DALTONIANA

NEWSLETTER

OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

President Prof W D WRIGHT (U K)

Treasurer
Mrs J BIRCH
The City University, Northampton Square
LONDON ECW OHB (England)

General Secretary and Editor of the Newsletters
Dr G VERRIEST
Dienst Oogheelkunde, Akademisch Ziekenhuis
De Pintelaan 185 - B-9000 GENT (Belgium)
(verantw uitg)

Secretary for the Socialist Countries
Dr M MARRE
Universitäts-Augenklinik Fetscherstrasse 74
8019 DRESDEN - D D R -

Tweemaandelijks Tijdschrift

Nr. 52 - 15th september 1984.

THE LAST PAGES OF THIS ISSUE ARE TEST ILLUMINATION ENQUIRY AND THE CALL FOR PAPERS FOR THE 8TH INT. IRGCVD SYMPOSIUM IN MARSEILLES, JUNE 1985.

LITERATURE SURVEY

Anatomy and physiology of a color system in the primate visual cortex, by M.S. LIVINGSTONE and D.H. HUBEL (Dept. of Neurobiology, Harvard Medical School, Boston, Mass. 02115, USA) J. Neuroscience 4, 309-356, 1984.

This paper represents an advance in the understanding of how colour is analysed in the visual cortex. The authors report the existence of specialised regions in Area 17 within which cells do not show orientation specificity, are predominantly monocular, and are often tuned for wavelength. These electrophysiologically distinct regions (which were missed in Hubel and Wiesel's classical study of the macaque cortex) correspond to local areas ("blobs") that stain heavily for the mitochondrial enzyme, cytochrome oxidase. The blobs do not extend vertically through the full thickness of the cortex, in the manner of "columns" : rather, they occupy local areas of layers 2 and 3 of the cortex, although echoing stains can be seen in layers 4B, 5 and 6, in register with the blobs of layers 2 and 3. Within the blobs, cells have circularly symmetric receptive fields and are of three main types : "broad-band centre-surround", "red-green double-opponent", and "yellow-blue double-opponent". "Double-opponent" cells have centre-surround receptive fields : the centre has one set of colour-opponent inputs and the surround has color-opponent inputs of opposite sign. (Unfortunately, the actual chromatic properties of cells were examined only very casually in the present study, and so it is not possible to say with any certainty what pairings of cone inputs, or what axes of colour space, correspond to the pernicious terms "red-green" and "yellow-blue"). Apparently quite absent from the blobs are "colour-opponent centre-surround" (Type I) cells, which constitute the most common type in the parvocellular layers of the LGN - and which the authors now find in layer 4C of the striate cortex. Livingstone and Hubel remark on the difficulty of seeing how a double-opponent cortical cell could draw its inputs from Type I cells of the LGN; they suppose instead that a double-opponent cell draws its input from

Type II geniculate cells, which are chromatically but not spatially opponent. Wiesel and Hubel (1966) were diffident about the existence of "red-green" Type II cells, but such cells are apparently assumed by the present authors, in order to explain the "red-green" cells of the blobs.

Further experiments, in which cytochrome oxidase staining was combined with local injections of horseradish peroxidase, revealed reciprocal connections between the blobs of Area 17 and the thin stripes of cytochrome oxidase staining that are seen in Area 18. Livingstone and Hubel are led to suggest that there is a cortical system for the analysis of colour that is "parallel to and separate from" the orientation-specific system - a proposal of clear relevance to the understanding of cerebral achromatopsia.

Recording from layer 4Cα of the cortex, Livingstone and Hubel made the curious observation that all neural activity was tonically suppressed by diffuse red light, the cells being otherwise unselective for colour. A similar phenomenon is found when recordings are made from the magnocellular layers of the geniculate. Perhaps this effect underlies the strange disability of the patient described by Barvur, Ruddock and Waterfield (1979 Neuroscience Lett., 15, 307), whose spatial vision is grossly impaired in the vicinity of red stimuli and who conceivably is dependent on magnocellular layers for his vision.

Livingstone and Hubel conclude their long paper with a discussion of colour constancy and of the absence of any obvious physiological substrate for the retinex systems postulated by Land. - J.D. Mollon.

Simple-opponent receptive fields are asymmetrical : G-cone centers predominate, by Carl R. INGLING, Jr. and Eugenio MARTINEZ-URIEGAS (Div. Sensory Biophysics and Inst. Res. in Vision, The Ohio State University, Columbus, Ohio 43212, USA), J. Opt. Soc. Am. 73, 1527-1532, 1983.

