The two cases above referred to, wherein normal sensation was combined with increased patellar-reflex, were reported by Seeligmüller¹ as cases of Freidreich's disease. They were two brothers whose parents were first cousins, and whose mother and maternal aunt were highly neurotic. Both brothers had locomotor and static ataxy, in one the static being predominant. In both there was absolutely no loss of sensation, and there existed *increased* patellar-reflex, and nystagmus. The plantar reflex was absent in both; the abdominal reflexes were present. There was no ankle clonus, and no disturbance of speech.

Freidreich, to whom Seeligmüller sent his cases for an opinion, expressed a doubt as to whether they were true cases of his disease, presumably in view of the presence of retained patellar-reflex and the presence of psychical symptoms which existed in both, namely: forgetfulness and dreamy states in one, and forgetfulness, migraine, dreaminess, and inverted sexual passions in the other. But, as Seeligmüller points out, the father, who was otherwise perfectly well, had the same forgetfulness, and, as Omerod remarks, the connection between tabes and paralysis of the insane is well known. Even if there should have been some cerebral disease, it would scarcely account for the spinal symptoms. It seems to me, all things considered, that Seeligmüller was more likely right.

Not the least interesting question connected with the case of Mary D. is the seat of the lesions in the cord. It is a remarkable fact, considering the grouping of the symptoms, that out of seven autopsies² of Freidrich's disease thus far recorded³ (including the case reported by Kahler and Pick), in six there was found sclerosis, not only of the posterior columns, but of the lateral as well. In several there was sclerosis of anterior columns. Of these seven cases, the condition of the tendon-reflexes was, unfortunately, noted in only three; in all three the patellar-reflex was absent, though there was lateral sclerosis as well.

How are we to explain the absence of all symptoms of lateral sclerosis in these cases on one hand, and, on the other hand, of the presence of the knee-jerk in exceptional cases of ordinary tabes, and of the exaggerated jerk in Seeligmüller's cases and mine? The key to this question I believe is given by the autopsies of other cases of systemic spinal disease, not Freidreich's, in which a combination of systemic lateral and posterior sclerosis existed. An excellent digest⁴ of these cases has also been made by Omerod, who has collected twenty cases in all. Of these, the patellar-reflex was lost in eight and exaggerated in six cases, reported by Strümpell (two cases), Westphal (one case), Raymond (one case), Rabasin (one case), and Déjérène one case. Of these, the most instructive was Déjérène's.⁵ The symptoms were those of tabes, namely: slight locomotor but marked static ataxy; *exaggeration of patellar-reflex; ankle clonus*; paresis of legs; anesthesia and analgesia of the legs, distributed in patches. Death from broncho-

pneumonia. At the autopsy there was found chronic posterior spinal meningitis, atrophy of posterior nerve roots and cutaneous nerves, sclerosis of lateral columns in lumbar and dorsal regions. This sclerosis was wedge-shaped, the bone reaching the periphery and occupying the posterior part of the lateral columns, but stopped before reaching the posterior bone (wrist cerebellar and crossed pyramidal tract?). The posterior columns were sclerosed the whole length, *excepting in the lumbar enlargement*, which was nearly unaffected.

In the other four cases, all of which, however, presented more decided spastic symptoms, the disease of the posterior columns did not reach the lumbar enlargement. These cases, therefore, support Westphal's opinion, based on his one case where the spastic symptoms were present, and several other cases where they were not—that if the posterior sclerosis involved the lumbar enlargement, the lateral sclerosis was manifested by paresis only, without rigidity, and the patellar-reflex is absent, but if the posterior sclerosis did not extend into the lumbar enlargement, the symptoms of lateral sclerosis predominate.¹

If the case of Mary D. (the subject of this paper), is properly classified as one of Freidreich's disease, we may assume that the disease has not to any great extent involved the lumbar enlargement; and thus explain the fact that the patellar-reflex is not abolished. Finally, the exaggeration of the latter may be owing to the same conditions which cause an increased patellar-reflex in transverse myelitis when the lesion is above the lumbar enlargement; or, if we suppose the same anatomical changes to be present which were found in the six autopsies of Freidreich's disease mentioned above, it is possible that the lateral columns are slightly affected. This would account for whatever amount of paresis is present.

