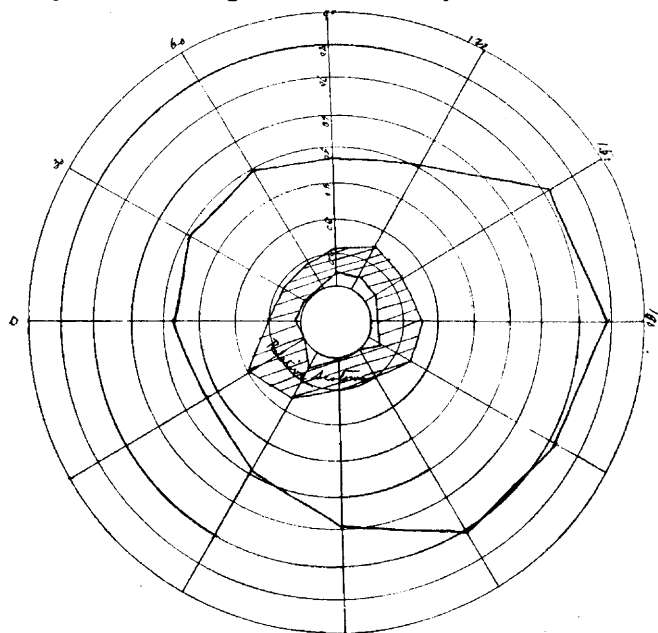
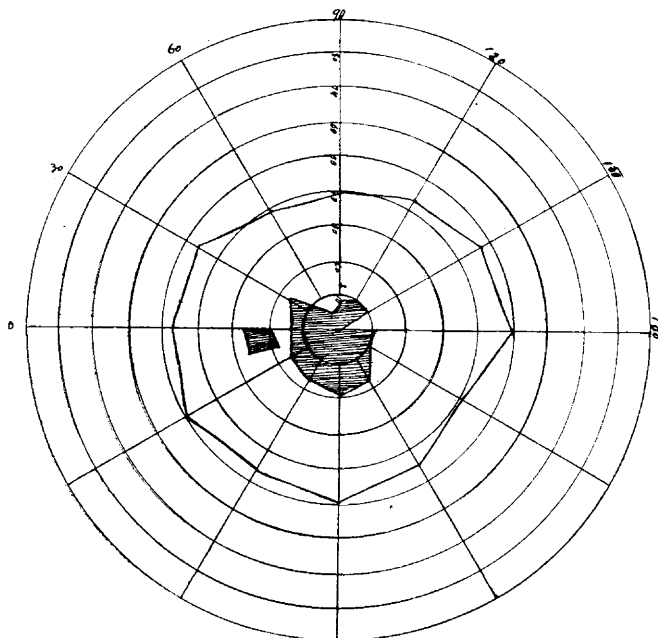


3. The unequal effect on the two eyes.
4. The peculiar and dissimilar visual fields, presenting a relative ring scotoma in one eye and an absolute



Right. Field of vision of F. F., May 30, 1898.



Left. Field of vision of F. F., May 30, 1898.

central scotoma in the other. The effect on the color sense is not remarkable, considering the impairment of vision and the ophthalmoscopic appearances.

SOME RESULTS IN CASES OF TOBACCO AMBLYOPIA.

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The results here presented to you are the conclusions drawn from the various cases of tobacco amblyopia treated by me during the past seventeen years. The cases selected are intended not only to call atten-

tion to the favorable results following treatment, but to serve especially as illustrations of the faith that is in me. The subject has been so exhaustively handled that it is needless to theorize more; practical experience is after all our final teacher.

I employ the term tobacco amblyopia to express a bilateral, retrobulbar neuritis of the optic nerve with central color scotoma, followed later by an atrophy of the nerve occurring in one addicted to the use of tobacco, and so far as known not using any other toxic agent to excess. The condition may be due to a primary hyperemia of the nerve in this location—the interstitial inflammation, with later the formation of connective tissue elements followed by atrophy of the axial fibers of the optic nerves following it. The primary lesion may be a direct action of the poison on a central inhibiting center followed by the phenomena above outlined—a suggestive fact in connection with this supposition being that it is always bilateral. Whichever of the various theories as to its primary origin may ultimately be proven to be the true one, the lesions met with are well understood. That which especially concerns us are its early recognition and curability, and the measures that conduce thereto. I believe that tobacco blindness is not an uncommon affection, being far more prevalent than usually supposed. It varies from a condition of but slight obscuration of vision to a complete loss of sight. It is in the early stages especially that the affection should be recognized, as then the complete restoration of sight is comparatively easily accomplished, whereas in the later stages when atrophy has set in, the disease can usually be arrested but the vision can not be fully restored. The reason why we find in hospital reports so very few records of tobacco amblyopia is, I think, that these slight cases go unrecognized, the condition being perhaps unconsciously overcome by the doctor insisting upon more rigid habits and alterative treatment. The cases are usually recognized by the disturbance of vision observed on passing from the dark to the light, or even vice versa; by an obscuration of vision more or less constant; by perhaps even a slight sluggishness of accommodation; by at first a hyperemic condition of the outer half of the nerve, especially below, and, I fancy, a slightly sluggish pupil on varying the illumination; and by olfactory evidences of the excessive use of tobacco as well as from the history.

