

Sensibility is obtuse, and intelligence wanting.

C. The third is also a girl. The phenomena of pregnancy and delivery resemble those of the two former cases. The history of the child is also precisely similar. At ten months and a half she weighs five kilogrammes, that is only five hundred grammes less than her sister, not yet having reached the period when arrested development became more marked in the two other children.

The diameters of her head are as follows :—

Bi-parietal . . . . .	0 m. .110
Bi-temporal . . . . .	0 „ .100
Occipito-frontal . . . . .	0 „ .140
Mento-occipital . . . . .	0 „ .177
Mento-frontal . . . . .	0 „ .109

In all particulars she resembles her brother and sister.

This observation is interesting in the highest degree. Thus, on one side, are three children whose lives intra- and extra-uterine are precisely similar, in whom at the same periods the same phenomena are observed, and whose constitutions, physical and mental, are singularly feeble. They carry in their behaviour and appearance the stamp of an idiocy so similar that it is difficult to distinguish one from the other. Again, on the other side, are parents healthy, moderately intelligent, of regular habits, without privation, and free from vice, hereditary or acquired.

The facts appear to indicate the cause of degeneration in the offspring to be consanguineous marriage, the effects of which become startlingly manifested after successive unions in the same family.

*On the Condition of the Eyes in General Paralysis.* By DR. MORECHE.

At considerable length the author points out that early writers on general paralysis have either quite omitted, or but casually dwelt on, the eye symptoms of the disease. Thus in the works of Esquirol, Bayle, Calmeil, Delaye, Foville père, Daveau, Thore, &c., but little importance is attached to these symptoms. In 1849 M. Baillarger observed that many patients have one pupil larger than the other, the difference in some cases being so great that it is astonishing that this observation had not been made sooner. This symptom sometimes exists from the beginning of the disease, and may now, in doubtful cases, aid in diagnosis; generally, however, it is not seen till an advanced period.

Attention being thus attracted to the symptom, nearly all subsequent observers have noted the state of the pupils. In 1853 M. Lasèque observed inequalities of the pupils in one-third of his cases, and, in the last stages, rapid enfeeblement of vision, often more advanced in one eye than the other. In 1853, also, M. Moreau (de Tours) published the result of his researches into the peculiarities

of vision in general paralytics, and summarised as follows:—1st. Convexity of the eye ball exists in two-thirds of the cases. 2nd. Inequality of the pupils is seen in more than half. 3rd. In half the cases the eyebrows do not preserve their arch. M. Marcé, after noticing irregularities of the pupil, adds that in certain cases lesions of the eye, such as rapid loss of vision, strabismus, or ptosis have preceded the unmistakable symptoms of general paralysis.

M. Billod in 1863 published the results obtained by observation of the eyes of four hundred patients, and relates two cases where paralysis of the third pair has coincided with general paralysis. In 1873 Ach. Foville published similar observations, and concludes that in some cases general paralysis is consecutive to an affection of the nervous system, the disease being propagated to the hemispheres from a cranial nerve.

Dr. Mobeche gives the results of his own observations at the Asylum of Ville. Evrard. He finds that in the majority of cases the pupils are abnormal, the most frequent lesion being inequality, whilst irregularity is also very common. Inequality is most frequently due to dilatation of one pupil, the other remaining normal; less frequently to undue contraction of one pupil.

The state of the pupils in 93 patients is thus tabulated:—

Pupil	{	Right greater . . . 32	} 57	} 93
		Left greater . . . 25		
		No inequality . . . 36		

Follin has estimated that the normally contracted pupil in the adult measures 2 mill. The following table gives the measurements of the pupils in 93 cases observed—

Pupils measuring less than 2 mill. . . . 23	} 186
” ” from 2 to 3 mill. . . . 114	
” ” from 3 to 4 mill. . . . 20	
” ” from 4 mill. and above . . . 29	

M. Lasèque found the pupils more frequently contracted than dilated, a result which M. Moreau believes attributable to the examinations having been made at an early stage of the disease. The latter observer has published the following table, but does not state to what diameter any of the three classes corresponds:—

Pupil	{	Large . . . 26	} 100
		Middling . . . 56	
		Little . . . 18	

The contractility of the iris is very often modified in general paralysis. Often, when but slightly dilated, it acts slowly and incompletely, and when closely contracted does not dilate in darkness, or when vision is directed to a distant object. This is not due to adhesions, as it readily dilates when treated with atropine.

