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COLOUR-BLINDNESS AND EYESIGHT IN THE MERCANTILE MARINE.

A CRITICISM OF THE NEW RULES OF THE BOARD
OF TRADE, BY

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IN making these remarks upon the important subject of seamen's eyesight, and the visual tests employed to determine it, I have no desire to weary you with the past history of Board of Trade action upon this matter. I wish to allude to some of the more salient questions suggested by the working of the new tests now in operation, and to remind this Association and the public, that if the object to be attained is perfect safety, so far as human foresight can ensure it for the sea-travelling public, the present regulations contain a fatal flaw, while at the same time they continue to perpetuate the traditional policy of refined cruelty towards officers and men in the Mercantile Marine—whose best interest the Board of Trade

is supposed to have at heart—which it would be difficult to surpass in the annals of the Middle Ages. I refer to the fact, that the eyesight and colour-blind tests become compulsory only when a man enters for a Second Mate's certificate, instead of being applied as they should be, at the threshold of the sailor's career. This,—the first act of cruelty, perpetrated years ago, when rules and regulations on this subject were first instituted,—has been persisted in, even to the present, with mule-like obstinacy and callousness. These new tests came into force on the 1st September, 1894, and thus, up to the end of last year, had been in use for a period of 16 months; and the recently issued report supplies much material for criticism. The colour-vision of seamen is now tested by the use of Holmgren's wools, the method it superseded being the haphazard one of asking a man to name the colours of lights and cards. The result of the change from a loose system to a scientific one proves the correctness of the contention that the medical profession have urged all along—that the percentage of colour-blind sailors is greater than the Board of Trade effete tests admitted. For, whereas the percentage of failures under the old system was $\cdot 88$, under the new it amounts to $1\cdot 39$; and this, let it be borne in mind, in spite of the elimination of a large number (*viz.*, 702) of colour-blind men which has been going on for many years. The report proves also our long stated contention, that the misery which the Board of Trade are inflicting, and must continue to inflict upon officers in the Mercantile Marine, by their criminal stupidity



in failing long ago to provide adequate safeguards for the elimination of the colour-blind from the merchant service, is very great. This recently published report on the said tests used in the Mercantile Marine for the 16 months ending with the close of last year, show, that of 6,680 candidates examined in colours under the new system, 93, or 1.39 per cent. failed. Of these failures, one is that of a young man, 24 years of age, who has seen six years of sea service. He holds a second mate's certificate, and on the 7th October last he presented himself at Bristol for examination as first mate. As a part of his examination, he had, of course, to take the form and colour test. The first he passed; but as he mixed carmine, reddish grey, red and brown with the green test, and greenish blue and blue green with the pink test skein, he was "failed in colours," being returned as "incompletely green blind." Now the antecedents of this unfortunate candidate are at the same time most interesting and very sad. On the 8th Sept., 1895, he failed to pass the old colour test to which I have already alluded, but, strange to say, he passed it satisfactorily the following week. After being failed in October last he appealed to head-quarters, only to be finally rejected. Now, here is a young man who has devoted the years of his life, during which the generality of mankind secure the training necessary to enable them to prosecute with profit and satisfaction the business they elect to follow, rejected because visually incompetent, from a service, for which the Board of Trade in September, 1893, certified he was, so far as colour preception was con-

cerned, thoroughly fitted. This case is only one out of scores of such, and furnishes an up to date example of the eternal truth that "the evil that men do lives after them," for, as I have over and over again pointed out, it will be long before the mischievous effects of the Board of Trade's past supineness on this matter will be eradicated. In another instance a candidate who has had seven years of sea service was returned on the 26th of February as completely red blind. Yet a year previous he satisfied the Board of Trade Examiners that he was not colour-blind. Another young man with seven years of nautical experience was found by the Glasgow examiners, on presenting himself for second mate's papers, to be incompletely green blind. This was on the 4th March, 1895, some 11 months after he had passed the old test to the satisfaction of the examiners. In neither of these two latter cases does an appeal appear to have been made to head-quarters. Why is it that the decision of the Belfast and Glasgow examiners was not challenged? Probably because of the expenses of a visit to London. And here we come to the next act of cruelty. The regulation on this point reads thus — "those who fail to pass the Colour-Vision test cannot be re-examined. It is, however, open to candidates who have failed to pass this test to appeal through the Examiner (the very man who has failed them!!!) to the Board of Trade who *will if they think fit* (the italics are mine) remit the case to the special examiners for final decision. The expenses of candidates who are examined by the special