As for the form in which tobacco must be used to bring about such results, I would say that it would have to be smoked, that is, the oily alkaloid volatilized, and the other constituents of the tobacco gasified. In my work I have never seen a case produced by the use of snuff, nor have I seen a case in which I was sure it was caused by the handling of the tobacco either in its fresh or dried state, nor have I seen a case in which there was any evidence that the chewing of tobacco has caused it. I know this latter statement is at variance with that of most observers, and yet so sure am I of this fact that I allow my smokers, who are also chewers, to continue the latter if they will but stop the former. Case 2 is one to whom I allowed this privilege and yet he improved from R. E. 6/19, L. E. 6/19 in three months' treatment while using chewing tobacco constantly to R. E. 6/6, L. E. 6/6.

As for the age at which this disease appears, I think it well to recognize that it is especially liable to occur in adolescence and early manhood, on account

of the greater susceptibility of the nerve structures. I have found it present in a comparatively large number of patients under 21 years of age. The youngest was aged 13 years. Case 1 was a well-marked and typical case of rapidly progressing tobacco blindness. The oldest case I have treated was 76 years of age.

In regard to the condition of the pupil, I have frequently observed slight irregularities and inequalities present, and as before said, I fancy that the response to light stimulation is slightly less prompt than normal. I will briefly outline a few cases and their results, making comments as necessary and will indicate later the treatment followed. All the cases showed typical central scotoma with the usual objective symptoms.

Case 1.—Frank A. R., a school boy aged 13 years, was examined Jan. 19, 1888, and presented the typical symptoms and history—a cigarette smoker, had never used alcohol; had history of increasing loss of sight during the past year. Remote vision, R. E. $7\frac{3}{8}$; L. E. $7\frac{5}{8}$; proximate, R. E. 1 J @ 7–40 cm.; L. E. 1 J @ 7–40 cm. The remote vision was slightly improved by glasses. Stopping the tobacco entirely and pushing the treatment the vision was raised in four months to R. E. 7%; L. E. 7%, improvable with H.A.s. glasses to B. E. %.

Case 2.—Mr. Thomas R. H., aged 50 years, came Dec. 28, 1896, with a history of steadily decreasing vision, commencing one and one-half years previously. He never had used alcohol in his life. On his arrival I observed he had a very peculiar gait. He walked with his head twisted to the side and downward, at once indicating central total scotoma, which was confirmed by taking the fields. His remote vision was R. E. $\frac{1}{10}$, L. E. $\frac{1}{10}$; not improved by glasses. Near vision was R. E. 20 J. @ 19–100 cm.; L. E. 20 J. @ 15–100 cm. He had early noticed mists and obscurations of vision and an increasing impairment of sight. Later on he began to observe that his central vision was gone; he has been compelled to rely on eccentric vision for about a year. His tobacco smoking was stopped at once and he was allowed to chew although he had not done this before. He had averaged over eight cigars a day, but ceased at once. The treatment was pushed to the fullest extent and he was very faithful in following all my directions. After three months' treatment I ordered for him B. E. + 2.75 for near = 1 J. @ 17–45 cm. His distant vision without glasses was R. E. %, L. E. %. This was a typical case of tobacco blindness and one easily proven, and yet by ceasing smoking and thorough treatment his remote vision was made practically perfect, his central vision being restored to him, and instead of walking with the head twisted on the body he saw perfectly well with the head erect and directed forward as natural.

Case 3.—George W. S., a tobacco dealer, aged 57, came to me Feb. 5, 1898; a case dating back some ten years since its origin, one in which atrophy had occurred to a great extent. Remote vision, R. E. $\frac{3}{60}$, L. E. $\frac{3}{60}$, not perceptibly improvable by glasses. Proximate vision, R. E. some 50 J., L. E. 50 J., not improvable by glasses. No alcohol has ever been used by the patient, but he has been a constant smoker since he was a boy. After three months' treatment and the ceasing of the use of tobacco, continuing the chewing, however, his remote vision improved to R. E. $\frac{1}{48}$, L. E. $\frac{1}{48}$; with glasses, R. E. %, L. E. $\frac{1}{12}$, and his near vision with glasses to B. E. = 1 J. @ 21–38 cm.