For quantitative models of color vision, the R-cone contribution to the r-g channel is less than half of the R-cone contribution to the V(λ) channel. There is currently no explanation of how this different contribution of R cones to the two channels comes about. We propose an asymmetrical receptive-field arrangement to explain the difference in weighting. Because cones in receptive-field surrounds are weighted less than cones in centers, placing R cones predominantly in surrounds and G cones in centers provides a simple differential weighting mechanism. Electrophysiological and psychophysical evidence substantiates such an asymmetry of simple-opponent fields. - The Authors.

Spatial and temporal discrimination ellipsoids in color space, by C. NOORLANDER and J.J. KOENDERINK (Dept. of Med. Physiol. Physics, Physics Laboratory, State University Utrecht, Princetonplein 5, 3584 CC Utrecht, The Netherlands), J. Opt. Soc. Am. 73, 1533-1543, 1983.

Three-dimensional discrimination ellipsoids are presented for a number of representative points in color space. These ellipsoids have been obtained not with the conventional split field but with flickering grating patterns. Thus our study extends the well-known results of Brown and MacAdam (J. Opt. Soc. Am. 39, 808-813 1949) to cases in which the image is structured in space and time. As expected, we find that the discrimination ellipsoids depend on the spatiotemporal structure of the stimulus. This has potential consequences for color-difference formulas as used in industry and commerce : no single formula will do when it is important to treat patterns with different structure. We present analytical descriptions based on the Vos-Walraven (Vision Res. 12, 1327-1365, 1972) line element augmented with spatiotemporal frequency-dependent coefficients that fit our results reasonably well. For coarse grating ($\sim$1 cycle per degree) or slowly modulated field ($\sim$1 Hz) our results prove to be compatable with the results of Brown and MacAdam obtained with a bipartite 2° field. - The Authors.

Purity discrimination : successive vs. simultaneous comparison method, by K. UCHIKAWA (Dept. of Psychol. York Univ., Downsview, Ontario M3J IP3, Canada), Vision Res. 23, 53-58, 1983.

Purity discrimination thresholds (Δp) were measured with successive (SOA = 1 sec) and simultaneous (SOA = 0 sec) comparison methods for seven dominant wavelengths : 410, 480, 500, 530, 570, 600 and 650 nm. The stimulus duration was 1 sec. The Δp values with the successive comparison method were found to be about 1.5-2.0 times larger than those obtained in the simultaneous case. The degree of purity discrimination shown in this study is similar to that of wavelength discrimination deterioration previously reported (Uchikawa and Ikeda, 1981, Vision Res. 21, 591-595). Saturation shifts of stimuli with the successive comparison method were also observed : these were toward increased saturation direction for most dominant wavelenghts. - The Author.

Border distinction and tritanopic saturation (Trennlinien-Deutlichkeit und tritanopische Buntsättigung), by W. THOMA (Physiol. Inst. II der Univ., Moorenstrasse 5, 4000 Düsseldorf, B.R.D.), Die Farbe 30, 167-197, 1982.

For a trichromatic observer heterochromatic brightness matches (DV) were compared with matches which were made by using the criterion of minimally distinct border (MDB). Concerning the accuracy of measurement, reliability, and additivity the MDB-matches were much better than the DV-matches. Variations of the chromaticity have shown that there is no contribution of the blue-yellow opponent-color channel to the distinctness of the border. Corresponding to this the experimental measurement of border distinctness showed a good accordance with the tritanopic saturation function. The red-green opponent-color channel however showed a good spatial resolution, what is contradictory to certain traditional views. The derivation of the individual tritanopic saturation function of a trichromat is described using the special characteristics of an opponent-color system. - The Author.

A new method for an objective evaluation of color vision, by O.I. SHERBATOVA, A.A. KABAN, A.I. BOGOSLOVSKY, S.L. SOKOV and S.O. VASKOV, Vestnik Oftalmol. 5, 68-70, 1983.

With the help of a retinogram recorded in response to 10° red and green stimuli, rules were drawn up for correlating retinal biopotential amplitudes. The difference between these correlations in subjects with normal color vision and those with deuteranomaly and protanomaly was used as a basis for an objective method to identify deviations in color perception. Further development of this approach might help both in evaluation and understanding of the whole mechanism of color vision. - Marion Marré.

