

EYE MANIFESTATIONS IN MALADJUSTED CHILDREN.

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THE study of eye disorders in maladjusted children plays an interesting and important role in the investigation of psychosomatic problems of child psychiatry. Eye diseases in maladjusted children are frequently caused or aggravated by psychogenic factors. They are also sometimes connected with neurological disorders.

A DISTURBANCE OF THE BODY IMAGE.

Psychogenic eye diseases are due to a disturbance of the body image. By the body image is meant the picture each person has of his own body (Schilder, 1935). Emotional influences can change the relative value of the different parts of the body image. The particular desire to see or not to see an object can set up an emotional focus in the eyes. The curiosity of seeing or the horror of looking at an object is often of a sexual nature. Features of the genitals can be emotionally transposed to the eyes. The eyes therefore are a frequent phallic symbol.

Parallel with the sexual meaning of eyes and seeing there also often exists a spiritual and religious significance of eyes and the act of seeing, especially of the seeing of light. Light is frequently used in the Bible as a symbol for moral values or God. The "evil eye" on the other hand is a well-known symbol of folk lore for immoral or satanic powers.

OCULAR CONVERSION PHENOMENA.

The most common psychogenic eye disturbances are hysterical conversion phenomena. Intolerable ideas are translated or "converted" into physical symptoms. In their symbolic form they become acceptable. The operating of this mechanism is a universal human tendency which is not confined to hysteric persons, but occurs in them particularly easily and in an exaggerated form (Aubrey Lewis, 1946).

The main ocular hysterical conversion symptoms can be grouped into disturbances of movement, sensibility, glandular activity and vision (Henderson and Gillespie, 1944; Tassman, 1950).

THE BLINDING OF OEDIPUS.

One of the most moving examples for the great importance of the eyes as phallic symbols is contained in the mythological drama of *King Oedipus* by Sophocles. By drawing the attention of the modern world to this ancient myth Freud aroused worldwide interest.

Oedipus, after his discovery of his incestuous deed, tore out the golden brooches with which his mother's dress was pinned,

"And thrust, from full arm's length, into his eyes—
 Eyes that should see no longer his shame, his guilt,
 No longer see those they should never have seen,
 Nor see, unseeing, those he had longed to see,
 Henceforth seeing nothing but night . . ."

(Translation by E. F. Watling, 1949.)

EYE MANIFESTATIONS IN EPILEPSY AND MIGRAINE.

Hysteria has close relationships to other paroxysmal disorders, i.e., epilepsy and migraine. Hystero-epileptic eye manifestations deserve a special interest as epileptic attacks can be produced by emotional upset and by light stimulus. Epileptic visual auras are not uncommon.

Migraine, which possibly is related to the epilepsies, also is characterized by eye manifestations which often have a psychological origin. Visual hallucinations of flashes of light or brightly coloured spectra, scintillations or teichopsias are well known phenomena in migraine. The fundus is often normal, but retinal arterial spasm and even occlusion does sometimes occur (Graveson, 1949). Angio-spasms are due to a dysfunction of the autonomous nervous system, and this leads to the discussion of another aspect of psychogenic ocular manifestations.

OCULAR DISTURBANCES OF THE AUTONOMIC NERVOUS SYSTEM.

Emotional states act on the hypothalamus and the autonomic nervous system. If emotional experiences are related to the eyes dysfunction of the autonomic innervation of the eyes can be produced (Harrington, 1946, 1947; quoted from Tassman, 1950). If such an emotional stress is acting over a long time structural changes of the eye may occur. The above-mentioned arterial retinal spasms in migraine, the ocular changes in Raynaud's disease and above all, glaucoma, can be produced in this way.

DISEASES OF THE EYELIDS IN MALADJUSTED CHILDREN.

From the point of view of child guidance practice diseases of the eyelids are of considerable interest as they frequently have a psychological origin.

The eyelids are "mobile curtains" (Doggart, 1950) in front of each eyeball. Rising they reveal the scene of the human drama. Being the most exposed parts of the eyes they are sometimes taken as symbols for the organ of vision as a whole. If libidinous charge is pathologically concentrated at the eyes the eyelids may become irritable and may itch.

This will induce children to touch them with their fingers. The marginal glands of Zeis and Moll and the Meibomian glands in front of the posterior margins of the eyelids become in this way easily infected, especially with the *Staphylococcus aureus*. Doggart (1950) therefore pointed out that there is no doubt that children by rubbing their eyes may easily provoke external styes or hordeola. Chalazion, blepharitis or conjunctivitis also can be produced by what can be called "secondary infection of an erogenic zone."

