

Colour blindness and defective eyesight in the personnel of the Mercantile Marine : evidence of Mr. Bickerton (Liverpool) given before the President of the Board of Trade, Feb. 1, 1895, on the Board of Trade tests and regulations for eyesight and colour blindness.

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COLOUR BLINDNESS AND DEFECTIVE
EYESIGHT IN THE PERSONNEL OF
THE MERCANTILE MARINE.

EVIDENCE OF MR. BICKERTON (LIVERPOOL)
GIVEN BEFORE THE PRESIDENT OF THE BOARD
OF TRADE, FEB. 1, 1895, ON THE BOARD OF
TRADE TESTS AND REGULATIONS FOR EYE-
SIGHT AND COLOUR BLINDNESS.

WITH the object of avoiding collisions at sea, the Board of Trade, in the year 1852, issued an order compelling vessels to carry bright lights and coloured lights, so as to indicate their positions to any other vessels in their neighbourhood. In 1855, Dr. Wilson, of Edinburgh, called attention to the fact that these bright and coloured lights could not prevent accidents from still occurring if the sailors employed on board were poor-sighted or colour-blind. No notice was taken of his remarks. Twenty-one years later, Dr. Caldwell, surgeon on the Cunard crack passenger steamer "Russia," noticed that one of the look-out men had a glass eye, and that the other man on the same watch was blind in the opposing eye. Dr. Caldwell wrote to Messrs. MacIver, who con-

sidered the suggestion to have all the look-out men tested in regard to their eyesight an excellent one, and acting upon it they wrote to each captain and surgeon in their employment the following letter :—

Cunard Line British and Foreign Steam Packet Company,
8, Water Street, Liverpool, *22nd March, 1876.*

Captain _____

Dear Sir,—Annexed is a letter addressed to the surgeon of your ship. You will at once perceive the importance of being assured of the capability of your look-outs, especially at night; and, besides taking the opinion of a surgeon upon the question, you will kindly impress upon your officers that grave responsibility rests with them in their selection of men for a duty which is of paramount importance.—Yours truly,

D. & C. MACIVER.

The accompanying letter to the surgeons was as follows :—

Dear Sir,—As it is of the greatest importance that a thoroughly efficient look-out should be always kept, we have to request that upon the day of muster you will kindly pay particular attention to the eyesight of the men who are told off as look-outs, so as to ascertain whether those men have sufficiently good vision to enable them to see with natural acuteness, both by daylight and in the evening, and also readily to distinguish the colours of the different lights displayed by ships at night, so that they may report quickly and accurately, and may otherwise fulfil the duties of a thoroughly efficient look-out. In the event of your having any doubt as to the possession of the necessary qualifications by any of the men, you will please to report your opinion to the captain, so that these men may not be employed upon a duty for which, in the exercise of your professional discretion, you consider them unfit.—Yours truly,

D. & C. MACIVER.

These letters seem to me to have done the Cunard Company great credit, and I cannot help ascribing to the care they exercised in this matter much of the immunity from disaster



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which enabled them for many years to make it their proud boast that they had never lost the life of a passenger.

But so little public attention had been paid to this question of eyesight that in 1875, although the slowing of H.M.S. "Vanguard," which led to her being rammed and sunk by H.M.S. "Iron Duke," was directly due to the report of a partially blind "look-out" man that a ship, which never existed except in this man's disordered vision, was crossing the bows, not one single comment was made on the dangers of employing defective-sighted sailors. The real cause of the disaster was neglected, six imaginary causes were found.

Dr. Caldwell, besides calling the attention of his employers to this matter, made it a point to seek an interview with Mr. Thomas Gray, then Assistant Secretary to the Marine Department of the Board of Trade on the subject of colour-blindness, night-blindness, and defective sight generally. Following upon this, the Board of Trade, in the year 1877, for the first time issued rules and regulations dealing with this question. In 1890, the Government, in response to public opinion expressed in Parliament and through the Press, handed the matter over to a committee appointed by the Royal Society.

On September 1st, 1894, the Board of Trade issued fresh tests as to form vision and colour vision to be applied to masters and mates in the Mercantile Marine. If carried out by competent medical examiners this standard of tests would be sufficiently good; but if the object in view is the attainment of perfect safety so far as human foresight can ensure it for the sea-travelling

