsion therapy. If we think about it we should find one factor in all these treatments. What can we find in common? We can ignore the communications appearing in the medical press about the patients being frightened into decent and rational behaviour, and one can assume that we are dealing with a genuine physiological somatic method of treatment. Supposing that in the first instance we deal with the chemical method, the injection of sodium amytal. We know that it is a barbiturate drug, and that it primarily affects the diencephalon. If one can believe certain work that has been published by Adams —and the original is possibly hard to find because it appeared in 1940 and has not yet appeared in this country—it appears to be possible by using the correct form

https://doi.org/10.1192/S0368315X47246261 Published online by Cambridge University Press

of stimulation, that is the correct frequency and waves, to stimulate the diencephalon to produce a condition when all cortical and electrical activity ceases. Apart from that we know that they exist, that the diencephalon zone, which people have called the sleeping zone (it would be more correct to call it the waking zone) causes a man to fall asleep, and in certain forms of neoplasm we get this condition of sleep. It has always seemed to me when dropping to sleep that I am going through stages of confusion, and when one is waking one goes through the same process. If I was wakened vigorously I should become rational much more quickly than if I am left to myself. Is it simply a question that we are putting a cold sponge to the diencephalon ? Are we merely stimulating it ? Is it true to say that the schizophrenic and a great many other mental cases are in the condition of people who are asleep as far as certain of their mental functions are concerned, and is all we are doing with these forms of therapy just waking them up ?

There seems very little doubt that following sodium amytal or electrical therapy there is a stimulation of the diencephalon. I cannot go into the proofs, but they are not that we are stimulating the peripheral sympathetic system, nor the peripheral para-sympathetic system but the diencephalitic system which governs the two. There are a lot of other natural proofs. It can be pointed out that following electro-convulsive therapy we get disturbances or alterations in the endrocrine system, and it can be shown that we get increased secretion of the hormones from the pituitary body. But all that does not necessarily follow ; we have restored for the time being a state of normal conduct in a person suffering from a mental disorder. It may well be the other way round. I am told that if a woman is put to a great deal of mental stress it is not uncommon for the menstrual period to disappear. In men one knows how one can get a sterility of many of the functions, and it may be that these alterations in diencephalic activity are simple, outward and visible signs of the removal of a disturbance which is not in the encephalon but in the cortex.

Is it possible that anything we can do in the shape of producing a stimulation will alter the nutritional condition of the cortex ? There is a very little known work by Schendler in 1885, when he pointed out that in practically every case of chronic epilepsy one got a gliosis of the cortex. The work remained unnoticed for very many years but it has been alluded to again. In other words, giving a fit will produce a distinct anatomical cortical change. Is that the sort of change which will account for the improvement in these cases ?

In all these conditions of fits one gets a condition of anoxaemia. In cases of carbon monoxide poisoning the gas has no direct influence on the central nervous system ; we merely get a cortical change in the frontal lobes and in the hypothalamus, and that has been confirmed by dozens of people, including the celebrated histologist who used to work in this hospital, Dr. Meyer. It can be accepted that one does get what seems to be an irreversible change following the production of fits either by cardiozol or electro-convulsive therapy, and that change is uncommonly like that produced by anoxaemia.

I think in any other type of work what we should like to do would be to find out how the particular therapeutic method we are using will affect a normal person. If I want to know something about amyl nitrite I would like to try it on a normal person and observe that it causes a change in pressure ; if I wanted to try out digitalis or strychnine I should do the same. In psychiatry with convulsive therapy we cannot, at least we have not been able to say what was the effect of electro-convulsive therapy, or any form of convulsive therapy on the mental condition of a normal person, and yet we know that it does improve the condition of a person who is mentally unsound. It is a grave lacuna in our knowledge, and there is nothing we want so much as some psychological investigations, such as we have in our leucotomy cases, into the psychological condition following an epileptic fit in a normal person. In numbers of these people we find a defect of memory, and if it is followed further, sometimes we find it is irreversible, sometimes it is temporary.

My mind is perfectly open. At one time I see it in terms of the cortex, sometimes in the diencephalon, sometimes in biochemical terms, but the subject is open to discussion.