The selective impairment of the three color mechanisms (red-, green-, and blue-sensitive mechanisms) isolated by the new color campimeter in pathological eyes with fundus disease. (1). Studies of static threshold campimetry in normal subjects, by H. ABE and T. SAKAI (Dept. of Ophthalmol. Niigata Univ. School of Med., Japan), Acta Soc. Ophthalmol. Jpn. 86, 923-931, 1982.

The spectral sensitivities of the 3 color mechanisms within the 25° central visual field of normal subjects were measured by the selective adaptation method using both colored test lights and chromatic or achromatic background of a newly devised color campimeter. The test lights of 4'5, 7'5, 15', 31', 51' and 1°44' subtended angle were projected on the 25° background field. The colored test lights were obtained by interfe-

rence filters. Their peak wavelengths ranged from 380 nm to 700 nm with intervals of 20 nm. The maximum luminance value of the test light was 27,000 cd/m^2. The stimulus duration was 100 msec and the interstimulus interval was 2 sec. For the background lights, the following color filters were used : yellow with Corning 3-67, purple with Wratten 32 and blue with Corning 5-57. The luminance values were 950 cd/m^2 for the yellow background, 280 cd/m^2 for the purple, and 77 cd/m^2 for the blue one. All measurements were represented as log relative sensitivity under the equal energy conditions.

The blue-, green, and red-sensitive mechanisms with maximum sensitivity at 440, 540 and 580-600 nm were isolated. For the selective static campimetry of these three color components, the application of both colored test lights and chromatic background was better than that of colored test lights and achromatic one. The test light of 440, 540 and 580-600 nm must be projected on the bright yellow, purple and blue background respectively, for the selective campimetry of blue-, green-, and red-sensitive mechanisms. The blue-sensitive mechanism showed the maximum sensitivity at 2°-3° from fovea, a marked decline at the fovea and gradual decline toward the periphery. The green- and red-sensitive mechanism showed the maximum sensitivity at the fovea and a sharp decline toward the periphery. - Yasuo Ohta.

An analysis of Farnsworth-Munsell 100-hue test for acquired deficiency in color discrimination, by K. KITAHARA (Dept. Ophthalmol., Jikei Univ. School of Med., Japan), Jap. J. Clinic. Ophthalmol. 36, 1085-1089, 1982

The F-M 100-hue test has 85 caps and each cap has its number (n : 1, 2, ...84). The error score of each cap number is defined as the function of n. The circular diagram of the 85 hues was divided into four quadrants (I, II, III and IV). The error score of each quadrant (S_I, S_{II}, S_{III} and S_{IV}) was calculated by the moving average method using the following formulas :

$$S_I(n) = \sum_{x=0}^{21} f(n+x), \quad S_{II}(n) = \sum_{x=22}^{42} f(n+x), \quad S_{III}(n) = \sum_{x=43}^{63} f(n+x),$$

$$S_{IV}(n) = \sum_{x=64}^{84} f(n+x).$$

To evaluate the results of the test, these values were assigned to the function $A(n) : \left[\{S_I(n)+S_{III}(n)\} - \{S_{II}(n)+S_{IV}(n)\}\right]/S_T$ (total error scores). The pattern of A(n) showed sinusoidal-like alternations of approximately two cycles and the characteristics of color discrimination could be seen in the amplitude and phase responses of the pattern. - Yasuo Ohta.

The Rayleigh equation using the flicker method. (1) A preliminary study on normals, by S. YAMADE (Dept. of Ophthalmol., Shiga Univ. of Med. Science, Japan) Folia Ophthalmol. Jpn. 33, 1191-1194, 1982.

The Rayleigh equation was investigated using the flicker method. A yellow light and a mixture of red and green light were temporally alternated using polarizing filters. The intensity of the yellow light and the red-green mixture ratio were controlled as in an anomaloscope. Measurements of five normal subjects indicated that (1) determination of the Rayleigh equation point was more difficult with the flicker method than with the conventional bipartite field method and (2) that determination of the isoluminous line was reliable and easy, this method thus perhaps being useful as a new color vision test. - Yasuo Ohta.

The Rayleigh equation using the flicker method. (2) Measurement of the isoluminous line on the anomaloscope in protans and deutans, by S. YAMADE (Dept. of Ophthalmol., Shiga Univ. of Med. Science, Japan) Acta Soc. Ophthalmol. Jpn. 86, 932-936, 1982.

