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COMPLIMENTS OF THE AUTHOR.

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HYGIENIC TRAINING OF MEN IN CHARGE
OF RAILWAY TRAINS.*

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It should be considered a self-evident truth that any person having a profession or vocation should be educated in the same so far as to be able to perform good and efficient service, otherwise he cannot satisfy the public demand for skillful workmanship or the faithful performance of every duty. In a business way it is to be expected that every person engaging to perform mental or manual labor will have the training necessary to do the work in a manner to be acceptable, and train men should not be an exception to the general rule.

Men are not taken into shops with other mechanics until they have perfected themselves to a certain degree in the use of tools and in the economical use of material.

It is true every railroad has its rules and regulations governing the moving of trains, and specifying more or less minutely the duties of train men, but it was not until very recently that it was considered necessary to have a school of instruction.

On going to work every train man is given a copy of rules and regulations, with his time card. These instructions are complex, having been often amended to meet some hereto-

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fore unseen, and therefore unknown, emergency, and it would require hard and long study on the part of the well-educated to pass a fair examination before a board of experts in such work. Most roads incorporate into their rules governing train work some general regulations designed to secure hygienic conditions on trains and about their grounds and stations.

The conductor is usually made responsible for the enforcement of those rules which generally read like the following :

RULE 154. Must see that the brakemen attend properly to the fire and lights, and that they keep the cars well supplied with fuel and water, and do not detach the bell-cord, nor allow it to be done until the train reaches a station, or has arrived at the terminus of the route. Particular attention must be given to *ventilation* of cars. Conductors will not be excused for allowing brakemen to neglect this duty.

The conductor being responsible for the safe transit of his train, has but little time to bestow upon the education of his train men, and if his attention is called to the unwholesome condition prevailing in a car, it will be because someone speaks to him about it, or because his senses are assailed by nauseous odors that prevail by reason of the exhalations incident to overcrowding in unventilated apartments.

So much by way of an introduction to a necessity of some reform. What shall be done to overcome some of these evils? Probably I have said enough to indicate that some other form of educating the train man in his work seems like a necessity. How shall this be accomplished and not have the cost in excess of the compensation?

This is the great problem to be solved, for the management of railroads, like all other good business men, rarely put out money in their labor to serve the public, without an expectation of a return in the shape of a dividend on the investment. In educating a train man in hygiene I would include all the work he is expected to perform about

a passenger train, for surely no part of his work but relates directly or indirectly to the welfare of his own life, or the health and comfort of the passengers. In carrying out the principles of such reform, I would respectfully suggest :

1st. A rigid physical examination of all new recruits before entering the service.

2d. A school of instruction, enlarged from such as are now in use on some roads, drilling the men in the way to bring out the best results of all safety appliances, including those intended to supply the heating, lighting, ventilating, and cleaning of cars.

3d. After being thoroughly instructed in every duty that can in any way serve to render the lives and property of all concerned safe and comfortable, the new recruit should be advised of the fact, that, in taking service upon a railroad, he is entering upon a vocation extra hazardous in its nature, and having been thoroughly instructed in his work, he must take certain amount of chances of his life and limbs without recourse or damages.

1st. A physical examination of a recruit should be as thorough as it would be to enter the United States Army, in order that it should be reasonably sure that he is not idiotic, an epileptic, a victim of intemperance or kleptomania, nor that he has a predisposition to be ungentlemanly in his behavior toward others. Color blindness, astigmatism, deafness, partial paralysis, mutilation or ankylosis of the fingers, rheumatic enlargement of the joints, pleuritic adhesions, chronic diarrhoea, asthma, and functional or organic disease of the heart should be noted, and any approach to either of these being serious should serve to disqualify him for any place or position on a train that might in any event compromise his own safety or the lives of the public. Not until he had passed this physical examination should he be admitted to the school of instruction. It would seem to be

unnecessary to comment upon anything so plain as that it is desirable to have only those in the service as would pass a physical examination, and I would not intimate that any corporation intended to employ those who would be physically disqualified, yet without examination it is quite impossible to prevent such men from being employed.

The young man having no physical defect, and fairly well educated, will hesitate from seeking service of an extra hazardous character, unless his ambition prompts him to believe that it will very soon lead to a position higher than train work. The pay of the ordinary train man is not equal to that of the skilled mechanic, and it is because there is no examination—mental or physical—that so many drift into the ranks. There seems to be a fascination for a certain class of young men to be around and riding on trains. As automatic brakes have been introduced, the hard work of the train men has been set aside, until there was some reason for an official making this remark about brakemen: "They have been relieved from year to year of their former duties, until they feel that all they need to do is to wear a uniform." That it is a fad for some people to want employment of an extra hazardous kind, like being train men, is only another good reason why a physical examination should be required before they are engaged.

