

to its applications for the examination of the iridic angle, depth of the anterior chamber, depth of lesions in the eye media and the ingenious Ronne colloidometer for measuring the albumen content of the aqueous. Mr. C. S. Flick set the question: Do routines and techniques for the measurement of refractive error matter? A set of four typical routines included one which was typically American—a twenty-one point technique with standardized analysis—which led to extensive discussion.

Prof. H. Hartridge provided a fascinating introductory study of the development of X-ray techniques for determining the actual length of the living eye (Rushton, Sorsby and O'Connor) and the Goldmann-Hagen modification for measuring refraction. This led to the development of the main topic of his lecture, the cause of refractive error. Five or six theories were passed under review to explain the normal tendency of eyes so commonly hypermetropic at birth to settle down to an approximate emmetropic condition. The X-ray technique should serve to separate the roles of axial length and of optical refraction, which hitherto was not possible.

Dr. W. S. Stiles reviewed the physics of light absorption (including finer adjustments introduced by quantum considerations) and the bleaching of visual purple. Three curves of corrected means effected a simultaneous comparison of absorption coefficients and photosensitivity of visual purple solutions and the subjective spectral sensitivity of the dark-adapted parafoveal retina. The maxima at 500 m μ all agreed; but further study is needed in order to explain the differences towards the violet side, where there appears an absorption band at about 360 m μ . The curves agree very well on the red side of the maximum, especially as regards linearity and gradient, for which a rough theory giving a good fit of gradient was elaborated. A comparison of spectral sensitivity curves of the parafoveal rod vision and of the foveal cone vision shows, besides the Purkinje shift, a significant gradient difference on the red side of the maximum. This will require explanation in any future photochemical theory of vision.

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ELASTICITY OF WOOD AND PLYWOOD

SPECIAL REPORT No. 7, issued by the Forest Products Research Laboratory (London: H.M. Stationery Office, 1948. 2s. net), summarizes the available information on a piece of important research undertaken on the "Elasticity of Wood and Plywood". The work and results embodied in the report are said to be mainly for the designer and the research worker. The forest officer might also have been included, since on the work of the silviculturist all 'wood' of the future, whatsoever its type, may be said to depend, with the exhaustion of Nature's resources.

The theory of wood elasticity rests on the assumption that the gross material possesses three perpendicular planes of elastic symmetry, and that it is perfectly elastic and homogeneous. A point which needs emphasis at the outset is that wood is actually only an approximation to this ideal material. The longitudinal tangential surface (the surface generated by a line parallel to the axis of the tree and moving along the growth rings) is not plane, but

roughly cylindrical. The other two principal surfaces, the longitudinal-radial (defined by the axis of the tree and the medullary rays) and the tangential-radial, are more truly plane; but even in these cases there will be some deviation owing to local irregularities in the growth of the tree. This is where the silviculturist comes in. "The extent to which any actual specimen departs from the ideal material will depend not only on the regularity of the growth but also on the position of the specimen in the tree."

The report is intended chiefly as a summary of knowledge known, but it contains a number of new results, some obtained in America and Australia during the Second World War, here published for the first time. The first part of the report is entitled the "Elastic Constants of Wood"; it deals with the measurement of the nine independent elastic constants of wood and the effect on them of factors such as temperature, moisture content and grain angle. The second part deals with the elastic constants of plywood. The manner in which they are related to the form of construction of the plywood and to the elastic constants of the wood from which the plywood is made is explained.

Under the heading of "The Properties of Plywood Plates and Cylinders", the third part deals with the frequency of vibration, the buckling and deflexion of plywood plates and the buckling of plywood cylinders.

INTERNATIONAL SCIENTIFIC FILM ASSOCIATION SECOND ANNUAL CONGRESS

THE most important outcome of the annual congress of the International Scientific Film Association held in London during October 4-11, 1948, has been the formation of a number of international commissions to pursue in detail the programme of work agreed in general by the member countries for the coming year. Before discussing this programme, a few words on the Association's history may not be out of place.

The International Scientific Film Association was inaugurated last year in Paris, largely as a direct result of the initiative of the British and French Scientific Film Associations. The preliminary work of these two organisations, the first contact of which at the end of the War revealed many common interests, resulted in the assembly last year of representatives from twenty-two countries to discuss and agree to the formation of this international organisation to further the interests of the scientific film. Unesco, recognizing the scientific film as an important aid in the dissemination of knowledge, showed a benevolent interest in the new Association, the maintenance of which was demonstrated by the attendance again of a Unesco observer at this year's Congress.

Some twenty-five countries had accepted the invitation to the second Congress, and the number of those who finally managed to send delegates fell little short of this figure, some unfortunately failing to overcome the many obstacles with which post-war travelling is beset.

The honour of organising this year's congress was given to Great Britain, and its Scientific Film Association, assisted by financial aid from the British Film Institute, rose worthily to the occasion. A very