SUN-BLINDNESS.*

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The danger of blindness from the direct rays of the sun, which appears to have been generally recognized not only by the medical profession but also by the laity of the past generation, is apparently unrecognized to-day. During the recent eclipse, many might have been seen looking at it with the naked eye. It is not uncommon for patients to tell the physician, as a proof of strong vision, that they can look steadily at bright lights, and even at the sun without blinking. Children not infrequently undertake competitive trials to see which can gaze longest and most steadily at the sun.

In many of the recent smaller works on ophthalmology the subject of sun-blindness is not mentioned. Nettleship, Lawson, Williams, Schweiger and De Wecker refer to the possibility of blindness being caused by flashes of lightning, by the bright glare

¹Archiv. für Psychiat., etc. Bd. 10, S. 222.

²This does not include Dr. Smith's case.

³Abstracts of this article will be found in Omerod's Digest.

⁴Brain, July, 1885.

⁵Archiv. de Physiolog., Nov. 16, 1884.

¹Omerod, loc. cit.

²Read before the Chicago Society of Ophthalmology and Otology, August 11, 1885.

from snow and from a too prolonged gaze at a brilliant artificial light; but the possibility of a like result following from the direct rays of the sun is not referred to. Soelberg Wells mentions the subject, but in the most cursory manner, simply saying that blindness may follow if the eye is long exposed to bright sunlight. He further points out the difference which may exist in the density of the cloud or disk, and which may last only a few moments, days or weeks, or even longer. The prognosis, in his view, appears to be favorable. No reference is made to any pathological condition. The treatment recommended is rest, protection from bright light by suitable colored glasses, cod-liver oil and steel. The majority of recent writers, however, have ignored this as a cause of blindness—a cause which, from the carelessness of adults and the ignorance of children, may well be considered one which is most practical and vital.

In a more recent work by Swanzy, of Dublin, the subject is considered at somewhat greater length. He refers to the semi-blind spot which appears in the field of vision after exposure, and which, however, may be absolute. In his experience, even in mild cases, this cloud seldom entirely disappears. The ophthalmoscope shows a small bright white spot at the fovea centralis, surrounded by a blood-red ring which fades off into the normal color.

A recent monograph by Deutchmann, of Göttingen, gives us more definite information as to the pathological conditions in these cases. His investigations were undertaken more particularly with that end in view. He cites four cases which came under his care in 1882. In one of these a blue glass had been used in looking at the eclipse, still, the result was the same. In all the cases, immediately after looking at the sun a small cloud appeared in the centre of the field of vision, and examination showed a small central scotoma. Vision was impaired in the same degree in three of the cases, being $\frac{2}{3}$. In one case which came under observation two months after the first appearance of the blind spot, vision had already considerably improved, seeing $\frac{3}{4}$ without difficulty. The finest print, in all these cases, was read with difficulty. In none of Deutchmann's cases were the scotomata complete, and yet in none was perfect vision recovered. Pathological changes were found in all, viz.: a small bright white spot in the centre of the macula lutea, and around this a blood-red ring which gradually shaded off into the normal retina.

To verify these results, Deutchmann undertook a series of experiments on the eyes of rabbits. The direct rays of the sun were condensed by a concave mirror and then rendered parallel by a convex lens. They were then directed on to the retina through the dilated pupil. The resulting appearances were similar to those seen in the human eye; the small central spot of anæmia with the surrounding ring of hyperæmia—these results following an exposure of only a few seconds' duration. An examination with the microscope showed that an extremely small area of the retina was disorganized by "the coagulation of the albumen in its tissues with hyperæmia, exudation,

diapedesis of blood-corpuscles and pigment disturbance surrounding it."