One case of a maladjusted child will be described in whom a disorder of the eyelids played a predominant part.

CASE I.—*Bertha* (12 years 6 months. I.Q. = 119).

Problem.—*Bertha* was referred because she picked her own eyelashes and eyebrows and was very nervous.

History.—The maternal grandfather committed suicide. When *Bertha* was six years old she had two upsetting experiences. Her tonsils were removed in hospital, and when the time came for her to return home her mother was unfortunately late in fetching her. *Bertha* was terrified by the thought that her mother was not coming for her and could not overcome this shock for a long time. Her relationship to her mother was always difficult.

The other upsetting experience was the departure of *Bertha's* father, who joined the Forces. *Bertha* was emotionally very attached to her father, but she did not like his job as a hairdresser. She was particularly irritated when she saw hair left on his face when he came home from work and also when he bought a new pair of scissors. She would angrily say that this was "a waste of money." At the age of twelve years *Bertha* began to cut her eyelashes with scissors and started plucking eyelashes out. She said that the eyes were "itching."

Examination.—*Bertha's* eyelashes were almost completely missing and she had a chronic blepharitis on both eyelids. A styne was developing on one eyelid. The Terman-Merrill test showed her to be of superior intelligence. She was depressed and anxious.

Analysis.—The analysis of *Bertha's* Rorschach responses was revealing. An unusually high number of inanimate movement (m) and shading responses (FK, KF) pointed to a severe inner conflict and anxiety. Information about the nature of the conflict was obtained by the study of the content of the responses.

In not less than 11 responses she mentioned "hair" or adnexa of the skin: "A judge's permed wig," "a dog's whiskers," "a cockerel's comb," "a woman's face with

curly hair," "a man with a moustache and beard," "a man's bald head," "a funny bird with whiskers," "a terrier with curly hair," "fingers without nails," "a canary's claw with nails," "the antlers of a stag."

This showed that her father's job as a hairdresser, or for that matter her father himself, played a great role in her inner life. With regard to her references to "nails" it was interesting that she was a nail-biter.

In 6 of her responses "eyes" were mentioned: "A mask with eyes," "a dog's face without eyes," "a woman's face with eyes," "a man's face with eyes," "a man's face but I can't see his eyes," "a fat seal with eyes."

Of particular interest was one response to card III in which she saw: "A woman's face with eyes, a nose, mouth and curly hair." In card III usually two human figures are seen, which Bertha, however, completely failed to recognize. Instead of this very popular response she saw "the face of a woman," using for this response the lower two-thirds of the blot with the white space. The "legs" of the usually seen "people" were perceived as the contours of the face with the curly hair, and the middle and lower central parts of the blot as the nose and the mouth. The eyes were localized into the two small spikey prominences of the "thighs" of the usually seen human figures, details which are sometimes seen as the phallus. In this Rorschach response the genital organ seemed unconsciously to be transposed into the eyes.

The frequent emphasis on "eyes" indicated that these organs were strongly emotionally charged in Bertha. It was reasonable to assume that there was a connection between her preoccupation with "eyes" and her relationships to her mother and father. She suffered from an unresolved Oedipus situation, which produced in her a desire for expiation of intolerable incestuous ideas.

Bertha therefore took a pair of scissors and cut her eyelashes off. By doing so she not only used her father's irritating instrument—scissors—to punish herself, but also punished herself by cutting bits of hair away, hair which also bore a close connection to her father, the hairdresser. Moreover, the hair which she cut away as an unconscious substitute for castration were eyelashes, parts of her eyes, and it was her eyes which had irritated her.

Discussion.—Bertha's anxiety was due to a depressive state in a hysterical personality. The irritation of her eyelids was directly connected with an unresolved emotional relationship to her parents. During treatment she learned to realize this to a certain degree, and once she remarked: "Oh, I pulled my eyelashes out because I disliked the bits of hair on my father's face when he returned home from work." Soon after a therapeutic discussion about this remark Bertha improved. She stopped picking out her eyelashes and her blepharitis disappeared.

DISEASES OF THE RETINA IN MALADJUSTED CHILDREN.

Retinal diseases in maladjusted children deserve special attention. The human eye embryologically developed from optic vesicles which project from the primitive forebrain. The eye and in particular the retina is part of the brain. Eye manifestations in neurological disorders are therefore common and very important and are frequently accompanied by pathological changes in the retina. Maladjusted children suffering from these diseases are usually treated at paediatric or neurological departments.

One also sees, however, maladjusted children with disorders of the retina at child guidance clinics and three such cases will be described. They are of particular interest as they represent special problems.

CASE 2.—*Lawrence* (9 years 11 months. I.Q. = 84).