examiners, and are *reported by them to have passed the three tests*, will under certain circumstances, be paid by the Board of Trade at a rate which will be notified to the Candidate; but no payment whatever will be made towards the expenses of Candidates who, upon their own application, are examined by the special examiners, and are reported by them to have failed. The Special Examinations will be held in London only." On the face of it, and to a casual reader, there may be nothing special to arrest attention in this regulation: though I am sure most people would consider that, as the ordinary examiners know nothing whatever about colour-vision or colour-blindness, every candidate rejected by them should be given the option of an examination by a specialist free of cost. But when analysed, this regulation is seen to have compressed in it a refinement of cruelty that none but a vitiated and degraded mind could compass.

Is there a parallel throughout the length and breadth of this vast empire to be found, where the future occupation and happiness of an individual, nay, even his very life and reason—Captain J. S., who had been to sea for 20 years and who had never ailed a day up to the date on which he was found colour-blind, died 18 months after of decline, the result of the break up of his hopes and of his home, while Captain X., who had had many years' sea life, attempted suicide on being told that he was colour-blind—are dependent upon the decision of an examiner who is neither fitted by education nor experience to give an opinion. To the

credit be it said of some of these examiners, they dislike the dirty work which the Board of Trade compels them to do, for they are well aware of their incapacity to add, at the bidding of the Board of Trade, the function of an ophthalmic specialist to their ordinary nautical knowledge. But a decision has to be given by them, and, whether right or wrong, "those who fail to pass the Colour-Vision test cannot be re-examined." Why has this rule been made? If the decision had been given by an independent and competent specialist it could be understood, but the Board of Trade are thoroughly well aware that their examiners are not competent, that they *do* make mistakes and do reject men as colour-blind who have a perfect appreciation of colour. Do not accept my statement, examine for yourselves the latest official report, and you will find the cases of eight men, who were not colour-blind, rejected by these examiners as being so! It is interesting also as showing—if such were necessary—the impossibility of adding a specialist's knowledge to a nautical examiner simply by a Board of Trade order, that these wrongful rejections were not the work of one examiner, but of gentlemen at Plymouth, Leith, Liverpool, Hull, South Shields and Greenock. What other explanation can there be, than that the rule has been made in order to carry out the traditional policy of thorough incompetency which has ever characterised Board of Trade action on this subject? But incompetency is not the only crime; complete disregard of the feelings and pockets of their unfortunate victims has to be

added. While "those who fail to pass the colour-vision test can not be re-examined," it is true they have the nominal privilege of appealing. I say nominal, advisedly, as the privilege is hedged round with every possible obstruction. "It is open to candidates to appeal *through the examiner* to the Board of Trade, who *will, if they think fit*, remit the case to Special Examiners for final decision. To ask a rejected candidate to appeal through the very man who had rejected him, is, to my way of thinking, worthy of a place beside Æsop's fable of the wolf and the crane. I have previously said that I know of some conscientious examiners, who acknowledge their inability to take on at a moment's notice the functions of an ophthalmic specialist or physicist. These gentlemen *would*, no doubt, "think fit," and be only too glad "to remit the case to the special examiners." But there may be others who accept the role of physicist and specialist thrust on them; and these would be very chary of having their decision challenged and possibly upset, and might not "think fit to remit the case." Do not the Board see that in the hands of their nautical examiners they have put an absolutely autocratic power, a power superior even to that of the Special Examiners? Again, there are black sheep in every profession. What is to prevent an examiner, angered, may be, by a candidate, deliberately and wilfully failing him? Such a candidate cannot, according to the rules, be re-examined, and he cannot get his case remitted. It may be argued that such a contingency is an impossible one. It may or may not be. I contend that such a power should