The PRESIDENT thanked Professor Golla for his exposition of the problem of where they were going in their present work. It was not a problem of considering the clinical aspect, but they should wonder all the time how and why the methods

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they were producing were producing the results they were getting. When he was assistant physician with Dr. Oswald, Dr. Oswald would say, "What these patients want is a good shaking up," and he would give them a very forcible shaking up and they would say they felt very much better. They got a good shaking, but whether it was the diencephalon or the cortex or what part of the brain was affected it was difficult to appreciate and understand.

Professor Golla had brought forward many interesting queries, and the President was particularly glad that he had stressed the fact that it was certainly not only one factor but a multiplicity of factors, and that it was not merely the electric shock but it was what it was in combination with other things. That might be the important answer to the question and he would agree that they had yet to try to find in all these methods some sort of common basis whereby they could come to some more accurate formulation.

The following took part in the discussion that followed—Drs. BIERER, FITZGERALD, MCINNES, PATERSON, PICKWORTH and STERN.

The PRESIDENT said that it had been interesting to have had the mechanistic and physiological concepts, on the one hand, associated with the psychological interpretation on the other, which did not rule out the physiological interpretation. It was interesting to think that these two points of view contrasted, and it threw up again the different lines of thought, the different ways in which members should have a chance of free discussion in regard to these problems.

Before bringing the meeting to a conclusion he would like to say how grateful were the members to Dr. Fleming and to the Chairman and Managers of Barnwood House for the very kind way in which the meetings had been arranged and which made their visit so enjoyable. While he said that to Dr. Fleming on behalf of the Association, he would like Dr. Fleming particularly to convey to the Matron and her staff the grateful thanks of the Association for the refreshments which had been provided for their bodily comfort.

SOUTH-EASTERN DIVISION.

A MEETING of the South-Eastern Division was held at the Tavistock Clinic and Institute for Human Relations, 2, Beaumont Street, W. 1, on 26 October, 1946.

There were present 72 members and 29 visitors.

The Minutes of the previous meeting were read and confirmed, and the Report of the Divisional Committee of Management received.

The following new members were elected :

EDWARD ARMSTRONG BENNET, *M.C.*, M.A., M.D., D.Sc., D.P.M., Psychiatrist, West End Hospital for Nervous Diseases ; Consulting Physician, Tavistock Clinic ; Lecturer in Psychological Medicine, Trinity College, Dublin University ; 99, Harley Street, London, W. 1.

Proposed by Drs. J. R. Rees, M. B. Wright and J. Rickman.

HENRY VICTOR DICKS, M.A., M.D.Cantab., M.R.C.P.Lond. M.R.C.S.Eng., Physician and Director of Studies, Tavistock Clinic, London ; Professor-Designate of Psychiatry, Leeds University ; 30*a*, Wimpole Street, London, W. 1.

Proposed by Drs. J. R. Rees, M. B. Wright and J. Bowlby.

GUSTAVE CHARLES HELLER, M.D.Prague, Capt. *R.A.M.C.*, Registrar, Sutton Emergency Hospital, Sutton, Surrey.

Proposed by Drs. Maxwell Jones, M. N. Pai and H. J. Shorvon.

NORMAN CRICHTON HORNE, M.B., B.S., L.R.C.P., M.R.C.S., Assistant Medical Officer, Hill End Hospital and Clinic, St. Albans ; The Shrubbery, Hill End, St. Albans, Herts.

Proposed by Drs. W. J. T. Kimber, E. D. T. Roberts and K. M. Webster.

DORIS MARJORIE HOWARD, B.A., L.M.S.S.A., 10, Wheatley Street, New Cavendish Street, London, W. 1.

Proposed by Drs. A. Maberly, J. F. Wilde and G. Calver.

HUGH ARTHUR SANDIFORD, *M.C.*, M.B., Ch.B., D.P.H., Medical Director, Ex-Services Welfare Society, London ; 4, Cardinal Mansions, Carlisle Place, London, S.W. 1.

Proposed by Drs. J. R. Rees, K. Soddy and J. J. M. Jacobs.

https://doi.org/10.1192/S0368315X47246261 Published online by Cambridge University Press