FOREIGN DEPARTMENT.

MAY VISION BE PRESERVED, NOTWITHSTANDING THE DESTRUCTION OF THE OPTIC NERVES?

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WE have given an account in this Journal of an experiment which clearly shows, that the fifth pair of nerves is the principal organ of the general sensibility of the head, and that it is positively the agent of smell, and that the senses of vision and hearing are dependent on it for a peculiar kind of influence, their special sensibility. Hence, when the fifth pair is divided on both sides, the animal loses its sight, notwithstanding that the iris is still acted on by the sudden admission of light. But, although analogy might lead us to suppose, that the fifth pair could even temporarily supply the action of the optic nerve, some facts have recently come under our own observation, which set the matter beyond doubt.

AMAUROSIS; DEVELOPMENT OF A CYST BEHIND THE COMMISSURE OF THE OPTIC NERVE.

On the admission of the patient into the Hotel Dieu, the pupils were very much dilated; the right possessed slight motion, the left none. The power of the left eye was completely destroyed, but the right retained the power of vision in a slight degree. It was about eighteen months that the patient, whose business was that of writing, had been obliged to give up his occupation, on account of violent pains in the head and gradual loss of sight. The usual means were resorted to, but without any relief, and the patient one day expired suddenly; a few days, however, before his death, he could see objects distinctly.

Inspectio cadaveris.—Between the decussation of the optic nerve, and the pons varolii, in fact within the circle of Willis, there was a cyst of the size of a hen's egg, partly fibrous, and partly osseous in its structure, which corresponded to the tractus opticus. The cyst was filled with a yellowish matter, mixed with blood. Laterally and superiorly the cyst corresponded to the optic nerves, which it had flattened and nearly destroyed. The remains of the nerves adhered internally to the cyst, by the cerebral matter, and anteriorly were lost in a white spot on the osseous part, which corresponded to the commissure. Still nearer to the optic foramina, the nerves were found in a state of

atrophy. There was no trace of the pituitary gland. The retina was thin, red, and nearly transparent.

There are some points worthy of attention in this case; the patient could see objects distinctly a few days before death, and there was nearly complete interruption of the optic nerve from the brain to the eye. The optic nerves were also in a state of atrophy anterior to the cyst, and the retina was thin and transparent, appearances which are only observed in individuals who have been blind for many years, and in whom the optic nerves have not suffered any diminution of size, or any apparent alteration in their central medullary part. The same phenomena may be observed in mammalia who have become blind, and in whom there is no apparent alteration of the optic nerve. In birds, on the contrary, loss of sight is followed in fifteen days by atrophy of the optic nerve. If we admit, therefore, as true, the preceding account, it is scarcely possible to attach in that the exercise of vision to the retina, since, on neither side, was it in a fit state to act. We must, therefore, have recourse to the fifth pair, to understand how the impression of light was transmitted to the brain. I am aware that this conjecture may appear strange to most of my readers, who have been accustomed to regard the optic nerve as essential to vision as the heart is to the circulation. I must, however, state, that my experiments (*Journal de Phys.*, vol. iv.) on the optic nerves were not favourable to this opinion, for if a nerve be divided in the cranium, anterior to its decussation, the eye of the same side does not act. And, lastly, if the point of decussation itself be divided on the median line, the animal becomes completely blind. From these experiments, then, it is evident that the optic nerve is indispensable to vision, but then here the lesion of the nerve is sudden, whilst in the case related, its alteration was slow.

CASE.—A woman, seventy years of age, who had died of some complaint unconnected with the nervous system, was brought into the theatre at Salpetriere to be examined. For a long time she had been blind on the right eye, and the lens of this side had been opaque; she had been able to see on the left side. The right optic nerve was of the usual size; that on the other side was much smaller, thin, and in a state of atrophy. This alteration was so distinct, that those who were present imagined that the person must have been blind on the right eye.

We do not see how either of the above cases goes to prove that the power of vision is not dependent on the optic nerves; in the

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