2d. After having passed the required physical examination, the mental and manual school of train service should commence. He should be drilled in his duties as train man until he is familiar with the operation of the train and hand brake; in the use of signals; and in the inspection of every part of a car and its trucks. He should also be taught how to make such repairs and use expedients as may be of use in cases of accident. The automatic brake has been in constant use for many years, yet it has been found necessary on some roads to fit up a car with all the latest improve-

ments, and, with a competent instructor, to go from one division point to another, form the men into small classes, and teach them not only the ordinary manipulation of the power brake on trains having a clear track, but the possible extraordinary application of the same appliance when emergencies arise. It is understood that such instruction is considered a good investment in teaching the men many practical ideas that were not familiar to them, because nothing had occurred to bring out the possible power of the automatic machine, under circumstances requiring quick thought and action. In matters pertaining to the hygiene of passenger cars, train men should be taught how to use every device for heating, lighting, ventilating, and cleaning of coaches, as well as how to make slight repairs, and while it may not be generally expected that train men will attend to the cleaning of their coaches, yet he should be instructed how it should be accomplished, in order that he may, at a glance, be able to inspect and report upon the sanitary condition of a car before it leaves the train-house.

In mechanical work, as in other exigencies which the mind is intended to provide for, it is not the expected results which cause the most trouble, but it is the unexpected dangers to which we are exposed that bring the greatest damage and loss. Train work is no exception to this rule, and every man should be educated what to do under all possible circumstances—should be taught to think for themselves what they would do under hypothetical complications, for surely there is no time for instruction when the critical moment comes which requires action.

They should be taught that the general condition of train work is much the same, whether it be hygienic or mechanical, for it is communal rather than individual, as whatever secures comfortable conditions to one should be free to all. They must be something more than an automaton, opening or

closing all the transoms (if there are any) at once, and when the train stops, to close the doors in summer and to leave them open in winter; turn on full pressure of steam and never a thought whether the temperature is 50 or 150 degrees F. Such a man would not be likely to make any effort to secure clean, wholesome conditions for the inside of a coach, but would, without any conscientious scruples whatever contributes his quota of refuse whatever he could coax the newsboy to give him credit for a bag of peanuts, or a half dozen bananas. Such men were never brought up to take care of waste and effete refuse, therefore have no idea how to effect a reform in others, who so far forget themselves as to trespass upon the rights and good nature of companions in committing acts in public places that they would never think of doing in a private house. It is true that a reform in this direction applies to the passenger and train men alike, and would it not be for the public good that orders to this effect should be posted by the management in every car and waiting-room in the same manner as may now be seen in depots, to warn people against having their pockets picked, or to prevent taking the wrong train.

The mere fact that the situation in a car is public and communal should be a bar to many things being done that might not be considered out of place in an individual owning his house.

It is quite true that no amount of teaching or legislation will furnish brains to the brainless, nor develop a true gentleman out of a natural boor, yet constant association with those who have a just appreciation of what constitutes good and efficient train work, must have its influence in rounding away the angular points of a man's character, else he is too dull and stupid to be allowed to imperil his own and the

lives of others by having anything to do with machinery or mechanical appliances.

3d. After passing the standard examination, required by a board constituted for this work, and before an applicant for a position should be allowed to commence work, he should be apprized that his work is considered extra hazardous, and that in accepting service with that knowledge, he must assume risks to life and limb that would not obtain in other vocations. That his work is extra hazardous is sustained by the fact that life and all forms of accident insurance companies class them as such, and charge more premiums than other workmen pay. That a train man, after having been taught his duties, and in proof of that fact has passed the standard examination in which his hazardous duties had been duly explained, must assume certain personal risks, it is only necessary to cite a decision of the Supreme Court of New Hampshire, which Justice Smith gave in the following language, as reported by the daily press :

Casey vs. G. T. Ry: "Held that the plaintiff was fully acquainted with the dangers of the service he assumed, and so cannot recover for the injuries received."

4th. It is possible we might be justified in making a still further point in the fact that all railroads being held responsible as common carriers for the safe transit of persons and property, might it not be an open question whether the corporation does not place itself in a position of contributory neglect, unless by means of thorough instruction, its train men are well qualified and vouched for. I leave this to the Society for discussion.