Based upon these pathological changes, the unfavorable prognosis which Deutchmann gives in these cases would seem to be well justified. The following case, however, which came under my observation the 28th of last March, presents phenomena difficult of explanation if we accept the view that these pathological changes are an essential element in sun-blindness.

Howard D., a lad 13 years of age, looked at the sun several times during the eclipse of last March. Finally, after a somewhat prolonged gaze, he felt slightly dazzled. Then, wherever he looked, objects seemed colored with quickly alternating shades of green and blue. This lasted half an hour, and then disappeared. His vision continued good until 4 P. M. of the same day, when, looking at the snow or sky, he noticed a dark spot in the centre of the visual field. The spot was quite dark and about eight inches in diameter. It was round with a piece taken off the outer side—this piece representing the position of the moon when the eclipse was last observed. It appeared as if the sun had photographed itself upon the retina. Three days later, a dull ache was felt in and around the eyes.

I first saw the patient twelve days after the accident had occurred. He then told me that the cloud had been constantly growing larger and darker. Vision, on this first examination, was $\frac{7}{10}$ in both eyes. The ophthalmoscope showed no discoverable morbid change in the fundus. The disk, the vessels and the retina all appeared in normal condition.

Subcutaneous injections of strychnia, together with the use of the constant current, were begun. The beneficial effects of this treatment were seen four days later, when the cloud had become less dark and impenetrable, and the outlines of letters representing normal vision, or $\frac{1}{10}$, could be made out within its area. Still four days later, the patient returned to school and attempted to go on with his studies. This resulted in a relapse to $\frac{7}{10}$ vision and an increase in size and density of the scotoma, with a return of the dull aching pain in the eye. April 9, $\frac{1}{10}$ vision was again reached, but the letters could only be deciphered separately after closing and resting the eyes.

April 14.— $\frac{1}{10}$ could be seen clearly for 3".

By April 21, in the R. E., 12" were counted before the cloud came, and even then $\frac{1}{10}$ could be read through it. In the L. E., 6" elapsed before the cloud developed, and through it $\frac{1}{10}$ could be seen only indistinctly.

April 28, a week later, 20" in the R. E., and 10" in the left, indicated a continued improvement.

May 4, the strength of the retina had increased to 28" in the R. E., and at the end of that time, what the patient described as a simple blur came, and $\frac{1}{10}$ could be easily read through it.

May 13.—The R. E. had reached 43" and the L. E. 25", and only the upper half of the test-types was obscure. At this time, owing to considerable swelling and soreness over the temples, the injections of strychnia were suspended, when the strength of

the affected portion of retina rapidly deteriorated to 32" in the R. E. and 15" in the left. The subcutaneous injections were again commenced, with an improvement in four days of 11" in the R. E. and 22" in the left. This improvement was gradual until June 2, when 66" in the R. E. and 46" in the left were counted before the development of the scotoma, which at the same time had diminished much in size and density. At this time the patient withdrew from treatment.

The fact that this case, after several exposures, presented no discoverable pathological changes, together with the constant improvement until 66" was reached, during which time no evidences of the scotoma were manifest, justify the conclusion that in these cases of sun-blindness the lesion may be much less serious than that indicated by Deutschmann—being rather of the nature of a paralysis than that of the disorganization of the retinal elements, and, consequently, that the prognosis as to the ultimate recovery of perfect vision is not necessarily unfavorable.

MEDICAL PROGRESS.

MATERIA MEDICA AND THERAPEUTICS.