Unequal dilatation and loss of contractility are not the only symp-

toms which the eye of the general paralytic presents. In a large number of cases the pupil has lost its circular form, and displays the most varied shapes. When the pupil is contracted, often immovable, its shape is nearly always irregular, angular or jagged. Pupils normal as to size and contractility are those in which form is least frequently changed; but they are not rarely found altered. They take sometimes the form of a polygon with blunt, rounded off angles, and unequal sides, somewhat resembling pupils deformed by adhesions. A common form is that of the ellipse, the great arc of which may be in any direction, or it may be quadrilateral or triangular. When there is great dilatation, the most common form of irregularity is where half or two-thirds of the pupil is circular, and the circumference completed by nearly straight lines, resembling a segment of a sphere joined to a segment of a polygon. Lastly, the opening of the pupil may not be in the centre of the iris. These somewhat rare cases are seen only in dilated pupils, and indicate that dilatation has not taken place to an equal extent in all directions.

The state of the pupil frequently varies, passing from contraction to dilatation in a day. These changes are observed chiefly at the beginning of the disease, when the pupils are contracted or but slightly dilated. Dr. Mobeche has never seen a dilated pupil retake its normal dimensions, while the other dilated in its turn. The majority of authors affirm that alterations in vision are rare until an advanced stage of the disease is reached, an opinion founded probably on imperfect examination. By means of the typographical scale of Giraud-Teulon, accurate results may be obtained, the patient's sight being defective if he can read only 3 or 4 in the scale at the distance of a foot. By this means difference in power between the two eyes may be observed. It is difficult to state, in precise figures, the relations which exist between sharpness of vision and dilatation of the pupils, defects attributable to other causes possibly being present. As a general rule patients, whose pupils are not abnormally dilated, can read No. 2 and No. 3. In these cases there is rarely a difference between the eyes; where there is, the iris has quite lost its mobility. Where the pupil was dilated to from 2 to 3 mil. no great difference in power was observable, but, after this, dilatation and diminution in power increased together.

Contraction of the pupil, unless where the iris had lost its mobility, did not produce serious modification of sight.

It would be erroneous to conclude from the frequency of the abnormalities of the eye in general paralysis that the retina is diseased in all these cases; and it is necessary, as a rule, to search for the causes in other parts.

It has already been stated that the mobility of the iris was generally decreased as dilatation increased. These patients are in the position of individuals whose pupils have been dilated by Belladonna, their vision remaining intact for distant objects, but confused for objects near at hand.

If the abnormally dilated pupil be artificially contracted, vision becomes equally good on both sides, or nearly so. "We have instilled into the eyes of several of our patients, in which one pupil was dilated, some drops of collyrium of éserine, and after the pupils had become of equal dimensions there did not remain a sensible difference between the acuteness of sight of the two sides; cases where a lesion of the retina existed being excepted."

Austin believes that there exists an intimate relation between the state of the iris and the mental condition of the patient. He asserts that in cases where the right pupil is affected, the patient will be depressed and melancholic; where the left, the patient will be maniacal and possess exalted delusions.

Further, if the state of the iris becomes changed, the mental condition will also be changed. These ideas have not been confirmed by other authors, and do not correspond with the results obtained by Dr. Mòbèche.

B. There now remains to inquire what are the causes of this difference between the pupils. Authors are far from agreed on this point. M. Baillarger is of opinion that general paralysis is the result of a lesion of both hemispheres, often more extensive, however, on one side than the other; and that the degree of abnormality of the pupil serves to indicate in which of its halves the brain is most extensively diseased.

M. Billod having established that serious defects of sight were unusual, except in the advanced stages of the disease, whilst inequality of the pupils was common in all stages, rejected lesions of the optic nerve as causes of this dilatation, except in rare cases. He then proceeded to search for these causes in the iris itself. He recalls that contraction of the iris is controlled by the common oculo-motor nerve, and that it is quite involuntary, being excited by the action of light on the retina, and not on the iris, which is insensible, and receives the influence by reflex action. Section of the optic nerve produces dilatation and immobility of the iris, and irritation of the inner cut surface contraction; that is the same result as that produced by the action of light on the retina. Again, section of the common oculo-motor nerve behind the ophthalmic ganglion produces immobility of the iris, although the retina or optic nerve be irritated. M. Billod considers dilatation to be the result of the common oculo-motor nerve.

