

that trained observers, notably medical men, suffering from advancing cataract or from degeneration in the macular region, should make periodical subjective drawings which might prove to be of considerable value to ophthalmologists.

BRONCHOSCOPY IN SUPPURATIVE LESIONS OF THE LUNG.

As a pioneer in the science and art of bronchoscopy Dr. Chevalier Jackson has greatly advanced the scientific study of suppurative lesions of the lung, while perfecting the technique of clearing the way to promote their healing. Speaking at a general meeting of Fellows of the Royal Society of Medicine on Oct. 14th he gave it as his opinion that as long as drainage and ventilation were good the lung could resist any infection reaching it by way of the air passages, and that bronchial obstruction was the primary factor in every case of lung suppuration arising by this route. A foreign body is, of course, not necessarily responsible for the obstruction, although Dr. Jackson's reputation has given him unequalled opportunities, of which he has made full use, of detecting and extracting these. Obstruction by viscid sputum in asthmatic patients he finds to be a common cause, and believes that, in many cases diagnosed as asthma, the air-hunger is due to such obstruction and can be relieved by aspiration through the bronchoscope. This highly viscous sputum invalidates the two chief protective agents of the lung—the effective cough and the movement of the cilia. The plug of purulent sputum prevents air from entering to expel it from below, and the cilia, like bees in honey, are clogged and helpless. At this point Dr. Jackson believes a plumber is required to clear the tubes. The extraordinary valve action of certain obstructions was illustrated by a cinematograph projection of some of his diagrams. For example, a pedunculated growth at the junction of the bronchi to the upper and lower lobes was moved by the currents of air in such a way that during inspiration the lower bronchus was occluded, and during expiration the upper. In this way air entered the upper lobe but had no means of escape, while the lower lobe was pumped empty by expiration, but had no means of filling again; as a result emphysema supervened in the upper lobe and atelectasis in the lower, until bronchoscopy revealed the cause of the trouble. A small patch of chronic inflammation in a bronchus may act as an obstruction both by a reduction in calibre of the air channel from granulation tissue and by inhibition of the ciliary action. Stagnation occurs behind the lesion, and an occasional aspiration with the removal of granulations is apparently sufficient to maintain the patient in health. Among his most interesting results Dr. Jackson includes the cure of lung abscesses by repeated aspiration, the number of times which the aspiration was performed reaching 78 in one case. The patient in question insisted on this extreme perseverance, in the face of Dr. Jackson's contrary opinion, and proved by his recovery that he knew where his best hope lay. In other cases, however, three or four aspirations were sufficient to restore to the lung its defensive power, and to make the cough effective once more. The removal of stagnating pus inevitably benefits both the local and the general condition. Another type of case in which bronchoscopy has been of value is that of post-operative massive collapse of the lung, due to an obstructive atelectasis. If the secretion is pumped out the danger of sub-

sequent suppuration is avoided at the outset. Among causes of obstruction other than pins and nuts, Dr. Jackson includes in his experience actinomycosis and blastomycosis, primary tuberculosis of the bronchus without lesions in the lung, portions of bone from operative procedures in the nose and mouth, and fragments of badly tempered instruments. He also finds that on occasion sputum obtained from the bottom of a cavity by aspiration will contain the causative organism of the lesion when the expectorated sputum is sterile. On more than one occasion he has discovered spirochaetosis of the lungs in this way, with the result that the use of antisyphilitic remedies gave a complete cure of a previously chronic condition. In a short moving picture Dr. Jackson was able to demonstrate the technique of bronchoscopy with the aspiration of pus, injection of antiseptic agents, and, in one case, the dilatation of a stricture of a bronchus by bougies. No general anaesthetic was used for any of these procedures, which occupied only a few minutes; cocaine was used to anaesthetise the pharynx and larynx during the introduction of the instrument. A series of lantern slides of the conditions described illustrated the remarkably good results obtained by Dr. Jackson by the use of the bronchoscope, particularly in the aspiration of lung abscesses.