Problem.—Lawrence was referred because of antisocial behaviour. He always argued, lacked consideration, and was so aggressive to other children that he had to be excluded from school. His behaviour was so unusual that his Headmaster called him "the oddest type he had met in 20 years." The boy had one blind eye.

Family history.—Lawrence's mother was a very emotional person. The maternal grandfather was probably mentally disturbed. Lawrence's father was colour-blind. One paternal grand-uncle had an eye removed when he was 52 years old, and the mother of this grand-uncle also had an eye enucleated when she was 70 years old. No information could be obtained about the nature of their eye diseases.

Personal history.—Maladjustment: Lawrence became difficult when he began to go to school. At this time his mother went out to work and neglected him. This added to the boy's emotional strain at school which he experienced owing to his relatively low intelligence. There were also marital differences.

Eye disease: Lawrence was born with a "speck" on the left eye. When he was two years old he had whooping-cough and at that time a "cast" appeared in the left eye. At Moorfields Eye Hospital it was found that this eye had no perception of light. The right eye was healthy and its vision $\frac{5}{60}$ unaided. The nature of the illness of the left

eye was obscure but it was thought to be Coat's disease. That is a congenital vascular malformation of the retina with telangiectasies and haemorrhages.

Examination.—Lawrence was a physically strong and overdeveloped boy. His left eye was slightly smaller than the right one.

On the Terman-Merrill test he was in the dull and backward group. On the Rorschach test he showed quicker perception than would have been expected from his clinical impression. Some of his form responses were good but they alternated with poor ones. His co-operation was very poor, and the range of his determinants and quality of his responses were very inadequate.

Clinically Lawrence was very dull and unresponsive. His usual reply to questions was "Don't know." He talked very slowly, and there was an aggressive undertone in his drawn-out nasal voice. He was inadequate intellectually and emotionally, and gave the impression that his psychological difficulties alone did not fully explain his unusual behaviour.

An organic factor was felt perhaps to play a role. The possibility of a connection between Lawrence's maladjustment and the retinal disorder was considered. The question was asked, was the retinal disorder perhaps not the only pathological change of his nervous system, but was the brain involved too?

Considering the diagnosis of Coat's disease the possibility existed that Lawrence might suffer from a type of vascular malformation of the retina allied to Coat's disease, which also involves the brain. Several diseases are known in which this is the case (Elwyn, 1947). They seem to be due to a defect of mesenchymal tissue producing a "system disease."

In von Hippel-Lindau's disease for instance retinal changes are accompanied by angiomas of the brain and elsewhere, and in Osler's disease teleangiectasies in the retina, brain and various parts of the body occur. In Sturge-Weber's disease evidence of a vascular naevus in the brain could be found roentgenologically by characteristic parallel lines in the X-ray picture.

On Lawrence's examination no focal signs of a pathological brain process could be detected. The X-ray examination of his skull showed nothing pathological and a search for vascular naevi of his skin also was negative.

The E.E.G. was abnormal. It showed a great excess of theta activity for the boy's age and suggested generalized cortical immaturity. No definite focal or epileptic activity was seen.

At a recent ophthalmological control examination the right eye was still found to be healthy with a standard vision unaided. The left eye had no perception of light, an early complicated cataract and the fundus showed a diffuse old choroido-retinitis. A toxoplasmosis (that is a disease caused by a protozoan parasite) was ruled out by a complement-fixation and an X-ray examination of the skull.

Discussion.—There was hereditary loading as regards proneness to nervous disorders on the side of Lawrence's mother and to eye diseases in his father's family.

Clinically the impression was gained that this boy's maladjustment was connected with his retinal disorder. It was thought to be possibly an expression of a pathological brain process. Apart from the abnormal E.E.G., however, no finding could be made to support the clinical impression, and on the strength of the E.E.G. result alone a structural cerebral disorder could not be diagnosed.

In spite of this negative result the impression remained that Lawrence's psychological peculiarities were caused by a constitutional inferiority of the brain which, however, with our present methods of examination could not be detected. A similar impression is not infrequently gained in various aspects of child psychiatry. P. Schilder (1933, quoted from M. Creak, 1951) spoke of a reaction type in maladjusted children which is due to an "undeveloped and pathologically inferior brain organization." Creak (1951), when discussing the possibility of organic factors in childhood schizophrenia, pointed out that there are clinical similarities between some cases which suffer from an organic illness with a known pathological process and cases where no organic pathological process has been found.

CASE 3.—Cyril (8 years 8 months. I.Q. = 90).