In support of this proposition I will make a single quotation from the text book, Cooley on Torts :

I do not understand that the obligation of the defendant would be discharged by informing the servant generally that the service engaged in is dangerous ; especially where the servant is a person who, neither by experience nor education, has, or would be likely to, have any knowledge of the perils of the business, either latent or patent ; but that in such case

the servant should be informed, not only that the service is dangerous, and of the perils of a particular place, but where extraordinary risks are or may be encountered, if known to the master, or should be known by him, the servant should be warned of these, their character and extent, so far as possible. It seems to me the value of human life and the duty of the master in affording reasonable protection to persons, while under his direction, cannot be held to require less than this.—*Cooley on Torts, 554.*

I wish it distinctly understood that I do not for a moment believe that a manager of a road would knowingly employ an unsafe man, but until there is some system adopted for a thorough examination there is much reason in supposing they may and will be imposed upon.

It may be truly said that while all this is a step in the right direction, it will involve too much expense to find favor. Granted that some expense will be incurred, yet it need not be very great, especially on such roads as have a Chief Surgeon, for with a board composed of a master mechanic, a train master, and chief surgeon, you have all the requisites for bringing to the front a class of young men who would be useful wherever they are placed.

I suspect we might reasonably claim that if our railway managers would effect a reform, in which safety and comfortable traveling would be assured, it would pay liberally in the advertising it would give their lines, for while the public are becoming critical in these matters, yet a reform would be hailed with approval by all travelers, and would soon become a part of the newspaper literature of the day, as embodied in their letters to their friends and the press. When this matter is brought to the attention of the manager, the passenger, and the train man, in such a manner as to set forth the possibilities of considerable reform being brought about that would give the public superior accommodations at a minimum of expense, it will not be long before every person seeking employment as a train man will find that a physical examination is a preliminary to an appearance be-

fore a regular board of examination, who will inquire into the mental and moral qualifications he may present for an important and responsible position on a train. This, in due time, would bring into the service a higher order of employes, develop a higher standard of work, and tend to the moral and physical elevation of the man, all of which would materially assist the corporation to pay increased dividends by preventing accidents in which life and property are sacrificed.

DISCUSSION OF THE PAPER OF GRANVILLE P. CONN, CHAIRMAN OF SECTION.

Dr. George Chaffee :

I believe the time is not far distant when a system of examination will be adopted by most of our railroads. It has been already adopted on some roads. This paper, like all the papers the author has given us, is far in advance of the times, but it is not far in advance of the needs. I can heartily endorse it.

Clark Bell, Esq.:

If the legal position stated in the paper is to be the established law of the land, it certainly throws a great moral responsibility on the railroad corporations. If an employe of a railway meets with an accident by reason of any neglect on the part of the corporation to give him that instruction he is entitled to receive, to enable him to discharge his duties properly, the obligation rests upon the railway. The author's suggestions are timely and valuable, and should impress themselves on the moral sense of the managers of corporations.

Dr. R. S. Harnden :

I take it that this able paper is offered in an advisory sense to the railway companies. Of course railway surgeons are not allowed to train the men in their duties, either in hygiene or in their ordinary labor. I believe it is our duty, and is expected of us as railway surgeons, by the corporations with which we are connected, that we should offer to them advice and counsel from a medical and a medico-legal standpoint. In this Association I take it that railway surgeons should act from a medico-legal point of view, and that any subject extraneous to that should not be brought into this Section. It is certainly a fact that the train men whom we meet give evidence of a lack of hygienic training. Only a short time since I rode two or three hundred miles in a Pullman car in which the water-closet was absolutely unfit for a human being to enter. It would seem to be our duty to give such advice to the company as will emphasize these difficulties, and the importance of properly training the men.

Dr. C. B. Kibler :

I am sure that the paper is in line with what is coming sooner or later in this country. It would seem wise that the lines there laid down should be carefully presented to the various railway companies; but I also feel that it should not stop there, but extend to the sleeping-cars. There is not a sleeping-car berth occupied by a consumptive that is properly taken care of before another person is allowed to occupy it. No one would like to occupy a berth in a car after it had been occupied by a person who was known to have had one of the ordinary contagious diseases. I hope the day is not far distant when the points brought out in the paper will receive their full share of attention.