MESCALISM.

WITHIN the past two or three years the alkaloid mescaline sulphate has been increasingly used as a drug. According to Dr. Macdonald Critchley, who lectured this week to the Society for the Study of Inebriety and Drug Addiction, measures have been necessary to check the importation of the drug and to limit its sale. The use of this alkaloid has indeed, he said, become almost a cult, by reason of its peculiar pharmacological effects. It is neither an euphoric, like cocaine and heroin, nor an exhilarant, but it possesses in unequalled manner hallucinatory properties. No other drug, not even cannabis indica, has the power of evoking such amazing visions, which are said to be bewildering in their complexity and beauty. The existence of a mescal addiction to-day in the great cities of Europe is of interest, because the drug really belongs to the deserts of Central America, and its addiction has been for centuries the perquisite of the Mexican and American Indian. Mescal, also known as peyote or peyotl, is a cactus indigenous to the Southern States of North America and to Central America. The pharmacological action of mescaline was first investigated in 1898 by Prof. W. E. Dixon, who found that it slows the heart-rate and increases the blood pressure in small doses, and in larger amounts poisons the respiratory centre. In small vertebrate animals there is a combined excitatory and inhibitory effect upon the central and peripheral nervous systems. The chief effect in man, however, is upon the visual and psychovisual areas of the cerebrum, and in a few years much work has been done, particularly in Germany, upon this aspect of the drug. Mescal intoxication shows itself in a state of prolonged visual hallucinosis, accompanied by vertigo, headache, nausea, confusion of thought, distorted vision, and profound disorientation in time. Dr. Critchley and a colleague, Dr. Ferguson, experimented with 0.2 g. of mescaline sulphate, and it is on these subjective experiences that his account of the visual phenomena was founded. Visions began to appear within 25 minutes after ingestion of the drug. At first they were simple in pattern and colouring, and were visible only with the eyes shut.

Later they became more complicated; they no longer comprised geometrical designs, but took on three-dimensional form, appearing as figures and scenes, all most brilliantly illuminated and coloured, and all changing with the utmost rapidity. The hallucinations now became apparent with the eyes open, though never to the same extent as when the eyes were closed. This bewildering state of hallucinosis reached its maximum in about 90 minutes, and persisted at this level for many hours. The visions did not entirely disappear for 24 hours. He described some of the visions in the words of the subject:—

“Yellow specks dotted upon a black background . . . they are becoming larger and more numerous, and are forming a pattern. Red is now the most prominent colour; the arrangement is like a carpet, consisting in concentric rectangles, dark-red, salmon-pink, blue-golden, and so on. Large white specks dart rapidly in from the periphery on to the carpet, like bright silver coins pouring into the centre—or else like white streaks of lightning. Everything is now moving; the carpet design is breaking up and gives place to a mass of bright spangles dancing rapidly all over the picture. . . .”

Later “. . . A meadow with buttercups and daisies; now it is changing into a stereotyped park, with a bandstand and with chairs, each one of which is whizzing rapidly round on its own axis. Butterflies are coming in from all sides; the bandstand has disappeared. The butterflies all collect into the centre and arrange themselves into a circular, brightly coloured flower-bed, rotating rapidly in a clockwise direction, in a most wonderful manner . . . now a huge field of primroses . . . a complicated pattern like Hampton Court maze, brightly coloured with objects moving quickly in a snake-like, sinuous fashion along the apparently endless pathways of the maze.”