public, it contains a fatal flaw. This consists in the fact that the eyesight and colour-blind tests become compulsory only when a man enters for a second mate's certificate, instead of, as they ought to be, at the threshold of the sailor's career. The evils arising from this non-compulsion seem to me to be—(1) Colour-blind and defective-sighted boys are being brought up on training vessels for a profession for which they are physically and morally unfitted; (2) colour-blind and defective-sighted boys are being apprenticed for four or five years to the Mercantile Marine Service; (3) colour-blind and defective-sighted men are entering the Mercantile Marine as cabin-boys and deck hands; (4) colour-blind and defective-sighted officers with endorsed certificates are to-day sailing the seas in charge of vessels; and (5) colour-blind and defective-sighted men become pilots. The consequences of the present condition of things are that, while there is no real safeguard, the hardships inflicted upon these colour-blind and defective-sighted men who enter for a second-mate's certificate with the laudable desire of rising in the sea service is enormous, seeing that after years of hard work and drudgery, these men, who are often well-educated and gentlemanly, are debarred from rising from the hard life of a man before the mast, which they are compelled to follow with no more ambitious prospect in life, or to seek some other employment for which they spend many more years in qualifying themselves. And here let me mention that there are special difficulties in the path of young men of this class abandoning a seafaring life and entering a new field of industry. Let

me quote as a recent case in point that of a young man who had been at sea for eight years, and who had been rejected from defective sight on applying for his second mate's certificate, and who was glad to accept employment as a cotton porter at 27/- per week. Even this remuneration is only nominal because the employment was not constant, and he would willingly accept 20/- per week with a permanent situation. Another young man, who was found to be colour-blind, told me that after having done his best for three weeks to obtain a situation ashore, and utterly failing, he got employment last week on a well-known passenger steamer. A very painful case which came under my notice was that of a young man of high promise who, having been educated on the training ship "Conway," entered the service of a well-known Liverpool shipping firm, in which he behaved with such conspicuous gallantry in a high storm at sea that he received special commendation from the First Lord of the Admiralty and the bronze medal awarded in such cases. On his eyesight being afterwards tested he was found to be colour-blind, and the brilliant prospects which he and his friends naturally entertained as to his career in life were cruelly dispelled, from a cause over which he had no control. These are only isolated instances out of hundreds which might be cited of the evils and hardships arising from the absence of compulsory measures.

But if it is a hardship to a man whose defective vision is found out after a few years' employment at sea, what is to be said of it in the case of officers who, after having been passed

by the Board of Trade as colour-perfect, are now, on the institution of further tests, found to be colour-blind, with the result of being at once deprived of the highest and most responsible and lucrative positions in the Mercantile Marine Service? Such a deprivation, it can readily be understood, means in most cases not only the sudden collapse of ambition in life, but ruin and sometimes starvation to themselves and families. The case of a seaman named John Smith will serve for illustration. Having been 20 years at sea, and having successfully passed in turn the examinations for second mate, first mate and captain, under some of the best shipping companies, he found himself, at the age of 33, under the necessity of being re-tested at the instance of his employer, whose activity in this direction had been aroused by public attention being so much attracted to the subject. The result was that the officer was declared to be colour-blind and that he could no longer hold his position. Though he had previously hardly ever suffered a day's illness, his dismissal so preyed upon his mind that he died shortly afterwards. Another case which might be cited is that of a gentleman, aged 40, who had spent twenty-six and a half years of his life at sea, and who, in the service of some of the leading steamship companies in England, had held the post of first officer. On his employer insisting on a re-examination he was found to be colour-blind and was immediately reduced from a position of affluence on one of the finest passenger steamers sailing out of the port of Liverpool to a condition of penury. The best shipowners in such cases provide shore duty of some kind which, though

not nearly so lucrative as that from which they had been deposed, is likely to be much better than a discharged seaman usually finds for himself in the open market. In this case the firm found such an opening for him, but it was only after an interval of two years, during which the best employment the man could find was in the service of a Prudential Insurance Company, where, for a pittance of 18/- a week, he had to perform daily journeys of 20 miles as a collector.

And now coming to the consideration of the remedies one naturally asks, "How is this objectionable state of affairs to be rectified?" The remedies I would propose are as follow :—

- (1) No boy nor man should be allowed to enter the mercantile marine service until his form vision and colour vision have been adequately tested and proved to be sufficient. This involves little or no difficulty. Every boy on being apprenticed to the sea has to obtain an indenture paper from the Board of Trade Office. Before obtaining this paper, his sight should be made the subject of a careful test, in which case discovery of colour-blindness would arrest at the proper time in their advances towards a seafaring life most of the class who usually develop into officers of the mercantile marine.
- (2) Every navigating sailor on going to sea is compelled by law to "sign on"—*i.e.*, to sign articles at the Board of Trade Office. Before allowing the seaman to sign, the shipping clerk should ask for

his certificate as to eyesight. To do this would entail no difficulty, since every sailor is required to keep his discharges carefully and show them each time he signs on. To add another to his stock of certificates would, therefore, cause him no additional trouble, and were these two suggestions consistently carried out a colour-blind sailor would be as rare as he is now common and readily found.

