

made, old healed tuberculous lesions were to be found. . . . As for my personal experience at the Morgue in Paris, where I frequently make necropsies on accidental deaths, I can state that in half the cases, if the person on whom the necropsy is made has lived in Paris for about ten years, I find healed tuberculous lesions. . . . These lesions in the majority of cases are not phthisis in an early stage manifested by small disseminated foci, they are cicatrices of large foci, sometimes of wide cavities completely cicatrised. Phthisis, therefore, is curable even in its most advanced stages." (*Brit. Med. Journ.*, 27th July, 1901, p. 196.) These statements show that in a large proportion of the sane population evidence of phthisis "even in its most advanced stages," but arrested, is found. Compare with this Sir J. Crichton Browne's remarks in the discussion on Dr. Eric France's paper (*Journ. Ment. Sci.*, Jan., 1900, p. 19):—"In 100 general paralytic patients dying in the West Riding Asylum, consecutive cases, in all of which general paralysis was the certified cause of death, tubercular disease of the lungs was found in 25 cases. In six of these only the remnants of past phthisical disease were noted, cretaceous nodules, cicatrices, etc.; but there was no room for doubt that in 19 cases the disease had arisen during the course of the general paralysis. . . . In none of these had the disorganisation of the lungs spread to the extent which we are accustomed to find in patients who have died of phthisis." The bearing of these extracts is not without significance, and, if anything, lends support to the view that, as far as regards the discovery of phthisical lesions *post mortem* in sane and insane, they are very much on the same level.

The Evolution of the Colour Sense. By F. W. EDRIDGE-GREEN, M.D., F.R.C.S.

ALL the facts which can be gathered from the study of museums or literature point to the conclusion that the sense of light was developed first, then the sense of colour. The tendency has been to regard colour-blindness as "chromic myopia;" but this is not correct unless there is a defective perception of light as well, as shown by the cases which I have recorded. A man may be able to see light of all colours at twice the normal distance, and yet be colour-blind. I specially wish to emphasise the fact that there is no definite relation between light and colour. When light falls upon the eye it sets up a nerve impulse, which is conveyed to the brain. In the impulse itself we have the physiological basis of light, and in the quality of the impulse the physiological basis of colour. My contention is that these two factors are perceived by two entirely different sets of cerebral cells, those devoted to the perception of colour being developed at a later period than those conveying to the mind the sensation of light. All the evidence which can be obtained shows that all objects were

first seen as in a photograph, that is, in different degrees of black and white. In the evolution of the colour sense those waves which differ most physically, namely, red and violet, were first recognised as different, the remainder of the spectrum appearing grey. Homer's colour vision was of this class, which represents the degree just preceding total colour-blindness. I have recorded a case of this kind of a man who was colour-blind with one eye, and who was therefore able to tell me exactly how objects appeared with this eye. He said that the spectrum appeared nearly all grey, but with a tinge of red at one end and a tinge of violet at the other; he could see very much better with the colour-blind eye than with the other.

As the colour sense developed it was not necessary that the rays of light should be so far apart before a difference was seen, and so the neutral band gradually diminished in size until the two colours met in the centre of the spectrum. Then a third colour, green, was developed at the central point, there being three points of difference seen instead of two. Then a fourth colour, yellow, was developed, its position appearing at the next point of difference, that is midway between the red and the green. The next colour to be developed was blue, and then orange. In some individuals evolution has proceeded further, and a seventh colour is seen in the spectrum.

These facts show that psycho-physical colour-blindness is an example of a previous state in the development of the colour-perceiving centre.

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The Superannuation Question: its Effect on Asylum Officials, with Suggestions for Further Legislation on the Matter. By EDWARD D. O'NEILL, M.R.C.P.I., Medical Superintendent, Limerick District Lunatic Asylum.

IN approaching the subject-matter of this paper I am fully conscious of its importance and the difficulties to be contended with in dealing with such a vexed question, the far-reaching effect of which must of a necessity materially influence the