The measurements for 13 male normals, 8 protans, 10 deutans and 4 proto-carriers indicated that (1) with the flicker method it is easy to make brightness matching for two different colors, and therefore measuring the isoluminous line on the anomaloscope in more useful than measuring the Rayleigh equation point; (2) the isoluminous lines of normals, protans and deutans are clearly separated into three groups respectively; and (3) the results of 4 proto-carriers are distributed between those of normals and protans with no intermixture. - Yasuo Ohta.

Theorie angeborener und erworbener Farbfehlsichtigkeiten basierend auf der Struktur retinaler rezeptiver Felder (Theory of congenital and acquired colour vision deficiencies based on the structure of retinal receptive fields), by A. KRÖGER-PAULUS and W. PAULUS (Augenklinik und Neurologische Klinik der Univ. Düsseldorf, Moorenstrasse 5, D-4000 Düsseldorf 1, B.R.D.), Fortschr. Ophthalmol. 79, 476-498, 1983.

The relation between congenital and acquired colour vision deficiencies and normal colour vision can be defined by aid of the properties of the receptive fields of single retinal units. Alterations in the structure of the receptive fields in congenital dichromasies, where one of the three visual pigments is lacking, enable a differentiation to be made between these and postganglional red-green or blue-yellow channel defects with normal receptive field properties. - The Authors.

Population differences in red and green color vision deficiency : A review, and a query onselection relaxation, by Richard H. POST (Dept. Hum. Genet., Univ. of Michigan Med. School, Ann Arbor, Michigan, USA) Social Biology 29, 299-315, 1982.

Prevalence rates of red and green color deficiencies are tabulated for all the population samples found in the litterature as estimated by testing males with the Ishihara color cards. Among the lowest rates are those of the aborigines in Australia, Brazil, Fiji, and North America. The highest rates are of samples in Europe and the Far East, including Brahmins of India. Intermediary rates are of Negroes in Africa and the Americas, other groups in India, and various hybrid groups. All of the lower rates are of populations with simple or primitive cultures until recently, for which it might be assumed that color vision deficiency would be a handicap in life in the unmarked wildlands. All of the higher prevalence rates, except for three based on very small samples, are of populations which have had pastoral-agricultural economies and settled habitats for at least three millenia. It is assumed that in these habitats a colorblind person of either sex could be as successful in living and procreating as a person of normal color vision. From the above considerations the total frequency of alleles producing the red color vision deficiencies are roughly estimated to have increased from .005 to .02 in European populations during about 120 generations; the green, from .015 to .06. With the assumption that selection at both loci has been completely relaxed during this time, the net mutation rates (discounting reverse mutation) for all deficiency-producing mutant alleles at each locus are given. - The Author.

Hereditary colour vision defectiveness in the african negro (Les dyschromatopsies héréditaires chez le noir africain), par F. KIKUNDA LWESSO. Stencyled thesis of Med., Univ. of Dakar, Senegal. 126 p., 1983.

Colour vision examination in 1917 Dakar public schools negro pupils by means of the Ishihara, Panel D-15 and 100 hue tests showed a much lower total incidence in the males (2.36%) than in the caucasian males (8.61%), but about the same relative frequencies of protan and deutan defects as in the caucasians. - Guy Verriest.

A case of unilateral deuteranopia. 1. Measurement of the spectral sensitivities of the three cone mechanisms by Wald's selective adaptation method, by O. OKAJIMA, M. OKAMOTO (Dept. Ophthalmol., Fac. Med. Univ. of Tokyo) and T. OZAWA (Dept. Ophthalmol., Tokyo-Teishin Hospital, Japan) Jap. J. Clinic. Ophthalmol. 36, 1091-1095, 1982.

A 20-year-old female manifested typical findings of deuteranopia in her right eye and nearly normal color vision in her left eye. The deuteranopia in the right eye was diagnosed by pseudoisochromatic plates, 100-hue test and Nagel anomaloscope. The left eye was judged as normal by the same examinations except by the Ishihara test. Her father was deuteranopic.

Spectral sensitivities of the three cone mechanisms were measured by the Wald's selective adaptation method in normal subjects, a group of deuteranopes and both eyes of this patient.

In the deuteranopes, the spectral sensitivity of the green cone mechanism was significantly lower than in normal subjects. In the right eye of this patient, the spectral sensitivities of the three cone mechanisms were within the 95% limits of confidence of those of the deuteranopes. In the left eye of this patient, the spectral sensitivity of the green-cone mechanism was slightly reduced as compared with the normal limits. The green-cone mechanism of her left eye, therefore, was regarded to be slightly anomalous. - Yasyo Ohta.