Albert Bach, Esq., Vice-President Medico-Legal Society :

It would seem that if the decision cited by Dr. Conn is correctly quoted, that railway companies would not have to be urged to give their employes the instruction suggested in the paper. To my mind, it would be a question of self-protection for them to do so. Not only is it a question of moral obligation to the community, but it would be a question of dollars and cents to the corporations to see to it that they saved themselves from damages in suits brought against them for injuries sustained by reason of lack of proper training of their employes. I am not prepared to say how far the law goes as to that subject, as I have given it no particular attention, but, speaking generally, and from analogy, it seems to me that a railway company would be undoubtedly liable for any damage that any passenger would sustain by reason of a lack of performance of duty by an employe of the road, acting within the scope of his authority. If the physicians who are in the employ of the railway corporations would only join with the lawyers who are in the employ of the railway corporations I am satisfied that their combined suggestions on this subject would lead these corporations, for their monetary interests, if for no other reason, to have their men so trained as to prevent such happenings as would necessarily result from incompetency on the part of their employes. The suggestion made by the last speaker is one of much importance to the community at large. I do not believe that a person, other than an exceedingly nervous individual, contemplates for a moment the danger he is about to incur from entering into an ordinary car, or a sleeping-car, by reason of the pre-existence in that car of contagion. I would be pleased to hear further as to what protection the public has against such happenings.

Judge A. H. Dailey, of Brooklyn, ex-President Medico-Legal Society :

I would say that this paper is aimed evidently to remedy the existing evils, and has brought out already, as my brother Bach has suggested, other matters beyond those mentioned in the paper. As a general thing, we do not find among railway corporations that degree of care in the selection of their servants which the necessities actually require. When I see the judgments rolled up against railway corporations through incom-

petency and mismanagement, I am astonished, not only that they can contend against such judgements, but that they will take the chances of subjecting themselves to such vast liabilities. This very suggestion of the author is one of great importance, and I have no doubt it will lead to good results, especially if the lawyers and surgeons unite in their effort to correct these abuses.

Every employe of a railway is assumed to know the risks and dangers attendant upon his duties; but if the employer puts a man on extra hazardous duty, it is the duty of the employer to instruct the employe as to these dangers, and then the employe assumes the responsibility. As a rule, the employe takes the risk of the negligence of his co-employe. The master must see that he has proper co-servants, but after that they all take their chances as to the negligence of their co-servants.

I never get into a berth in a sleeping-car but I think of who may have occupied that berth previously. I think it would be very easy to change the bed-clothing and disinfect it.

Dr. G. P. Conn :

In closing the discussion, I wish to say that the extract I quoted was not a decision, but simply an extract from a text-book. In *Coomb vs. the New Bedford Cottage Company*, Justice Hoar said: "If the jury should decide that the defendant knew, or had reason to know, the peril to which the plaintiff would be exposed, and did not give him sufficient or reasonable notice of it; and if he, without any negligence on his part, from inexperience, failed to pursue or appreciate the risk, and was injured in consequence, they would be responsible to him. I have other decisions pointing in the same direction." Several of them have come up in the last few years in connection with men engaged in electric lighting. It has been held on several occasions that unless they were trained in their work, and were not *specifically* informed in regard to the dangers of the work, the corporations were liable if they were injured. In a recent decision in New Hampshire, from the advance sheet of the New Hampshire Reports, Judge Blodgett said: "The rule that the burden of proof is on the plaintiff to prove the exercise of proper care is, however, easily satisfied, and the exercise of such care must be shown by circumstantial as well as by direct proof. It may even, under certain circumstances, be inferred from the ordinary habits and disposition of a prudent man, and the instinct of self-preservation." That simply goes to show that when generally informed in regard to their extra hazardous work, the man's instinct regarding self-preservation will protect him; but if there be any special dangers about which he has not been especially informed, then he may be using all the proper care, and still suffer, in which case the company would be liable for damages.

In regard to the point raised about the hygiene of cars, I would say that I have already written a good deal about that for railway surgeons. I have taken the ground that no person except the surgeon of the road could be well informed regarding the hygiene of passenger cars, and the proper means of keeping them in good condition. I have taken the

ground that cases of consumption and other contagious diseases should be excluded from the ordinary cars, and that if our principal lines going to health resorts would put upon their lines hospital cars, especially appapted for that purpose, they would accomplish much. This would entail extra expense, but many people would be willing to pay the extra charge for the privilege of traveling in such hospital cars. I can see no reason why a car should not be so constructed that steam, at a certain temperature and pressure, could easily be turned in from the engine into the compartments, and these be thoroughly and effectually cleansed while the train was *en route*. All this, I claim, can be easily accomplished under the supervision of ordinary train men.