A COMPARISON OF DARK ADAPTATION WITH THE PSYCHOLOGICAL STATE IN MINERS

BY

DOROTHY ADAMS CAMPBELL

COVENTRY

LIVINGSTON and Bolton (1943) showed that the night visual capacity of different individuals might be due to varying attitudes of mind. Among 50 psychological in-patients of the R.A.F. those with an anxiety state were found to be incapable of concentration and to have a poor night visual capacity. Hysterics failed

TABLE I.—*Comparison with psychological state (65 cases).*

	Normal	Malin- gerer	Hysteria	Anxiety Neurosis	Obsess. Neurosis	Dull and Backward	Manic-De- pressive
Early symptoms : no nystagmus	1'85 $\mu\mu\lambda$	—	2'49	—	1'83	—	2'11
Control miners with no nystagmus	3'01 2'85 1'83 1'77 2'67 2'31 1'85	— — — — — — —	— — — — — — —	2'85 2'01 2'59 2'01 3'17 — —	2'57 — — — — — —	2'37 2'67 — — — — —	2'89 2'17 1'95 2'35 2'13 2'31 1'81
Average	2'61 (7)	—	—	2'47 (5)	—	2'57 (2)	2'27 (7)
Certified cases with active nystagmus	— — — — — —	— — — — — —	2'35 2'27 1'91 2'81 1'97 2'07	2'25 2'07 2'25 2'17 2'31 2'75	— — — — — —	N.T. 2'57 — — — —	2'15 — — — — —
Average	—	—	2'23 (6)	2'29 (6)	—	2'57	2'15
Certified cases with no nystagmus	2'11 2'07 — — — — — —	2'31 — — — — — — —	2'59 2'93 2'13 2'37 1'71 3'1 * 2'47 —	2'33 2'41 2'21 4'21 * 2'51 2'89 2'47 2'79	— — — — — — — —	2'8 * — — — — — — —	3'16 N.T. — — — — — —
Average	2'09 (2)	2'31	2'36 (6)	2'54 (7)	—	—	3'16
Active nystagmus with no symptoms	2'65	—	—	—	—	2'91	2'21
Average for all miners (65)	2'30(10)	2'31 (1)	2'30(12)	2'35(18)	(1)	2'68 (4)	2'45(10)

Figures in brackets = number of individual tests.

* Tests done but not accepted as reliable.

markedly, whereas depressives even where some anxiety background had been revealed, seemed capable of making a reasonable effort.

Although the tests for dark adaptation do not involve the same mental judgment as night vision tests—it was considered interesting in the case of miners to compare the threshold values obtained by Dr. Sharpley with the psychological tests made by Dr. Stern. The results are recorded in Table 1.

It will be seen that for the total 65 miners tested, the average threshold values in the cases of hysterics, anxiety neurosis and malingerers are the same as for normal mentality, whereas it is higher in manic depressives and in the dull and backward.

In the group of control miners, the psychologically abnormal had a lower threshold than the normal, while in the certified cases the rise in threshold in hysteria and anxiety neurosis was more marked in those without nystagmus than in those with active oscillations.

Conclusion

The evidence such as it is points to the fact that among miners there is no significant relationship between the psychological state and the threshold of dark adaptation. It would be interesting to compare them with a group of ordinary workmen in this respect.

REFERENCE

LIVINGSTON, P. C. and BOLTON, BERYL.—*Lancet*, p. 263, February 27, 1943.

BINOCULAR VISION IN MINERS

BY

DOROTHY ADAMS CAMPBELL, RENEE HARRISON
and JEAN VERTIGEN

THESE preliminary investigations were made in the hope that a minute study of the behaviour of the eyes under conditions of low illumination might reveal the mode of onset of nystagmus.

The binocular vision of miners was compared with that of a large group of normal subjects of the same age groups:—

- (a) in full light adaptation.
- (b) in full dark adaptation (after 45 minutes in the dark).

The tests were made on the synoptophore, using test slides calibrated for known illuminations. For tests (a) the illumination