Problem.—Cyril was referred because of backwardness at school. No progress has been made in the last term and none of the new school work has been mastered. He also was rough and spiteful in his play and needed careful supervision. Cyril also had a "visual defect," and the question was raised if this affected his work.

History.—No other member of his mother's or father's families suffered from eye or mental diseases.

Cyril's early development showed no abnormalities. When he was 18 months old he fell whilst playing and at this occasion his mother noticed that he had poor eyesight. When he was six years old he developed a squint and became irritable and difficult to manage. He was examined by a specialist. The mother was informed that the boy suffered from "cerebro-macular degeneration," and that he was likely to deteriorate mentally and to die in about two years' time. The mother was stunned about this informa-

tion and lived from now on under the constant dread of Cyril's future. She gained hope when she observed that Cyril did not deteriorate as was predicted but she remained uncertain and deeply depressed.

Examination.—General impression: Cyril was normally developed physically and co-operative in his behaviour. The possibility of his suffering from cerebro-macular degeneration seemed to be very improbable. This most serious disease is characterized by rapid progressive mental failure, blindness and paralysis. There exist several forms of cerebro-macular degeneration according to the onset of the disorder. Russell Brain (1940) stated that all forms of the disease are inevitably progressive, but that the younger the child at the onset the more rapid is the deterioration. In Tay-Sachs' disease, which is the infantile form, death occurs in about two years, but in the juvenile forms the child may live up to fifteen years.

Neurological examination: There were no signs of paresis or spasticity of arms or legs. A slight divergent strabismus was present. The speech was slightly indistinct. The teeth bore resemblance to Hutchinson's incisors and Moon's molars, but the result of the Wassermann and Kahn tests were negative. The E.E.G. record was normal for the age and showed no evidence of immaturity.

Ophthalmological examination: Cyril had congenital retinal degenerative changes in the macular area of each fundus as well as some peripheral degenerative changes. The right eye was much more seriously affected than the left one. He did not require spectacles. The visual acuity was on the right eye $\frac{6}{3}$ for distance and Jaeger 1 for reading. There were also congenital abnormalities of ocular movements.

Psychological examination: On the Terman-Merrill test Cyril was of low average intelligence. He was sometimes very slow at attempting an answer and had difficulties in concentrating. On the Rorschach test the number of confabulatory responses was remarkable.

In his behaviour Cyril was friendly, but he was very sad and insecure. He also was inadequate in expressing himself. His paintings were clumsy but imaginative. Their analysis revealed that his depression was induced by his parents' depression and that he wanted to "get out of his trouble."

Discussion.—The result of Cyril's examination proved that the original diagnosis of cerebro-macular degeneration fortunately was a mistake. The fear of the gloomy prognosis had inflicted suffering on the parents, and therefore also indirectly affected the child emotionally. As soon as the parents were told about the reassuring results of the examinations their very facial expressions changed and they no longer looked so worried. Cyril's scholastic achievements and school reports also improved after this information was given to his parents.

There remained, however, an inadequacy in his behaviour. It showed itself not so much in his actions but in absence of his ability to react naturally to stimulating questions or situations. He had a certain imperception for his surrounding. There also remained the fact that he suffered from congenital retinal and macular degeneration, although of a benign form.

In spite of the definite psychological cause of Cyril's depression and anxiety it seemed possible that his maladjustment had also an organic factor. No objective proof for this could be obtained, but as in the case of Lawrence the impression was gained that in addition to the retinal changes the organization of the brain was possibly congenitally disturbed.

CASE 4.—*Emma* (6 years 11 months. I.Q. = 96).

Problem.—The reason of referral of this little girl was that she had "a very unusual personality." Her teacher stated that she was continually screaming out and crying about her work and extremely distressed without any apparent cause. She was so difficult that she had to be excluded from school. Emma had an artificial right eye, having had a tumour removed at 18 months.

History.—When Emma was about 18 months old her mother noticed "a little light" at the back of the right pupil. Glioma retinae was diagnosed at the Royal Westminster Ophthalmic Hospital and the right eye was immediately excised. The left eye was found to be normal. On her return home Emma was very restless and fearful. At the age of six years her beloved father died. A short time afterwards her mother broke her artificial glass eye and when trying to replace it by the spare one this also broke. This was a shocking experience for Emma, and after this happened she became intensely conscious of her lost eye. At first a new plastic eye and later a new and expensive glass eye were given to her but Emma was continuously irritated by them. She also became more jumpy and noisy and could not go to sleep without at first singing.

Examination.—Paediatric examination: Emma was a very pale little girl. The result of the physical examination was negative, including the results of a Mantoux test and blood-count. The X-ray examinations of the cranium and chest showed no evidence of a pathological process.