Chromatopsia : A retrospective study, by A. PINCKERS and J.R.M. CRUYSBERG (Dept. of Ophthalmol. Univ. Nijmegen, The Netherlands) Ophthalmologica 186, 81-86, 1983.

In a retrospective study of 13 patients with complaints of chromatopsia, the history, clinical picture and theory of color adaptation suggest a relatively rapid change in color perception leading to a temporary imbalance of the color vision mechanism. Except for quickly formed absorption systems the mechanism of chromatopsia is not understood, in part because a given presumed disease condition gives rise to a variety of chromatopsias. Surprisingly the authors observed a relatively high incidence of retinal edema in subjects with color distortion. - The Authors.

Spectral color-discriminating capacity in glaucoma, by V.N. MARINCHEV Vestnik Oftalmol. 4, 12-14, 1977.

In 122 glaucomatous patients color-discrimination thresholds were investigated in 6 sections of the visible spectrum with an ACP type spectroanomaloscope. A characteristic rise in the thresholds in the outlying sectors of the spectrum. viz. the red (665nm) and the blue-violet (475-455nm) ones, was detected. The thresholds markedly increase already in the initial stage of the disease and continue to rise in parallel with the progress of the glaucomatous process. Investigations of spectral color-discriminating capacity are of a diagnostic and prognostic importance. - Marion Marré.

Ethambutol changes the color coding of carp retinal ganglion cells reversibly, by B.W. van DIJCK and H. SPEKREIJSE (Lab. Med. Physics and Netherlands Ophthalmic Res. Inst., PO Box 6411, 1005 EK Amsterdam, The Netherlands) Invest. Ophthalmol. Vis. Sci. 24, 128-133, 1983.

The influence of ethambutol on retinal function was studied by recording ganglion cell responses in isolated carp retinas superfused with a Ringer solution containing different concentrations of ethambutol (0, 10, 20 and 30 mg/liter). The results indicate that ethambutol reversibly affects color opponency, without changing the sensitivity of the underlying receptor processes. The amacrine and bipolar cells are the most likely candidates to be affected by ethambutol. - The Authors.

Sleep and the McCollough effect, by N.J. LUND and D.M. MacKAY (Dept. of Communic. Neurosci., Univ. of Keele, Staffordshire ST5 5BG, U.K.), Vision Res. 23, 903-906, 1983.

Orientation-contingent chromatic ("McCollough") aftereffects (OCCAs) were induced, under carefully standardised conditions, in subjects ring from varying degrees of sleep deprivation. The initial OCCA strength was found to vary systematically with the prior sleep pattern of the subject. In initial strength by as much as 50% no further reduction was observed with still shorter sleep durations. Keeping the eye in darkness while awake had in this respect no comparable effects to those of sleep, and sleeping in a lighted room made no difference. The results suggest tha the McCollough effect depends on a form of neural plasticity which requires a normal sleep cycle for its maintenance. - The Authors.

The chromatic Cornsweet effect, by C. WARE and W.B. COWAN (Optics Section, Division of Physics, N.R.C. Canada, Ottawa, Ontario K1A OR6 Canada), Vision Res. 23, 1075-1077, 1983.

The Cornsweet effect was measured using equiluminous chromatic gradients as well as with an achromatic gradient. The chromatic Cornsweet effect is smaller than the achromatic effect. - The Authors.

On the role of oil drops in colour vision, by V.I. GOVARDOVSKII (I.M. Secherov Institute of evolutionary Physiology and Biochemistry, 194223 Leningrad, U.S.S.R.), Vision Res. 23, 1739-1740, 1983.

Colored oil drops are present within the inner segments of retinal cones in birds and reptilia. They act as spectral filters and greatly modify the spectral quality of light reaching photoreceptor outer segments. Hence oil drops should play a significant role in color vision. Krause (1893) proposed that reptilia and birds have only one cone visual pigment combined with oil drops of various colors to ensure color vision. This one-pigment theory has been discarded following the recent findings of multiple visual pigment systems in the retinas of turtles, lizards and birds. The narrow-band sensitivity curves produced by the filtering action of oil drops improve color discrimination.