HYDROBROMATE OF HYOSGIN.—DR. ARCHIBALD CHURCH, of Elgin, Ill., in a short article on this subject, says that in sthenic acute conditions, or violent manifestations arising in the course of chronic insanity, hydrobromate of hyoscin has notably and promptly lessened the excitement, and in the frenzy of melancholia has mitigated the outbreak in cases where it has been tried in this hospital. While not doubting that its continued administration in small and often repeated doses will disarrange alimentation—and what powerful drug does not?—it has yet rendered signal service in tolerably full doses, $\frac{1}{40}$ grain, given when specially indicated, without producing any untoward symptoms whatever. By watching its action upon others, and upon myself, in varying doses, it did not seem advisable to give it in a more routine manner than one does morphia or atropia in parallel cases, and, so far, more than two doses of $\frac{1}{40}$ grain have not been used in twenty-four hours.

By careful sphygmographic observations it is clearly shown that minute doses— $\frac{1}{150}$ to $\frac{1}{100}$ grain—of the hydrobromate are stimulant of cardiac action, and thereby of the mental processes and attendant manifestations, not only among the insane, but in a condition of health. With a larger dose— $\frac{1}{40}$ to $\frac{1}{20}$ grain—this also is the primary result, but as more of the medicament comes into operation, it is followed by a slowing of the pulse-rate and by a diminution of the cardiac curve of the tracing, sometimes to such an extent that a bruit of diastole appears. A feeling of fatigue, or rather of comfortable weariness, if you will permit such a term, is now associated, and one gives up readily to feelings of drowsiness, sleep following naturally. After using the drug in $\frac{1}{40}$ grain doses for from six to ten consecutive nights, with an average of six hours' sleep, for instance, its discontinuance has been followed, but only after several

nights, by wakefulness, which again gave way to the remedy. In some instances of confirmed insomnia, or rather of often-disturbed sleep, after securing a few nights' good rest the patient has rested fairly well, the habit of waking at certain times being broken, and in general the effect of the drug is lasting. When given by the mouth, as was pointed out in the article above referred to, its action is slow, and there is considerable variability as to the amount required by different patients. Although no notable depression has come under observation from the use of the drug in such doses as are indicated above, it no doubt is capable of producing stupor just as does hyoscyamia, which doubtless in the amorphous form contains it largely, but which is associated with little danger, according to a recent writer in the London *Lancet*, who gave unhesitatingly $\frac{1}{2}$ grain, and even $\frac{3}{4}$ grain of Merck's preparation, producing coma, etc.

It may be not uninteresting to note that hyoscin is a very active mydriatic. It was found that two drops of a solution $\frac{1}{10}$ grain to the ounce of distilled water produced complete dilatation of the pupil and paralysis of the accommodatory muscles in about five minutes, and that it was more active to stretch the adhesions in a case of posterior synechia than the repeated instillation of a solution of atropia sulphatis three grains to the ounce. The mydriasis so produced is very persistent, lasting from five to ten days, and the use of the solution is not attended, as far as observed, with any conjunctival irritation, which will suggest its value to oculists where the long-continued action of a mydriatic is required.

From the little learned concerning the drug, it would seem to be of use in conditions of intensified nerve action, especially of cerebral origin, to meet acute manifestations.—*Med. Record*, Oct. 10, 1885.

MEDICINE.

HYDATID CYSTS OF THE BASE OF THE SKULL.—M. ODILLE reports the following interesting case which came under the care of M. Bucquoy: A man, 43 years of age, had been subject for three years to intense cephalalgia, which was constant and extended all over the head. He did not vomit, and had never had convulsions. At times there were lancinating pains down the side of the face. For two years there had been some feebleness of vision and deafness on the left side. Two months before entering the hospital he noticed a tumor on the left side of the neck, and which increased steadily in size. Some weeks later he expectorated something very much like raisin seed, a dozen of these being expectorated in one morning. He then entered the hospital, and the nature of the tumor was established beyond doubt; it was an hydatid tumor, starting from the base of the skull, making a track for itself in the soft tissues of the neck, and pressing on the cranial nerves in the vicinity. There was almost complete prolapsus of the upper eye-lid, and paralysis of the external and inferior recti of the left eye. There was dimness of vision on the same side. The muscles of the face were somewhat retracted, the contraction of the left masseter giving rise to some open-