Speaking of the hallucinations themselves Dr. Critchley quoted the observations of Klüver that certain form-constants often recur, such as spirals, cones, lattice-work, geometrical figures, carpet-like patterns, and so on. The visions are always brightly coloured; no one tint preponderates. Sometimes colours are said to be present which have no earthly counterpart, and are consequently indescribable. A striking feature is the dazzling brightness of many of the hallucinations, which seem to be illuminated from within. The influence of suggestion upon the pattern or content of the hallucination is usually slight or non-existent; one cannot evoke a particular scene merely by effort of will. A particular feature—also pointed out by Klüver—lies in the frequent incompleteness of the visions, this quality being known as the “*presque vu*” phenomenon. The usual emotional content of the hallucinosis is described as one of amazement, awe, interest, and delight. Almost all writers have insisted that the most skilful pen or brush could not do justice to the marvel of the hallucinations. Metamorphosis or changes in appearance of external objects frequently occurs, the objects appearing too big or too small, or there may be an exaltation of stereoscopic vision so that details and minutiae are strikingly enhanced. Newspapers, pictures, floors may look like relief-maps. Havelock Ellis said that “matting on the floor showed a very rich texture, thick and felted, and seemed to rise in little waves.” Changes may occur in other sense fields. The faculties of taste, smell, and hearing may be enhanced or perverted. There may even be some intangible intermingling of the senses so that qualities of one special sense are described in terms of a different sense-faculty. The side-effects of mescal are of interest. The laboratory tests carried out at Yale by Prof. Angier have shown that mescal (1) interferes with the accuracy, precision, and steadiness of muscular movements; (2) retards visual apprehension; (3) reduces the accuracy and concentration of attention; and (4) lessens the memory of ideas. The effects of prolonged usage of

mescal is readily observed among the Indian communities. While not a dangerous drug, mescal must be regarded as habit-forming, and all writers agree that it is harmful mentally, physically, and economically. Dr. Critchley spoke of some of the problems which arise in the study of mescal hallucinosis, and to the possibilities of this drug as a deliberate instrument in psychological and neurological research. For example, a minority of individuals experience no hallucinations while under the influence of mescal; some experience a gorgeous and multicoloured pageantry, others see only a medley of geometrical shapes. The visions evoke delight and amazement in some, and depression and fear in a few. The variation is probably to be sought in the particular psychological make-up of the individual. The scope of mescal in the field of therapeutics is almost unexplored. The Indian uses this plant for every manner of ailment, and attempts have been made to introduce peyotl into American therapeutics. From time to time reports have appeared as to its efficacy in the treatment of asthma, neuralgia, rheumatism, and neurasthenia. Dr. Critchley quoted some curious results that have been recorded in the treatment of blindness in tabes. It is said to have produced a temporary but very marked enlargement in the fields of vision and an increase in the visual acuity.

Lord Amulree, the new Minister for Air, who takes his title from a place in Perthshire, is brother of Sir James Mackenzie, who died in 1925.

Dr. T. G. Moorhead, Regius professor of physic in the University of Dublin, has been elected President of the Royal Academy of Medicine in Ireland.

Dr. J. M. Woodburn Morison, lecturer in radiology in the University of Edinburgh, has been appointed to the first chair of radiology in the University of London.

THE Harveian Oration on the discoveries which formed the starting-point of modern biological chemistry will be delivered by Prof. J. B. Leathes, F.R.S., at 4 P.M. to-day, Saturday, at the Royal College of Physicians of London. The Bradshaw Lecture of the College on paroxysmal tachycardia will be given by Dr. W. E. Hume on Nov. 4th, and the Mitchell Lecture on indications for treatment in pulmonary tuberculosis by Dr. L. S. T. Burrell on Nov. 13th.

WE publish this week an article from Prof. Edward Hindle on the transmission of yellow fever, written for the information of the Permanent Committee of the Office International d'Hygiène Publique. This Committee is now in session in Paris, and yellow fever is among the diseases which are left to the consideration of the Paris Office under the provisions of the International Sanitary Convention, 1928.

CENTRAL ASSOCIATION FOR MENTAL WELFARE.—A Conference on Mental Welfare will be held at the British Medical Association House, Tavistock-square, London, W.C., from Dec. 11th to 13th. An opening address will be given by Mr. Arthur Greenwood, Minister of Health, and subjects of discussion will include matters relating to the Mental Treatment Act, the Mental Deficiency Acts, and school reorganisation in connexion with the education of defective or retarded children. The address of the association is 24, Buckingham Palace-road, London, S.W. 1.