Indeed, visual pigments of the Dartnall's type possess broad-band, overlapping spectra and, hence, any color stimulus always excites the receptors of more than one kind. Combination of a red drop with P562, a yellow drop with P507, and a light-yellow drop with P467 produces narrow-band spectral sensitivity curves. Their maxima are shifted to longer wa-

velengths compared to the spectra of original visual pigments. Which is more important, there appear, besides red, two additional spectral regions in which activity of only one receptor type is dominating : in green (540-565nm) and in blue (420-500nm). The perceived colors become spread over almost the entire area of the rgb-triangle. - Guy Verriest.

The Eye Volume IA : Vegetative physiology and biochemistry. 3rd Edition, Edited by H. DAVSON, New York and London : Academic Press. 1984.

Although the second edition of The Eye is not yet completed, here is the van of the third edition already upon us. The present volume contains : a detailed, systematic and lavishly illustrated treatment of ocular anatomy by Tripathi and Tripathi (this occupies almost half the book); a thorough account of the ocular fluids by the late D.F. Cole; a review of the intraocular pressure by the Editor; and a review of the vitreous humour by Balazs and Denlinger. The book appears to be up-to-date to 1980. It is characterized by the high standard of production that we have come to associate with Academic Press. - J.D. Mollon.

OBITUARY

Baron Jules FRANÇOIS, M.D.
(1907-1984)

past president of the IRGCVD

Baron Jules François died suddenly in Zermatt (Switzerland) on August 13, 1984. He was born in Gingelom in Belgian Limburg on May 24, 1907. He graduated in Medicine at the University of Leuven in 1930. He was member (since 1947) and has been president (in 1969) of the Royal Academy of Medicine of Belgium. He was professor of Ophthalmology at the University of Ghent from 1948 to 1979. He was secretary general (1958-1970), president (1970-1982) and thereafter honorary life president of the International Council of Ophthalmology. He had successively the same functions in the European Society of Ophthalmology. He was ennobled by the King of Belgium in 1982. He was an excellent clinician and signed an enormous amount of papers and books about all aspects of ophthalmology.

Among so many other functions he has been president of the IRGCVD from its foundation in 1971 till 1979. He cooperated to the first symposium in Ghent in 1971, and wrote a paper about genetics of colour vision for the symposium in Edinburgh in 1973. I still asked advice from him about all problems of our group and a few months before his death he contributed much for solving the conflict about the unpublished Geneva paper. All IRGCVD members will remind this unforgettable man. - Guy Verriest.

