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References should be arranged according to the Harvard system. When a book is referred to, the place and year of publication, edition, and page should be given. In the text the year of publication must follow the author's name, more than one paper in any one year being indicated by a small letter (a, b, c) after the date. No numbering of references is necessary.

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flammability of clothing worn by some of the men.

We should like to thank all those, too numerous to mention individually, who assisted our enquiries at the collieries, and members of the Inspectorate of Mines with whom these incidents have been discussed and who gave us much useful information.

Finally, we are indebted to Mr. A. L. Schofield, Surgeon to the Plastic Surgery Centre, St. Lawrence Hospital, Chepstow, for allowing us to use details of cases admitted under his care for the purposes of this study; and to the Ministry of Power for permission to publish this paper.

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THE APRIL (1958) ISSUE

The April (1958) issue contains the following papers:—

Respiratory Function during the Day in Cotton Workers: A Study in Byssinosis. By C. B. McKerrow, M. McDermott, J. C. Gilson, and R. S. F. Schilling.

A Histological Study of the Lungs in 52 Cases of Chronic Beryllium Disease. By W. Jones Williams.

The Effect of Diamond Dust Alone and Mixed with Quartz on the Lungs of Rats. By E. J. King, M. Yoganathan, and G. Nagelschmidt.

The Prevalence of Pulmonary Tuberculosis in a Northern Transvaal Copper Mine Related to the Importance of Pre-employment Radiographs. By G. E. Dalton.

Some Preliminary Thoughts on the Human Demands of Automation. By A. T. Welford.

A Clinical Study of Beat Knee. By J. T. Watkins, T. A. Hunt, R. H. P. Fernandez, and O. P. Edmonds.

The Paradox in the Treatment of Beat Knee. By R. H. P. Fernandez.

The Sedimentation Rate and Fragility of Human Erythrocytes *in vitro* after Exposure to Lead Chloride. By T. W. Clarkson and J. E. Kench.

The Effects of Bursts of Loud Noise on a Continuous Visual Task. By M. M. Woodhead.

A Method for the Determination of Trinitrotoluene in Air. By J. Mackay, K. W. Holmes, and R. E. Wilson.

Miscellanea:

Some Enquiries into the Toxicology of Zinc Stearate. By H. E. Harding.

A Human View of a Great Port. By M. W. Goldblatt.

The British Occupational Hygiene Society.

Book Reviews.

A number of copies are still available and may be obtained from the Publishing Manager, British Medical Association, Tavistock Square, W.C.1, price 17s. 6d.

adjuvant factors of age, direct glare (ratio of the luminance of the immediate background to that of the surround or, qualitatively, the irritating direct intrusion of surround luminances into the field of vision), indirect reflected glare (reduction of visibility at the working point by intrusion of luminances from reflecting surfaces, e.g., from the work object itself or from the immediate background; determination of zones of potential indirect glare is largely a matter of geometry), choice of diffuse or direct lighting (play of shadows can produce an apparent change in visibility of solid objects), background structure or design which can diminish the visibility of objects and, finally, the colour of object or background.

The review of these aspects of seeing is given with a strongly physiological and erudite flavour, richly illustrated with graphs and diagrams taken from or adapted from the original papers. It calls for slow study with careful digestion of the meaning of each point made; the graphical method will, if this is done, be found to imprint principles in this form more readily than words.

The older view that above a certain luminance no further increase of acuity is obtainable has been known for a good many years to be in error for, given a constant contrast and sufficient visual time, two-point discrimination increases asymptotically with increase of luminance, the limiting visual angle being about 0.406 ft. at about 1,400 foot-lambert. As stated by Moon and Spencer (1944), the higher the luminance the better the vision. This proposition completes the process of correction of the findings of König in 1897 which was started by Lythgoe about 1932 and which gives the final justification of the almost obvious fact that the best illumination for visual work is daylight (up to 1,000 foot-lambert at its best).

For practical purposes the advantage gained from increases at very high luminance is very small as is readily

seen from the empirical equation $\alpha = \alpha_{\infty} \left(1 + \frac{K}{B^n} \right)^n$

when K and n are constants and α_{∞} is the limiting value of α as B , the luminance, approaches infinity. Nevertheless, the great effect of increased luminance in augmenting visual acuity in wearers of spectacles and in older workers (presbyopia and diminished size and variability of pupil) must not be overlooked.

One aspect to which we would direct the attention of medical officers is that of the time taken to recognize an object, the reciprocal of which may be called velocity of vision. The workman being quite likely, in an ordinary non-quantitative test, to give an affirmative answer without regard to the time taken to recognize the test object (i.e., to the subjective effort he will experience), it should fall to the medical examiner to make objective measurements of it in the conditions of size of object, luminance and contrast obtaining.

It is a pleasure to observe that full justice is done in this review to the outstanding work of Lythgoe and of Weston, one of the well-known nomograms constructed

by the latter being given in modified form for determining the intensity of illumination required for different percentages of maximum visibility defined by size of object, distance from the eye, visual angle, and contrast between object and background.

For those who wish to enter the more erudite fields of industrial medicine this review could serve as an introduction to one aspect of it and could stimulate the younger recruit with a research bent to adopt it. [1 foot-lambert = the objective measurable brightness of a perfect diffusing surface emitting 1 lumen per square foot. 1,000 foot-lambert = 2-1/3 candles per square inch.]

M. W. GOLDBLATT

Books Received

(Review in a later issue is not precluded by notice here of books recently received.)

Recent Outbreaks of Infectious Diseases. By S. Leff. (Pp. ix + 408. 35s.) London: H. K. Lewis. 1957.

The Index of Technical Articles, No. 2, March, 1957. (Pp. 90. Subscription £6 6s. per annum.) London: Iota Services.

Report on the Health of the Royal Air Force and the Women's Royal Air Force for the Year 1953. [Air Ministry—A.P. 3319/53.] (Pp. 91.) London: H.M. Stationery Office. 1957.

International Comparison of Unemployment Rates (reprinted from *The Measurement and Behaviour of Unemployment*, Reprint No. 86. A Report of the National Bureau of Economic Research). By Walter Galenson and Arnold Zellner. (Pp. 439-583.) Berkeley (California): Institute of Industrial Relations. 1957.

Central Mining—Rand Mines Group. Health Department Report for the Year 1956. (Pp. 24.) Johannesburg: Rand Mines Ltd. 1957.

Tata Industrial Health Refresher Course, 1956. (Pp. 19; illustrated.) Tata Industries Ltd. 1957.

Particulate Clouds: Dust, Smokes and Mists. By H. L. Green and W. R. Lane; Foreword by Sir Harold Hartley. (Pp. xix + 425; 8 plates and text figures. 70s.) London: E. & F. N. Spon. 1957.

Precancerogenesi e tumori professionali, Vol. II. By G. A. Chiurco. (Pp. xvi + 1268; illustrated. Lira 10,500.-) Rome: Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro. 1956.

Ergonomics: Human Factors in Work, Machine Control and Equipment Design, Volume I, No. 1, November, 1957. Edited by A. T. Welford. (Pp. 100; illustrated. 25s. per part; Sub.: £4 15s. per volume.) London: Taylor & Francis. 1957.

Chronic Bronchitis, Emphysema, and Cor Pulmonale. By C. H. Stuart-Harris and T. Hanley. (Pp. 252; 61 figures, some in colour. 42s.) Bristol: John Wright. 1957.