

"EYELESS SIGHT."*

The more we know of the construction, functions and powers of the human body, the more we realise that we are "fearfully and wonderfully made." Those who read in a recent issue our review of Dr. Saleeby's book, "Sunlight and Health," in which he describes the skin as a "most beautiful, versatile and wonderful organ, for the most part smothered, blanched and blinded in clothes," must have realised that it has potentialities hitherto undreamed of, that certain of its powers are rudimentary and can be developed. Further, we are acquainted with the wonderful provision that, when, from some accident, or other cause, the function of one part fails, another takes up its work. A well-known instance of this is when a large blood vessel is severed or injured, so that it becomes useless, the collateral circulation, established through the increased development of smaller vessels, provides the necessary substitute, and the supply of blood to the part.

Now we have a supremely interesting book, "Eyeless Sight: A Study of Extra-Retinal Vision and the Paroptic Sense," by Jules Romains (Louis Farigoule), which has been translated from the French by C. K. Ogden, which holds out possibilities hitherto undreamed of—of sight for those who have lost the sight of their eyes.

The author refers to the fact that once again to-day, under a new form, the old discordance, or rather failure to give mutual support, of anatomy and physiology, of which such curious examples are provided by the sixteenth and even seventeenth centuries are found. The structure of the skin is, on the whole, well known, particularly in the case of man. . . . On the other hand, the physiology of the human skin has not, hitherto, gone much further than the data of common knowledge. . . . "It is impossible to think of the special importance and extreme variety of the functions of the skin in the lower animals without being led to ask whether the human skin has not retained, in its ascent, unsuspected abilities. Doubtless all sorts of special organs have been formed in the course of animal development, have acquired considerable elaboration and perfection, and have become localised so as to occupy the safest and most advantageous position with regard to the external environment. They seem also to have taken over and monopolised many of the primitive functions of the skin."

Attention is drawn to the fact of the persistence of the respiratory function in the skin, and that the sweat glands are found to perform, without any sign of obsolescence, a sort of nephritic function, whilst it is impossible to consider the kidney as a recent or in any way tentative organ.

The author says that the first point to be cleared up is evidently this: Does this Eyeless Sight really take place? To prove it he undertook a series of experiments, and since what was under investigation was a hypothetical sensory function capable of being translated into conscious phenomena more or less analogous to those which make up ordinary vision, without the intervention of the ordinary organ of vision, it was necessary (1) to suppress the use of the eye, (2) to contrive a very simple operation of "visual" perception, but one which none the less allowed of strict control, (3) granted that outside the ordinary *regime* of consciousness there exists another *regime* remarkably stable and rich in ways of action, to lead the subject little by little to recognise them, to form a clear idea of them, and to express them.

As a result of experiments the following hypotheses took shape:—

Phenomena of perception, sui generis, may occur in man, which seem equivalent, in a certain degree, to phenomena

of visual perception, and in which the ordinary mechanism of vision does not appear to enter.

These phenomena we can call provisionally phenomena of paroptic perception, indicating by this word that they are concerned with a certain perception of the optical conditions of the external environment besides or parallel to the normal mechanism of perception.

Having eliminated the smallest chance of illusion or flickering the author finds that paroptic perception is a phenomenon *sui generis* whose experimental existence is beyond all question. Its reality is of the same order of certainty as that of the respiratory phenomenon, or of the phenomenon of fecundity in biology.

Numerous and carefully varied experiments have given results in agreement which can be thus summed up.

Perception is absent in absolute darkness.

It is more *sharp, precise, and easy*, as the object to be seen is placed in a *brighter light* (up to the intensity of full sunlight).

The *lower limits of brightness* are difficult to fix since they vary with the period of practice of the subject. However, they seem very close to what they are for the normal human eye.

In relation to colours, under normal illumination the *qualitative perception of colours is perfect.*

The *nasal mucosa* is sensitive to light, and to different coloured regions of the spectrum. This function is *sharply distinct from smell*. It is of the optic order. But paroptic perception of colour can occur without the nasal mucosa. Its rôle is important, but not essential.

The author, therefore, concludes that "paroptic perception is *sui generis*. It is an extra-retinal perception, and it is *vision*. We can name it now: EXTRA RETINAL VISION.

He further finds that "no limited region of the body (of the periphery) is *exclusively* responsible for extra-retinal vision. Any region whatever (face, back of the neck, throat, chest, &c.) can be covered without the function disappearing. But *vision is difficult, hesitating and imperfect where only one region is exposed*. It even happens that the subject becomes discouraged and ceases to perceive. *The more regions engaged the more easy and satisfying are the results.*

The importance of the various regions is unequal; for a given area, perfection of vision varies greatly with the region. With reservations the author indicates the following descending order:—

- (1) The right hand (among right-handed people).
- (2) The left hand.
- (3) The neck and throat.
- (4) The cheeks, the forehead, the chest.
- (5) The back of the neck, the arms, the thighs, &c.

The nostrils ought to be considered separately. They stand in the first rank in perception of colours. It is very difficult to know whether they play any part in the vision of shapes.

The necessity of training is emphasised. The subject *acquires* extra-retinal vision and undergoes the *training* for this vision; this means that he comes to *perceive* and to *take consciousness* of a function which he possessed without suspecting it, which he learns to make use of. But it would be absurd to imagine that in a few hours there is *created* a function scarcely less perfect than that of the human eye.

The book deserves and will repay concentrated attention.
M. B.

*G. P. Putnam's Sons, 24, Bedford Street, Strand, London, W.C.

The Prime Minister has accepted the presidency of the National Baby Week Council, of which Lord Astor is chairman.

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