Case 4.—Mr. John R., aged 76 years, came to me March 27, 1897, with a typical history of tobacco blindness, dating back some twelve years—the observed symptoms confirmed the history. He had always been a heavy smoker but a moderate drinker. The condition present was one of extending atrophy. His distant vision was R. E. $\frac{1}{60}$, L. E. $\frac{1}{60}$, not improved by glasses. Near vision, R. E. some 30 J., L. E. some 40 J. I could not entirely stop his smoking, but put him on the scantiest allowance possible, and instituted the usual treatment, with the result that with glasses his distant vision improved to B. E. $\frac{1}{24}$, and near vision to B. E. = 3 J. @ 20–35 cm. The case is interesting on account of the age of the patient, the length of the period of involvement and the fact that despite these factors there was a marked improvement in vision.

Case 5.—Mr. G. W. S., New York City, jewelry salesman, aged 33 years, came March 8, 1894, with the typical history, fields, symptoms and appearances of a commencing tobacco amblyopia. He commenced the use of tobacco as a boy and

continued at it pretty continually, using at the time eight or ten cigars a day. Later on he commenced to use alcohol, but not excessively. His symptoms of blurred vision and obscurations, especially when there was a change of illumination, particularly when leaving the outer air and entering a room, had continued for about a year, lately seeming to get worse. Occasionally he momentarily saw double, but attributed this to his stomach. Remote vision, R. E., $\frac{1}{2} + 1 \times 90^\circ$; L. E., $\frac{1}{2} + 0.50 \times 90^\circ$. Proximate vision, R. E., 1 J @ 13–57 cm.; L. E., 1 J @ 15–64 cm. The proper glasses and treatment were ordered for him and he was strongly urged to stop smoking, being warned he would go blind unless he ceased it.

I saw very little of him after this, but have learned from his friends that he continued the tobacco habit until quite blind, when he consulted an Eastern specialist, who insisted on the stopping of the tobacco, but he refused to obey. His vision is now so bad that he has not been able to do his work for over two years, and lately is compelled to have some one guide him when he goes outdoors. This case excited so much compassion in New York City that a benefit was given him the past winter, at one of the prominent theaters there, the announcement indicating the total blindness of the beneficiary. We will observe that when he presented himself his vision for near and distance was almost normal, and yet four years afterward he was totally blind.

Case 6.—Mr. John A. Z., attorney, age 23 years, came for the first time March 23, 1893, with a typical history of tobacco amblyopia, and the examination gave absolute evidence of the same fact. The blurred vision on going into the light was very marked. It had been coming on for about a year. Remote vision was, R. E., $\frac{1}{30}$, with glasses $\frac{1}{2}$; L. E., $\frac{1}{30}$, with glasses $\frac{1}{2}$. Proximate vision, R. E., = 1 J @ 12–48 cm.; L. E., = 1 J @ 12–46 cm. After cessation of the smoking habit (he was a very mild user of alcoholics) and steady treatment for four months, he was discharged with a remote vision of R. E., $\frac{1}{2}$; L. E., $\frac{1}{2}$, with glasses, and proximate vision R. E., 1 J @ 12–50 cm.; L. E., 1 J @ 12–50 cm. His eyes were practically perfect.

He again appeared April 23, 1896, having recommenced smoking shortly after his discharge by me, although I had carefully informed him as to its danger. His remote vision now was R. E., $\frac{1}{24}$; L. E., $\frac{1}{24}$; improved with glasses to R. E., $\frac{1}{2}$; L. E., $\frac{1}{2}$; and proximate vision, R. E., = 1 J @ 12–44 cm.; L. E., = 1 J @ 12–44 cm. After three months' treatment such as had been followed before by such good results he was again discharged as well, with normal vision, and up to this time he has not reappeared.

It will be noticed that the first three cases above noted developed in those who had not used alcohol in any form. Of the others none had used alcohol to excess. Several of them continued to chew after the treatment was commenced and yet the vision improved. In all in whom a favorable result followed was smoking withdrawn.

The treatment to which I now subject my patients comprises the routine measures of absolute stoppage of smoking, the use in increasing doses of iodid of potassium, the use of increasing doses of strychnin. In addition, I always order the frequent applications of hot washes to the eyes, preferably by means of eye cups. I always use irritants, such as alum stick, etc., to the lids myself two or more times a week. I always advise hot plunge baths if possible every night, and order that hot water, hot milk or hot lemonade be used frequently and liberally. I have observed quite a marked increase in the amount of improvement developed in my cases since these latter measures were systematically added to the treatment. I believe they serve to improve the local circulation about the eye as well as the general circulation, thus stimulating the metabolic processes and strengthening the activity of the secretory organs to such an extent as to the sooner relieve the system of the toxic agent as well as of the results of the perverted nutrition. It may be termed a going back to the old water treatment.

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