not be permitted to an interested party. The right of appeal should be free and untrammelled. I now come to the next act in this policy of refined cruelty ; and no method adopted with the object of gain by the veriest money-lender pilloried in *Truth* transcends in meanness the action of our wealthy Board of Trade. "The expenses"—so runs the regulation—"of candidates who are examined by the special examiners, and are reported by them to have passed the three tests, *will, under certain circumstances*, be paid by the Board of Trade, at a rate which will be notified to the Candidate, but *no payment whatever will be made towards* the expenses of Candidates who, upon their own application, are examined by the special examiners, and are reported by them to have failed." Thus candidates with perfect colour sight, but rejected by the local examiners as colour-blind, after undergoing great anxiety, trouble, and mental distress, will, on it being proved that the examiners were wrong, be graciously allowed, *under certain circumstances* (what can these be?) some expenses. In this class we know there were *eight*, and they have our warm congratulations in establishing their competency in the face of every obstacle. The return of the sum of money they were out of pocket would no doubt be highly acceptable, but we may be sure their greatest joy was in the return of those certificates of which they had been unjustly deprived. Now let us turn to the other class, a class which will, I am sure, excite our deepest pity and commiseration. Allowed to enter without let or hindrance the sea profession, actuated by the best wishes and intentions

to rise in the service selected by them for their life's work, they have passed through the drudgery and hardship common to a sailor's lot, and now, after three, four, five, six, or seven years, as the case may be, enter for their second mate's certificate, and are told they are colour-blind. I have been told by examiners that, in some cases, the candidate is literally stunned by the announcement and will stand motionless as if bereft of reason, with half-parted lips and staring eyes—will stand for some time thus, and slowly awaking to the reality of the position, turn away without a word, and never be again seen. In others, tears force their way down their bronzed cheeks, and in all cases the announcement is a crushing blow. Their case is indeed a sad one. What can they do? Appeal? Even if allowed, what then? Obtain a certificate from a recognised ophthalmic specialist or professor of physics in the city? Certainly not. "We"—say the Board of Trade in effect—"have permitted you to enter a profession for which you are unfitted, we have appointed nautical examiners who do not know anything about the eye or its functions, but they tell us you are colour-blind. If you are not satisfied you must come to London, where you shall be examined by gentlemen who are competent to give an opinion." "But I have no money, and you have taken away my livelihood." "What is that to us? You may starve or steal or do anything you can, but if you have the temerity to appeal to us against your examiner's decision you must pay for it." Dastardly as this is in the case of men who have no certificate, but who are

applying for a second mate's ticket for the first time, by what language are we to characterise their action in the case of men who already hold certificates, and who have years ago been passed as colour perfect by the very examiners who now reject them? Of this class, there were no fewer than 4 captains, 5 first mates, and 15 second mates. How long will the public permit such a blot on its humanity to exist? We read in the press of the Armenian atrocities, but if the physical torture is great, it is of short duration. The mental distress occasioned by our Board of Trade is of a lifetime, and extends not only to the individual, but to whole families. Common humanity demands as the least that the Board of Trade can do, that the applicants are in the future put to no expense in having the question of their colour-vision finally adjudicated upon.

Of the 101 rejected candidates only 21 appealed. Of this number 8 were passed, the remaining 13 being returned as failed. Now it is difficult to understand, except on the supposition of ways and means, why, if upwards of 38 per cent. of those who appeal are successful, a greater number than 21, hardly 21 per cent. of the whole number rejected, should not challenge the ruling of the examiners. Assuming that the remaining 80 who accepted the verdict of the nautical examiners had appealed, and that the same proportion—9 out of 21—would have finally passed, then the conclusion is forced upon one that during the 16 months, ending with the 31st of December last, no fewer than 30 candidates have been rejected as colour-blind whose perception of colours, according to the

special examiners employed by the Board of Trade, is normal. The remedy from this condition of things is obvious. The Board of Trade must, if they wish to banish from their colour-vision tests all suspicion of incompetence and injustice, either employ medical experts to conduct their examination, or, failing this, they must in common humanity instruct their present nautical examiners to refer all doubtful cases to head-quarters, and allow every rejected candidate the right of a free appeal to the special examiners.