- (3) Colour-blindness and defective vision in apprentices already bound by indentures should be in itself a reason for breaking the engagement. The necessity for this will be obvious when it is known that an apprentice of two years' standing can sometimes do the work of an able seaman though he receives perhaps only one-seventh of the pay, and that it is therefore to the interest of an unscrupulous shipowner to retain his services.
- (4) Officers who at present hold endorsed certificates and whose names are of necessity known to the Board of Trade should, as occasion offers, be given shore employment in the Board of Trade Offices; for though some of the better Companies find employment for those they depose on account of colour-blindness, there is a still larger number of cases where no such consideration is extended to them, and where dismissal is necessarily followed by the greatest hardship, and often by absolute ruin.

(5) The method of testing for colour-blindness or any defect in vision must be improved :—

(a) By being done by competent medical examiners.

(b) In a room specially set apart for this purpose, and fitted with artificial light of a standard which would supply equal illuminating power all the year round and obviate the varying and unsatisfactory results of tests, applied at one time in the strongest light at midsummer, and perhaps another during the fogs of midwinter.

(c) This testing-room should be open daily in large seaport towns.

In drawing to a close I would like to emphasise the fact that, taking the hundreds of officers in whom colour-blindness has been detected by the Board of Trade, there is absolutely no guarantee whatever that every man of them is not at the present moment doing duty at sea. In this connection I feel constrained to state openly that the apathy displayed by the Board of Trade throughout the long controversy which has existed between it and the medical profession since the year 1855 has been most deplorable and discreditable to it. Instead of having the best interests of these poor fellows at heart, it has thrown every possible obstacle in the way of reform, and only when Dr. Farquharson called the attention of the House of Commons to the question in 1890 did the Board make a move from their do-nothing policy. The Board cannot plead ignorance, for the fallacy of their

tests and regulations have been pointed out time after time, and notably by Mr. Brudenell Carter, and now, instead of placing the matter on a right footing, it is being tinkered with. The present regulations do not arrest colour-blind boys at their entrance to the sea life, and they do permit colour-blind sailors, even when detected, to continue the sea life, and even take complete charge of vessels. But no condemnation of mine can equal the condemnation passed upon the Board's policy by their own representatives. For the first time in the history of the Board of Trade enquiries, the representatives of the Board of Trade did take, in February, 1892, official notice of the condition of affairs to which I have frequently called attention, and which amounts to little less than a public scandal. In concluding their report upon the stranding of the S.S. "Violet" they said, "There is one circumstance to which this Court wishes particularly to call attention. After the close of the enquiry, and the respective certificates had been given up in the usual way, it was subsequently found that the mate's certificate bore in red ink the memorandum—'This officer has failed to pass in the examination of colours; signed by J. Clark Hall, Registrar General.' On the face of it, and without some explanation, it seems a most undesirable and reprehensible thing that a master's certificate should be granted to a man who is apparently unable properly to distinguish colours. The danger of entrusting the command to such a man is too obvious to need further comment. And assuming that a correct register of certificates granted be kept, then the Board of Trade's

solicitor, conducting the enquiry, should have been instructed on the point in order that he might bring to the notice of the Court the fact, as under certain circumstances it might have had an important bearing upon the subject of the investigation.—Signed, Wm. M. Angus, James E. Woods (Justices), A. Anderson, E. Brooks (Assessors).” Such condemnation of the Board of Trade is, I think, well warranted and well deserved.

Since 1877, even by the defective tests in use, the Board of Trade Examiners have rejected for imperfect colour sense, up to the present time, no fewer than 409 candidates for masters’ or mates’ certificates. But this rejection by no means implies that the unfortunate one is debarred from going to sea. The custom has been in the past to issue the certificate if the result of the examination in other subjects was satisfactory, and to merely endorse it—“failed in colours.” This left it optional on the part of the colour-blind to go to sea or not, and thus, although the Board of Trade has for seventeen years recognised the dangers of colour-blindness, it has practically connived at colour-blind officers being placed in command of British ships.

In conclusion, it only remains for me to quote from a letter to myself from Mr. T. H. Ismay, of the White Star Line, to show the opinion entertained on the subject by the head of one of the largest and most successful firms owning passenger steamers in the country. After apologising for his inability to take part in the present interview, Mr. Ismay writes :—“ I fully enter into and sympathise with the work that is being done, for I consider it of the utmost

importance both for the Mercantile Marine and the railways that colour-blindness should be eliminated and guarded against. In my connection with the training ship "Indefatigable," instances of colour-blindness have come under my notice, and it is most desirable that cases like these should be discussed before the lads are sent to sea. I shall watch with much interest for the result of the interview with the President, and wishing every success to the good work that has been undertaken,—I am, yours faithfully (signed), Thomas H. Ismay."