TREASURER'S LIST OF WESTERN IRGCVD MEMBERS HAVING PAID SUBSCRIPTIONS IN 1983

E. AARNISALO, Finland; A. ADAMS, U.S.A.; R.G. ALKEN, W. Germany; A. ATINOZZI, Italy; W. BIERSDORF, U.S.A.; J. BIRCH, U.K.; T. BLOCK, U.K.; K. BOWMAN, Australia; R. BOYNTON, U.S.A.; G. BRESNICK, U.S.A.; J. BRONTE-STEWART, U.K.; C.R. CAVONIUS, W. Germany; I. CHISHOLM, CANADA; S. COBB, U.K.; J. COHEN, U.S.A.; B. COLE, Australia; G. COSCAS, France; R. CRONE, The Netherlands; S. DAIN, Australia; N. DAW, U.S.A.; A. DINIS, Portugal; E. EGDT, W. Germany; B. DRUM, U.S.A.; A. DUBOIS-POULSEN, France; A. EISNER, U.S.A.; J. ENOCH, U.S.A.; O. ESTEVEZ, The Netherlands; L. FALLOWFIELD, U.K.; G. FISHMAN, U.S.A.; R. FLETCHER, U.K.; J. FRANÇOIS, Belgium; R. FUSCO, Italy; A. FRYCZKOWSKI, U.S.A.; G. GASTAUD, France; A. GONELLA, Argentina; A.Y. GRALL, France; P. GRÜTZNER, W. Germany; A. GUFFANI, Italy; S. GUTH, U.S.A.; E. HANSEN, Norway; A. HEDIN, Sweden; K. HELLNER, W. Germany; G. HERON, U.K.; L. HURVICH, U.S.A.; D. JAMESON-HURVICH, U.S.A.; W. JAEGER, W. Germany; A. JOHNSON, U.S.A.; H. KALMUS, U.K.; P. KING-SMITH, U.S.A.; P. KINNEAR, U.K.; R. KLINGAMAN, U.S.A.; K. KNOBLAUCH, U.S.A.; J. KOZAK, Canada; H. KRASTEL, W. Germany; L. KROGH, Denmark; C. KRÜGER, W. Germany; O. LAGERLÖF, Sweden; R. LAKOWSKI, Canada; G. LAVERGNE, Belgium; Y. LE GRAND, France; J. LEID, France; P. LEIVO, Finland; D. LEPRINCE, France; A. LEWIS, U.S.A.; C. MAGIS, France; M. MAIONE, Italy; V. MARMION, U.K.; R. MASSOF, U.S.A.; M. de MATTIELLO, Argentina; J. MOLLON, U.K.; J. MORELAND, U.K.; J.J. MEYER, Switzerland; F. de MONASTERIO, U.S.A.; O. NEGRETE, Spain; Optometry Library Berkeley, U.S.A.; J. ORQUIN, Canada; A. OURGAUD, France; W. PAULUS, W. Germany; J. PERALES, Spain; S. PEREIRA, Australia; R. PICKFORD, U.K.; A. PINCKERS, The Netherlands; R. POLLACK, U.S.A.; D. REGAN, Canada; M. RICHTER, W. Germany; K. ROBERTSON, Canada; L. RONCHI, Italy; A. ROTH, Switzerland; J. ROVAMO, Finland; M. RUBIN, U.S.A.; K. RUDLOCK, U.K.; H. SCHEIBNER, W. Germany; I. SCHMIDT, U.S.A.; A. SERRA, Italy; E. SHAHI, Israel; H. SPERLING, U.S.A.; T. STEINSCHNEIDER, Israel; W. STILES, U.K.; S. TAYLOR, U.K.; A. VALBERG, Norway; D. VAN NORREN, The Netherlands; G. VERRIEST, Belgium; G. VOGT, W. Germany; J. VOKE, U.K.; J. VOLA, France; J. VOS, The Netherlands; P. WALRAVEN, The Netherlands, G. WAALER, Norway; L. WENT, The Netherlands; E. WOLF, W. Germany; W.D. WRIGHT, U.K.; M. WOHLSCHLAG, Switzerland; B. WOOTEN, U.S.A.; H. YORKE, U.K.; J. ZAREN, Belgium; P. ZISMAN, U.S.A.; E. ZRENNER, U.S.A.;

K. KITAHARA, Japan; A. AKITA, Japan; K. HUKAMI, Japan; H. ICHIKAWA, Japan; K. ISHIKAWA, Japan, I. IINUMA, Japan; Y. IZUTSU, Japan; H. MATSUO, Japan; T. MIYAMOTO, Japan; T. MOTOHASHI, Japan; S. MURAKAMI, Japan; Y. OHTA, Japan; E. TANABE, Japan; S. TANABE, Japan; Y. UJI, Japan; T. YASUME, Japan; C. MASCIA, Italy.

CORRESPONDANCE

June 1, 1984.

Dear Dr. Verriest,

... It is our special delights to inform you that we have thus developed and is maintaining the rarely precious drug Item, PT.B-1, which is effective for the correction and healing of Daltonism (color blindness) that has been regarded as almost impossible for the medics, and is only available, we believe, for the Livine treatment.

This item of drug was already proved to be effective about 30 years in Korea, and it has been set aside from the attentions of the ophthalmologists whose thoughts prevailed toward the impossibility of curing daltonism by medical effects. Therefore, it has been left down from the public attention without having any further test by the authorized and capable testing facilities.
It is my fortune to find your name and the organization, IRGCVD, recently from a bulletin (or directory), and I sincerely hope you will kindly take a research on our drug, PT.B-1, and report to the medical circle that our drug is able to cure the daltonism. If it is possible for you, we would immediately accept your invitation to our laboratory to assist you in the course of proving the effects of the effects of the medicine.
... Your further attention and kind information regarding your intention for this unpublished drug shall be highly appreciated...

(Without comment!)

Park Won Suh
Healthy Life
P.O. Box 194 Yungdong
SEOUL
Korea.

SURVEY OF ILLUMINATION USED FOR COLOUR VISION TESTS

The Standardization Committee of the IRGCVD decided at the VIIth Symposium in Geneva to make a survey of the illumination used for clinical colour vision examinations. Please help with this by completing the following questionnaire and returning it (before December 31 1984) to Mrs. J. Birch/Department of Optometry and Visual Science/The City University/Northampton Square/ LONDON EC1V OHB/England.

All replies will be treated in confidence.

Please delete where appropriate and include additional remarks if desired. Your co-operation is greatly appreciated. - Jennifer Birch.