Now a few words as to the form vision test. Prior to the 1st September, 1894, there was no such test adopted. Up to that date a man might be anything short of absolutely blind, and yet deemed visually competent to officiate as officer on board a British ship. Now this is changed, and Snellen's types are requisite to test a man's ability to see distant objects. The Board of Trade regulation on this matter runs thus—"Candidates may use both eyes or either eye when being tested, but they must not be allowed to use spectacles or glasses of any kind. If the candidate can read correctly—at a distance of 16 feet—three of the five letters in the fifth line from the top, or four of the letters in either of the two lines below, he may be considered to have passed the test. If he cannot do so, he should be treated as failed." During the period under review, 115 candidates failed to pass the test. For these rejected ones no appeal is allowed, but the Board of Trade seems to have some suspicion of the scandal which is perpetrated in allowing examiners, totally ignorant

of the nature of the organ they are examining, to definitely decide the career of the candidate before them, for re-examinations are permitted at intervals of three months; that is to say, these poor fellows are, for want of a medical expert examiner, kept in a state of uncertainty for an indefinite period and in a condition of mental distress as to their future. Of the 115 returned as failed 12 subsequently passed; that is to say, 12 men were able to read on a certain board at a certain distance one letter more perhaps, than they could three months previously. The report does not tell us the reason why these men were able to read the one or more extra letters which enabled them to obtain their certificate. Was it due to standing an inch or two nearer the board? or to there being new and clean types? or to the day being brighter than on a previous occasion? Or was it due to an increased muscular effort? These are the points we ought to know.

No great amount of knowledge is requisite to determine whether a man can or cannot read certain letters placed at a certain distance from him, but surely, if the answering correctly of two letters out of five of the same sized type is to blight a man's existence, while the naming of three out of five is to place him in a position of trust and competency, surely an examination—the result of which is life or death to the candidate—should be in the hands of a man who understands the organ under examination. None but the specialist can tell what is the cause of the ability or inability to read the types. The candidate may have incipient or marked incurable

disease, or may be so highly short or weak sighted as to preclude the possibility of his ever seeing better ; but instead of being told this, the poor fellow is tempted by the will-o'-the-wisp Board of Trade regulation to come again in three months, and yet again, and from personal experience I can say that the mental anguish undergone by these unfortunate men is great. Again, a candidate may just fail to pass the prescribed test, and that is all. A skilled examiner, finding that the failure to pass was due to a very low degree of short sightedness, would pass this man, knowing that his sight would tend to improve, a useful officer being saved to the community, and great misery avoided. Another candidate just gets through, but a specialist's examination would show that his eyes are badly shaped, and that only by a tremendous muscular effort has he accomplished his task. There are many men who can see well by means of a great focussing effort so long as they are young and in good health, but it must be remembered that the muscular energy available to such patients is the reflex, so to speak, of their bodily tone. The kindest thing to do in the case in point, would be to fail him at once, for his sight would certainly fail later on ; and when less prepared to start life afresh, a re-testing would destroy his livelihood and send him to swell the ranks of the unemployed. The subject, therefore, it will be seen, is entirely one of degree. The candidate may just fail to pass the prescribed test, and that is all ; but, in spite of this, the examiners are not allowed to use the slightest discretion. They have no option, pro-

vided of course that they obey their instructions, but to fail a man who does not pass the requisite standard of vision. That the examiners acted up to the strict letter of the law for a time, the facts and figures to be stated clearly show, but that they now take a more lenient view of their duties is no less certain. By the courtesy of the Registrar-General of Shipping I was supplied with the numbers who failed to pass the colour and form test from the 1st of September, 1894, to July 25th, 1895, a period of less than 11 months. During that period 76 candidates failed on account of colour-blindness, and 89 for defective eyesight—a total of 165. During the whole 16 months, 101 candidates failed in colours, and 115 failed to pass the form vision test; thus we have :—