M. Voisin looks for the cause of dilatation exclusively in the great sympathetic, in the cilio-spinal centre. When this centre is, to a certain extent, hyperæmic, the action of the cervical sympathetic is increased, and the corresponding radiating fibres of the iris contract energetically, producing dilatation. When softening has supervened, the dilatation gives place to contraction and immobility. The great sympathetic being thus paralyzed through its centre of innervation, all movement is restricted to the circular fibres, controlled by the

common oculo-motor nerve, resulting in contraction of the pupil. This is not seen until the last stage of general paralysis.

The views of Billod and Voisin are thus diametrically opposed, the former locating the lesion in the third pair, the latter placing it in the great sympathetic.

M. Voisin affirms that if the oculo-motor nerve was diseased, in addition to dilatation, there would be external strabismus, ptosis and diplopia. He also places contraction of the pupils among the symptoms of the last stage of the disease; this, however, is contrary to general observation.

"We believe the opinions of these two authors to be extreme. Lesions of the pupil may be the result either of an alteration in the common oculo-motor nerve, or in the great cervical sympathetic." M. Voisin says that if the nerve of the third pair was paralysed, external strabismus or ptosis would be observed. But in paralysis of the ciliary muscle, which is equally under the control of the common oculo-motor nerve, mydriasis is often seen, and rarely affections of other parts controlled by that nerve. In certain cases, then, dilatation will be produced by a lesion analogous to that which produces paralysis of accommodation, which moreover often accompanies mydriasis, whilst in others it will be the result of hyperæmia of the medulla and increased activity of the great sympathetic. Similar considerations are applicable in cases where the pupil is contracted.

Should the retina be insensible, dilatation may be present without lesion either of the oculo-motor or sympathetic nerve, but disease of the retina is probably generally preceded by an affection of one or other. The graver lesions of sight, as amblyopia and amaurosis, are not common in general paralysis, but are liable to be passed over, more especially when the affection is limited to one eye. Total blindness of both eyes is rare, Dr. Mobèche having observed but three cases. Amaurosis appears at various stages of the disease, most frequently late, but it may precede all other symptoms. Several of these latter cases have been reported, and have been specially investigated by M. Ach. Foville. He believes that in some patients general paralysis results from the extension of disease to the brain, from peripheral portions of the nervous system. He regards such cases, however, as forming exceptions, not the rule. Paralysis of the third pair has also been observed during the course of the disease.

M. Moreau has drawn attention to a well marked increase in size of the eye-ball. Among 100 individuals he found forty in which the convexity was considerably increased, and twenty-five in which it was slightly so. Dr. Mobèche's researches have given the following results:—

Eyes with convexity	{	Considerably increased . . . . . 5	}	26
		Slightly increased . . . . . 18		
		Diminished . . . . . 3		
		Normal . . . . .		
				67
				<hr/> 93

M. Moreau has also called attention to the state of the eyebrows in these patients. He has nearly always found them separated at their inner ends; fifty-one in a hundred lost the normal arch, rising on the forehead or falling on the eye like a moustache. The condition of the eyebrows in Dr. Mobèche's case was as follows:—

Eyebrows	{	Encroaching on the root of the nose . . . . . 11	}	27
		Leaving the arch . . . . . 16		
		Following all the arch . . . . .		66
				93

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*On the use of Restraint.*

M. Ingels regretted that Dr. Lentz, in his paper, had not entered fully the question of principle, and proposed, in a few words, to direct the attention of the Society to it.

In consequence of the arrangements in the greater number of their asylums, the physician spends in it at most a few hours daily, resulting in the use of restraint being placed at the discretion of those left in charge of the patients, and being regarded by them as a necessary evil. In England a similar condition prevailed before Conolly, who took the bold step of at once forbidding all restraint in his asylum, an attempt which proved successful beyond expectation, his example having been generally followed throughout England. It is, therefore, an established fact, that the management of the insane is practicable without the use of mechanical restraint. There are, however, certain shadows in the smiling picture which has sometimes been painted of non-restraint.

This word, in its wider signification, is not completely applicable to the system, for often some patient must be restrained, and this is effected either by simple holding, or by seclusion. As to continued manual restraint, its use is unjust to the attendants, and it may be looked for that they will, in time, lose patience, and proceed to acts of violence, and the frequent occurrence of late of broken ribs in English Asylums may perhaps, in this manner, be largely accounted for; it seems better, then, to resort occasionally to mechanical restraint, than to look for an angelic patience in attendants.

The entire disuse of the means of restraint is apparently founded on an exaggerated sentimentality, or an over-regard for the feelings of the patients, many of whom, however, offer a much longer and more determined resistance to manual than to mechanical, while in others the slight shock produced by the use of the latter is beneficial. The following case illustrates this:—