

## CHILDREN WITH DEFECTIVE VISION, IN NEED OR NOT OF SIGHT-SAVING CLASSES

BY

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THE boy F. (vide *Brit. Jl. of Ophthal.*, Vol. XXI, p. 243) with atrophy of the optic nerves was No. 79 in a list of 170 cases of optic atrophy, treated by me during the extent of 11 years and shown in 1933 at the annual conference of the Leningrad Ophthalmological Institute.<sup>1</sup> As I told the meeting, the physiotherapeutic treatment of optic atrophy from the beginning till the present time consisted generally in the application of the *first triad*, which is produced by the following procedures: (1) by the *thermophore*, a hot-air douche is directed during five minutes into the open eyes; (2) by *cathaphoresis* medicamental substances (iodine, strychnine, nitroglycerine) are conducted by means of electricity during ten minutes to the visual paths and (3) by the *radiophore*, one compels d'Arsonval's currents to act during five minutes in the region of the spinal marrow in connection with the visual tracts.

Among the 170 cases of optic atrophy there were 62 (36.5 per cent.) of syphilitic origin. All the remaining obtained some improvement from the treatment. As to the syphilitic atrophies, the greater proportion of them (34) also received amelioration of sight, five persons conserved the same vision as before the treatment, but 23 (13.5 per cent.) continued to lose their sight.

On the same list there are 15 children and youths from 8 to 20 years of age. Three of these revealed hereditary syphilis and the sight was different in each case: better after the treatment, worse and the same as before treatment. The other 12 young patients, all with ameliorated vision, showed in the better eye improved sight after the treatment.

	A	B		A	B
1 (No. 46)	0.001	0.03	7 (No. 98)	0.05	0.2
2 (No. 128)	0.03	0.05	8 (No. 107)	0.15	0.2
3 (No. 47)	0.002	0.07	9 (No. 146)	0.08	0.3
4 (No. 90)	0.01	0.08	10 (No. 113)	0.02	0.3
5 (No. 75)	0.05	0.1	11 (No. 109)	0.03	0.5
6 (No. 65)	0.06	0.15	12 (No. 79)	0.04	0.7

A = Before treatment. B = After treatment.

1. Here is the history of No. 12 who was spared the sight-saving classes.

B. F., eight years of age, entered March 25, 1929, under No. 110.

*Diagnosis.* Partial atrophy of the optic nerves in both eyes.

*History.* At the age of 1 year 8 months was affected by exanthematic typhus. R.W.—The feebleness of vision was noticed during the last year, as the boy began to work in the school.

V.R. = 0'03; L.V. = 0'04. The visual fields are normal. Daily seances of the first triad were indicated.

April 1, the first seance. April 6, V.R.L. = 0'06. April 14, V.R.L. = 0'1. April 20, V.R.L. = 0'12. April 29, the ophthalmoscope shows a good aspect of the papillae, Atrophy is confined to the temporal part. June 10, V.R.L. = 0'15. June 26, V.R.L. = 0'15. July 5, interruption.

November 13, the boy works in the normal school. V.R.L. = 0'2. *Ophth.*, pale discs, tortuous vessels in the right eye. Above treatment every other day. December 2, V.R.L. = 0'25. December 21, V.R.L. = 0'3. January 6, 1930, V.R.L. = 0'35. January 14, V.R.L. = 0'45. January 20, V.R.L. = 0'5. February 6, V.R.L. = 0'6. March 13, V.R.L. = 0'6. April 13, V.R.L. = 0'7. May 7, the treatment is stopped, May 30, V.R.L. = 0'7. The young patient visits us from time to time after school hours. The eyes are healthy, but the pallor of the temporal part of the discs remains.

2. *Here is the history of another boy who required sight-saving class treatment and received it.*

J. M., aged eight years, entered September 28, 1934, under No. 10161.

*Diagnosis.* Partial atrophy of the optic nerves in both eyes. Divergent strabismus in the right eye. Nystagmus in both eyes.

*History.* On the third day after birth nystagmus appeared. The condition is still unchanged. The pupils act regularly.

V.R. = 0'01; V.L. = 0'02. The visual fields are normal. *Ophth.*, atrophy is only in the temporal part of both discs.

Daily seances of the first triad are given.

October 4, V.R. = 0'01; V.L. = 0'02. October 10, V.R. = 0'01; V.L. = 0'03. October 16, V.R. = 0'02; V.L. = 0'03. October 22, nystagmus has almost disappeared. October 28, V.R. = 0'02; V.L. = 0'03. November 15, V.R. = 0'02; V.L. = 0'03. With -2'5 D. sph., V.R. = 0'03 and V.L. = 0'05. December 28, with spectacles, V.R. = 0'03; V.L. = 0'05. The treatment ceases.

Admitted with great difficulty to a sight-saving class, the boy appears May 14, 1935, with a small abatement of the sight, and he receives a second course, which is able to be given simultaneously with the study. Again daily seances of the first triad were given.