Period.	Failed in Colours.	Failed in Form.	Total.
1st Sept., '94, to Dec. 31st, '95— 16 months - - -	101	115	216
1st Sept., '94, to July 25th, '95— 10 $\frac{3}{4}$ months - - -	76	89	165
25th July, '95, to Dec. 31st, '95— 5 $\frac{1}{4}$ months - - -	25	26	51

In August, 1895, I had occasion to read a paper in the section of ophthalmology, at the annual meeting of the British Medical Association in London, and am so much struck with the figures I have just quoted that perhaps I may be allowed to extract the following from my remarks on that occasion. “The numbers are truly appalling. No less than 76 failed on account of colour-blindness, and 89 for defective eyesight. Think for a few moments of what this means? Who can form the faintest conception of the depth

of blind despair into which these poor fellows are plunged in an instant, victims of the crass ignorance, pride, and hardness of heart of gentlemen, who, whatever they may be in private life, exhibit in their public capacity a callousness which cannot be surpassed if paralleled throughout the length and breadth of the land?" But the earlier severity of the Board of Trade in carrying out the new said tests, is still more evident, if we compare the number of candidates failed during the first 12 months during which the new tests have been in operation, with those failed during the last four months of the period which the return covers.

Period.	Duration.	Failures in Colour & Form.
From Sept. 1, '94, to Sept. 1, '95	12 mos.	194
From Sept. 1, '95, to Decem. 31, '95	4 mos.	25

or at the rate of 75 per annum instead of 194.

The disparity between the figures for these respective periods is so marked as to warrant the conclusion that the Board of Trade, or their examiners, have since their attention was thus probably directed to the severe procedure exercised by their form tests, treated candidates with a more praiseworthy spirit of leniency. I do not say that this is a direct consequence of my statement, though I consider it highly probable, but I am convinced that a greater latitude is allowed now to candidates subjected to the form vision test than formerly.

The plan which I should recommend the Board of Trade and their officials to follow is, that they should apply the new regulations with as much rigour as they choose upon those who

are just entering upon a nautical career, but at the same time let them in the case of old sea goers, exercise as wide a leniency as they can, provided of course they do not allow any man to pass whose official incompetence is such as is likely to prejudice the safety of the vessel with which he may be trusted. It is little use, however, attempting such a procedure when the Board of Trade persist in a policy which is so stupid and inhuman. At present there is no compulsory test for youths who take service on a ship, they may if they like have their colour-vision and general eyesight tested, but it can hardly be expected that lads in general are well informed on the subject of visual standards. Thus it is absolutely necessary, if the Board of Trade do not wish to perpetuate the system of allowing young men to master the drudgery of a profession for which they are visually incompetent, before informing them of such a fact, that the official tests should be put in operation, *before* the sea life is actually started upon. The returns to which I have already alluded show the misery which the neglect of such a procedure at present entails to a hard working man. The report states that the number of officers already in possession of certificates of competency, who on going up for examination failed to pass the tests, was no less than 53. Of this number, 4 masters, 5 mates, and 15 second mates failed in colours, and 1 master, 12 mates, and 16 second mates in form vision. When it is remembered that these 53 officers are many of them husbands and fathers, the collective misery produced by the persistent refusal of the Board of Trade to

adopt a humane and common sense policy upon this important matter can be better imagined than described. The policy which through all these years has been adopted by the Board of Trade is inexplicable, un-English and un-Christian. The fruits of office appear to have warped the judgment and feelings of those responsible. Alison, in his *History of Europe*, says that "those whether in public or private life who take expedience for the principle of their conduct are often sadly perplexed what course to adopt because they cannot see clearly to what end its conclusions point." The policy the Board of Trade have adopted is clear to all but themselves, a brutal policy—a policy which has ruthlessly destroyed the hopes of many a youth, which has crushed with the nightmare of despair the lives of hundreds of men, and has brought ruin, starvation and death to many a home.

The following suggestions, which I proposed to the President of the Board of Trade on Feb. 1, 1895, will, if adopted, remedy the present cruel state of affairs.

- (1) No boy or 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

or of defective eyesight 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 seamen 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 or poor-sighted 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 shipping 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 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.