Ophthalmologically she had a normal socket. The left eye was normal.

Neurologically no signs of progressive organic nervous disease could be found. The E.E.G., however, gave evidence of a focal abnormality in the right temporal region. There

was also some evidence that this may be epileptic in nature, but this could not be satisfactorily cleared up.

Psychological examination: The Terman-Merrill test showed Emma to have about average intelligence. The Rorschach test showed massive confabulations, confusion and perseverations of automatic phrases.

Emma was very restless, hyperkinetic and flighty in ideas and actions. Within a few minutes she played alternatively with the dolls' house, sand-tray, Lowenfeld's mosaic and chalks. She was in a euphoric mood and sang at the top of her voice.

Emma sometimes cried dramatically and her crying seemed to have a special meaning for her. Once she said that "the houses cry through the windows." What windows meant to her became understandable when she painted a house and suddenly cut out two holes in the paper at the place where the windows were, saying "It's Emma's windows"; windows obviously were symbols of her eyes. Emma herself "cried through her eyes," she "cried her eyes out" in fear. She wanted her therapist to know about her despair, and this is the explanation for the pathetic demand with which she repeatedly greeted the therapist on her arrival: "Please say, 'crying!', 'crying!', 'crying!'."

She was intensely preoccupied with her healthy eye and her glass eye. She touched especially her glass eye frequently with her fingers. Her mother reported that she was doing this "a hundred times a day." There was no doubt that this irritation had a psychological cause.

Emma's obsessional habit of touching her eyes with her fingers was strikingly demonstrated by crayoned paintings. They showed a girl with enormous arms and hands which were outstretched as if she were crying out for help. The hands had enormous fingers. Very large eyes also were conspicuous. There seemed to be a correlation of the disturbance of her eye image with that of her arm-hand-finger image. The connecting link between both probably was the desire that what she wished to see she also wished to touch.

Eyes fascinated and frightened her, and spectacles had a similar effect. Spectacles or "eye-glasses" were for Emma as magic as "glass eyes." They represented an extension of her disturbed eye-image.

The analytical study of Emma's behaviour and work showed that at the basis of her emotional upheaval was a disturbed relationship to her parents.

Interesting in connection with this case is a study by Duke-Elder and Wittkower (1946). These authors pointed out that "the loss of one eye is not in itself a severe disability," but that "the psychological effect of the loss of one eye is out of proportion to actual physical ability."

Discussion.—This case was included in this series although the diseased eye had been enucleated because of the connection of the former retinal disorder and the present psychological state. Emma clinically had hysterical and hypomaniacal features.

The results of the physical examinations made it extremely unlikely that the tumour had spread into the optic nerve beyond the level at which it was severed when the excision was performed. An expanding intracranial lesion could be almost certainly excluded.

The unusual severeness of the clinical impression, however, together with the E.E.G. finding, again pointed to the possibility of an organic involvement of the brain of a kind which could not be definitely detected with our present means of examinations.

SUMMARY.

Eye manifestations in maladjusted children are an important aspect in the study of psycho-somatic problems of child psychiatry.

Psychogenic ocular disorders are caused by a disturbance of the body image. The main psychological mechanism at work is that of conversion. The main physiological process involved is brought about by the autonomic nervous system.

Psychological disorders can produce morbid thoughts, delusions and hallucinations connected with the eyes and the function of vision. The eyes can organically remain healthy, but may develop actual organic changes as a consequence of the emotional process.

An existing physical illness of the eyes facilitates the development of an additional psychogenic eye disorder. In this case the emotional disturbance can aggravate the physical eye disease.

Psychological ocular disorders can develop in all kinds of physical eye disorders, including the condition following the loss of one eye. Of particular neuro-psychiatric interest are cases of maladjustment occurring in persons who suffer from eye diseases which are part of a neurological illness involving the brain.

In this study diseases of the eyelids and retinal diseases in maladjusted children were discussed.

The psychological disturbances in children with retinal diseases in all cases described were of a serious and unusual kind. Although emotional causes could

be detected, the clinical impression was gained that they were reinforced by an additional organic factor. An abnormal E.E.G. and some criteria in the Rorschach findings in two of the three cases discussed, however, were the only objective suggestions of such a possibility. This was not enough to furnish evidence of pathological organic involvement of the brain.

In spite of this it seems possible that improvements in diagnostic examinations in the future might give objective evidence of a pathological brain organization in a number of maladjusted children with retinal changes who have shown no organic cerebral signs so far. Such evidence would also verify the clinical impression of Creak and Schilder that an organic involvement of the brain in maladjusted children probably is more frequent than is known at present.

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