May 14, V.R. = 0'02; V.L. = 0'04 with spectacles. May 26, V.R. = 0'02; V.L. = 0'05. May 31, V.R. = 0'03; V.L. = 0'05. June 17, V.R. = 0'05; V.L. = 0'08. The treatment is stopped.

The boy received a third and fourth course, and later, February 19, 1937, as he was apprised of the following case, he proceeded to a fifth course, although his sight at this time was not less than 0'1 and attained to the third class. He was in very good mental condition.

3. *The history of a girl, who was admitted to a sight-saving class, and later sent to the school for the blind.*

S. K., aged 15 years, entered January 10, 1937, under No. 338.

*Diagnosis.* High myopia, macular changes in both eyes, retinal haemorrhages.

*History.* Treatment of the eyes began in 1931, the girl at that time had 0'1 without spectacles, but at the time of treatment her sight had become worse and at the end of 1931 she saw only 0'03. In 1934 she was sent to the physiotherapy department where she received iontophoresis with calcium, and in two months her sight rose with correction to 0'2. After this treatment she entered a school with sight-saving classes. In 1936, some deterioration of her sight being apparent she consulted an oculist, who advised her to pass over to the school for the blind. The physician of the sight-saving classes consented to this, affirming that there was no advantage for the girl to be occupied in their school. In the school for the blind her sight hindered her, which was too small in the school for the seeing, and so the end was that the girl returned again to physiotherapy.

She wears spectacles -12'0 D. sph. Her myopia is higher than -20 D. with correction V.R. = 0'04; V.L. = 0'03.

The treatment consisted in iontophoresis of 1 per cent. calcium chloride during two minutes with force of 2 m.a. on each eye.

January 16, V.R.L. = 0.1 with -20 D. January 23, V.R.L. = 0.2 with -22 D. January 31, V.R.L. = 0.3 with -22 D. February 20, V.R. = 0.3 with -22 D.; V.L. = 0.3 with -24 D. March 11, V.R.L. = 0.3 with -23 D, and -24 D. The young patient is now ready to continue the study in the school with the sight-saving classes.

4. *The history of a young man who dispensed with the sight-saving classes.* G. V., 18 years of age, entered November 1, 1934, under No. 11338.

*Diagnosis.* High myopia, macular haemorrhages in both eyes.

*History.* Always sees badly at all distances. Has worn spectacles from the age of 13 years, only for reading.

V.R. = 0.02 with -16.0 D. sph. = 0.08; V.L. = 0.01 with -12.0 D. sph. = 0.04.

The treatment—as in the previous case.

November 6, V.R. = 0.15 with -16 D.; V.L. = 0.06 with -12 D. The treatment is stopped.

September 7, 1935, V.R. = 0.2 with -15 D.; V.L. = 0.2 with -18 D. September 11, V.R. = 0.3 with -15 D.; V.L. = 0.3 with -18 D. September 13, to the play in "ensemble" spectacles -13.0 D. sph. for the right eye and -16.0 D. sph. for the left are indicated. September 17, V.R. = 0.3 with -15.0 D.; V.L. = 0.4 with -18 D. September 23, V.R. = 0.4 with -15 D.; V.L. = 0.4 with -18 D. September 29, V.R. = 0.5 with -15 D.; V.L. = 0.5 with -18 D. October 7, V.R. = 0.5 with -15 D.; V.L. = 0.6 with -18 D. October 23, V.R. = 0.6 with -15 D.; V.L. = 0.7 with -18 D. November 26, V.R. = 0.7 with -15 D.; V.L. = 0.7 with -18 D. The treatment ceases.

September 3, 1936, V.R. = 0.6 with -14 D.; V.L. = 0.4 with -17 D. October 1, V.R. = 0.7 with -14 D.; V.L. = 0.5 with -17 D. The treatment is stopped.

We see that the successful first case is matched by the no less astonishing fourth case; that they both have been spared the sight-saving classes and the less happy cases—second and third—also received some benefit, but it is needful to keep in mind that to help a scholar to avoid sight-saving classes is only possible by improving his sight, not by throwing him from a school for the seeing to a college for the blind.

#### REFERENCE

1. KAZ, R. A.—Effectiveness of physiotherapy in ocular diseases. Works of the Ophthalmological Institute, Tome I, Leningrad, 1936.

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#### ANNOTATIONS

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##### Vaso-dilators in the treatment of tobacco amblyopia

The rationale of the treatment of tobacco amblyopia by vaso-dilators is based on the conception advanced by Maitland Ramsay in 1896 that vascular spasm is a factor in producing transient blindness from tobacco poisoning, a view that Parsons and others have also favoured. Some authorities have pointed out that there are no obvious ophthalmoscopic changes to be seen in the retinal circulation in tobacco amblyopia whilst others suggest that the vascular spasm affects the vessels supplying part of the chiasma. Usher has commented on the fact that visual recovery is more rapid