COLOUR-BLINDNESS IN THE MERCANTILE MARINE OF THE UNITED STATES.

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THE very interesting paper on "Colour-Blindness: its Present Position in the Mercantile Marine Service;" which was read by Mr. T. H. Bickerton, at the meeting of the British Medical Association in Dublin, last August, and the Editorial comments thereon in the JOURNAL of November 12th, have prompted me to present the results of the experience with this question of that branch of the United States Service which has supervision over the sanitary affairs of the mercantile marine.

It was a matter of some surprise to note the high percentage of colour-blind seamen in the results of the Board of Trade examinations, but this seems explicable when it is understood that the names of the colours are required.

Since 1880, all pilots on harbour vessels and steamboats, on the rivers and lakes of this country, have been required to pass an examination for colour-blindness. This examination is required of the officers and seamen of the Revenue Marine Service (coastguard), and of the surfmen of the Life Saving Service. The officers and seamen of the navy are examined by the naval surgeons.

The examination is made with Holmgren's test. The names of the worsted skeins are not necessarily referred to, as very often the individual examined does not know the names of any but the primary colours. Occasionally the mental processes of the seamen are so slow, that it is necessary for the examiner to first illustrate the examination by making the entire selection before him, of course this would in no wise assist a colour-blind person to make the proper selections.

From the appended table it is seen that during the past seven years, 20,742 seamen have been examined for colour-blindness, and 478, or 2.3 per cent. were rejected as unfit for service, on account of this disability.

It should be understood that the law does not require the officers or seamen of vessels engaged in foreign trade to pass this test. It must also be noted that in reality the percentage of colour-blindness, as given above, is a little high on account of men who have been rejected

at one city coming up for an examination elsewhere. This was particularly the case when the law was first passed.

Several instances of this character may be cited. Pilot J. F., examined and rejected on July 13th, 1881, was again rejected on July 27th. Pilot G. S. F., rejected April 6th, 1882, was again rejected on July 5th. Pilot J. F., managed to secure examination on August 24th, and December 16th, 1882, and February 7th, 1883, each time being rejected. His experience was equalled by Pilot G. W. H., who was rejected on August 25th, November 20th, 1886, and February 9th, 1887.

In one instance coming under my notice, a pilot, who had been rejected twice, had a friend personate him, and the latter having normal colour sense, obtained a successful certificate; the fraud was discovered, however.

Mr. Bickerton's inquiry to ship-owners, relative to the employment of colour-blind men, met with an affirmative response once in my experience. The master and owner of a steamboat, on the Mississippi River, brought a man to me for examination for colour-sense. The man proved to be colour-blind, and on looking over the records, his rejection several years previous was found; the man said he had not expected to pass, and stated that his steamboat had once collided with, and sank, a steamboat, on account of his inability to distinguish the signal lights. His would-be employer was aware of these facts.

As the examination of all railroad employes has been required by law in several of the United States, as well as in some European countries; and public opinion has been educated towards a recognition of the necessity of examinations of the ability to distinguish colours by employes of railroads and vessels, it seems desirable that the State should regulate the examination of the first class; and if by international agreement, no person be shipped, either as officer or seaman, who has not passed a satisfactory physical examination, the competency of the second class would be assured.

Of course special provision should be made in the case of a seaman of ten to thirty years' service, who is colour-blind. It would be as manifestly unjust to absolutely debar him from following his vocation, as it would be to prevent a man who has spent the same time in the study and practice of medicine from pursuing it for a similar disqualification. In such cases, in this country, day licences were issued.

It is to be hoped that international legislation will soon be consummated, ensuring the safety of ships, and of those who travel in them, from accidents due to colour-blind seamen.

Examinations of Seamen for Colour-Blindness by the United States Marine Hospital Service.¹

Year.	1880.			1881.			1882.			1883.			1884.			1885.			1886.		
Class.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.	Examined.	Colour-Blind.	Per Cent.
Pilots	2,870	64	2.23	4,384	116	2.65	2,090	63	3.0	2,171	63	2.9	1,850	41	2.2	1,645	48	2.9	1,680	47	2.8
Revenue Marine ..	218	4	1.84	305	3	1.0	273	4	1.46	210	1	0.50	242	2	0.82	219	3	1.37	183	1	0.54
Seamen	620	3	0.48	—	—	—	—	—	—	—	—	—	—	—	—	757	4	0.53	1,025	11	1.0
Total	3,708	71	1.9	4,689	119	2.5	2,363	67	2.8	2,381	64	2.7	2,092	43	2.7	2,621	55	2.1	2,868	59	2.0

¹ The Percentages in this table have been added by us.—Er.

THERAPEUTIC MEMORANDA.

A CASE OF URÆMIC CONVULSIONS SUCCESSFULLY TREATED BY Pilocarpine.

J. M., aged 21, fell ill with scarlet fever on October 13th. He went on well until November 3rd, when symptoms of nephritis showed themselves; the attack was slight, and appeared to improve rapidly under treatment.

On November 10th I found him in uræmic convulsions; the fits occurred every few minutes. My friend Mr. Cox saw him with me, and, with his concurrence, I injected one-third of a grain of pilocarpine into the front of the forearm; the patient soon began to sweat profusely, and the convulsions gradually diminished both in force and frequency; they recurred in the early part of the night, about every fifteen or twenty minutes, but with longer intervals towards morning; at 8.30 A.M. I repeated the pilocarpine, and the intervals between the convulsions became still longer; in the afternoon, when he became sensible enough to swallow, I gave him one-third of a grain of elate-

rium; this acted freely, and he probably passed a little urine at the same time, otherwise he had passed none since 7 or 8 the previous evening; as the convulsions still recurred at frequent though longer intervals, I again injected one-third of a grain of pilocarpine at 9.30 P.M. During the night he had a few slight fits, and in the morning, about 11 A.M., I gave him another injection of pilocarpine, and the last fit occurred about 4 P.M. on that day. In the evening I again gave him one-third of a grain of elaterium, which acted freely, and he now passed more urine, the urine having been very scant up to this time.

On November 15th he had symptoms of more convulsions coming on, but I gave him another injection of pilocarpine, and this passed off.

He lay in a semi-comatose condition from November 12th to 17th, swallowing what was put in his mouth, but totally unconscious of everything going on around him, and taking no notice of anything; on November 17th he was maniacal, and on November 20th he could not be kept in bed. During the whole of this time the bowels had been kept open by occasional doses of elaterium, and he had taken a