****

A) Background

1) Profession : Ophthalmologist
Optometrist
Psychologist
Physicist
Other (please state)

2) Is your main occupation : Clinical practice
Teaching
Research
Other (please state)

3) Are you engaged in the clinical examination of colour vision
YES/NO

B) Practice

4) How often do you examine colour vision : Frequently
Occasionally
Rarely

5) If your main occupation is clinical practice do you examine colour vision : Routinely for every patient
Routinely on young patients only
When requested by the patient
When considered to be clinically necessary

6) What do you consider to be the lower age limit for obtaining satisfactory results (please state)

7) Is your examination confined to screening for congenital protan and deutan defects YES/NO

8) Do you give occupational advice to colour defective patients
YES/NO

9) Please list the tests that you use and indicate how often you use them. Plate Tests (e.g. Ishihara)
Arrangement tests (e.g. D15 and 100-Hue)
Anomaloscopes (e.g. Nagel)
Lanterns (e.g. Beyne)
Other (e.g. Hue Memory test).

10) Do you always use a test battery YES/NO
If YES, please state what this consists of

11) Do you have facilities for psychophysical measurements YES/NO
If YES, please state what these are

12. Do you have more than one location for colour vision examination YES/NO

If YES, please answer separately for the illumination in each location.

C. Illumination

13) Do you use a special illuminant for your colour vision exanination YES/NO.

If YES, please state what this is
If NO, do you rely on : The general illumination in your consulting room
Natural daylight
A combination of illumination and natural daylight

(Please state what your general illumination consists of)

Does your window face North/South/East/West

in the Northern/Southern Hemisphere.
What colour are the walls of your consulting room

14) Do you have facilities for measuring/monitoring your illumination YES/NO

15) Do you know the level (amount) of illumination YES/NO
If YES, please state what it is
If NO, please estimate what it is (if possible)

16) Do you know the spectral composition of the illumination you use YES/NO

If YES, please state what it is (join eventually a graph)
If NO, please estimate what it is (if possible)

17) Are your lighting conditions always the same YES/NO

18) How satisfied are you with your lighting conditions
Are you very satisfied
satisfied
unsatisfied

19) Have you ever tried to buy a standard illuminant and been unable to do so YES/NO

20) Have you constructed your own illuminant YES/NO

21) What do you consider to be ideal illuminantion
level (amount) (specify unit)
spectral composition (join eventually a graph)

22) How important do you think the lighting conditions are for clinical colour vision tests : very important
important
not very important

Additional Comments :
(e.g. the cost of Standard illuminants in your country)

NAME :

EIGHTH INT. SYMPOSIUM OF THE INTERNATIONAL RESEARCH GROUP ON COLOUR VISION DEFICIENCIES

MARSEILLES, 23th - 26th JUNE 1985

PRELIMINARY INSCRIPTION FORM

(to be detached from one of the 1984 issues of Daltoniana and to be returned before 1st february 1985 to Dr. G. VERRIEST, Dienst Oogheelkunde, Akademisch Ziekenhuis, De Pintelaan 185, B-9000 Ghent, Belgium).

The special themes of this symposium will be :
1. Ageing of the eye. Invited speakers : J. Marshall and R. Weale.
2. Effects of intoxications on colour vision. Invited speaker : W. Jaeger.
3. Visual effects of intense lights. Invited speaker : H. Sperling.

Free papers will be accepted (methods of examination of central and peripheral colour vision, congenital and acquired defects, genetics of colour vision, practical aspects etc.)

The (principal) authors have to be members of the IRGCVD and are asked :
a) to ask full verbal presentation for no more than two papers (the posters will be briefly presented and will be published!);
b) to send for each paper before 1st March 1985 two copies of a summary of at most 200 words to Dr. G. VERRIEST;
c) to send before 1st may the english texts of the slides to Dr. J. VOLA for translation in french (or prepare as supplementary series of slides in french);
d) to remit before the end of the symposium the manuscript (in good english) to be printed in the Proceedings.

PAPER AUTHOR(S) : .....
.....

THEME 1 TITLE : .....
2 .....
3 .....

WANTED PRESENTATION : poster
OR verbal 5 min 10 min

For further information concerning the scientifical programme contact Dr. G. VERRIEST; for the other matters contact the local organizer : Dr. J. VOLA, 38 rue Jean-Mermoz, F-13008 MARSEILLE France.

(name)

(full address)