THE RESPONSIBILITY OF THE PHYSICIAN IN CASES WHICH ARE A MENACE TO PUBLIC SAFETY *

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In a paper by Dr. Philip Coombs Knapp entitled "General Paralysis as a Menace to Public Safety in Transportation," which appeared over a year ago,¹ it was stated:

There can be little doubt that if men in responsible positions on our railroads were subjected to thorough examination by competent neurologists at regular intervals many of these cases of general paralysis and other brain diseases would be detected and the dangers attendant upon them be averted. Many railroads demand a careful examination of all applicants for employment; but when this examination is once passed, the man is not examined again unless some striking disturbance is noted. The average railway surgeon, however, will inevitably overlook the slight but significant symptoms that reveal grave brain disease to the neurologist, and, even if he were capable of detecting them, it is only by examinations repeated at regular and rather frequent intervals that the onset of these diseases can be detected and the danger averted. These affections are not responsible for all the cases of negligence that cause railway accidents, but they form one factor which can be eliminated. The state requires that certain railway employes shall pass examinations to prove that they can tell red from green. Is it too much to require them to pass periodical examinations to prove that they can instantly understand the different meanings of red and green and act promptly on that knowledge?

In the same journal there also appeared an editorial on the same subject, in which it was stated that a committee composed of Drs. Knapp, C. G. Dewey and G. A. Waterman had been appointed by the Boston Society of Psychiatry and Neurology to confer with the Railroad Commissioners of Massachusetts and to take such action as they might consider necessary to guard against this danger.²

After reading the above I felt that as a civic duty I ought to do what I could to extend the influence of the above movement and as a first step I contributed a note which appeared with additions by the editor, Dr. Edward N. Brush, in the January number of the *American Journal of Insanity*.³

I then called on a friend who occupied an important position in one of the railroads of Maryland to urge on him the importance of instituting such neurologic examination of engineers, and others directly responsible for the lives of passengers, as would indicate the early symptoms of organic nervous diseases, such as paresis, that would in their development impair the judgment of the subject and so render him an uncertain quantity so far as safety is concerned. The matter had never been brought to my friend's attention before and it aroused his interest; but I was necessarily passed on to the official whose duty it is to supervise such matters, namely, the chief physician of the road. In the latter's opinion such a procedure is unnecessary for several reasons. The chief of these are:

1. The men would not submit to such an examination.
2. A candidate's rejection for some neurologic symptom not plainly apparent to the subject would bring a

strong protest from him which it would be difficult to answer to his satisfaction.

3. Following the candidate's objection there would immediately follow a much stronger one from the labor organization to which he belonged.

The last appeared to be the most important reason to the physician. Probably most of us who are rather unfamiliar with the methods of some labor organizations will fail to appreciate why this last reason should appeal to him so strongly. The same objection appeared to be the chief one to the surgeons of two roads. I feel that perhaps the most important duty we have in connection with this question is the moral education of the men themselves so that they will put aside any selfish considerations and consider the greatest good of the greatest number.

I felt that part of my civic duty was the investigation of the methods of examination used by the various railroad surgeons in order to satisfy myself that such an examination would detect any fairly marked neurologic symptoms, though I could easily understand that the ordinary medical examination could not include a thorough neurologic one.

I regret to say that in none of the three forms of the examination blank submitted to me was there any question concerning the conditions of the pupils, tendon reflexes, station or coordination, all of which seem to me to be important and taken together to give a maximum of information for a minimum of effort.

One blank asked if there was facial paralysis, and if there was serious defect in speech. The surgeon of one of the railroads also assured me that their usual examination included more than was set down, but there was certainly no space on the blank for recording any additional points brought out by the examination, and my experience with men who habitually follow a printed examination blank is that they are not apt to go beyond it.

I suggested to each of the surgeons interviewed that they add to their examination blank some question regarding the pupils, the knee-jerks, station and coordination, but was met with objections similar to those noted above.

None of the surgeons was indifferent to the importance of the recognition of organic nervous disease, but all seemed to think that its recognition would be easy in any dangerous case and that routine examination was, therefore, unnecessary, but the labor organization seemed to be the chief objection.

The results of my investigation of the methods of examination in use by the three railroads may be very briefly summed up as follows:

1. The medical examination is inadequate for the detection of any organic nervous disease.
2. Those in charge of such work are handicapped by the attitude of labor organizations and by the attitude of the ordinary working man.

It may be interesting to describe two cases recently seen, which will serve as illustrations for a number of points which have already been mentioned and for others which are to follow.

CASE 1.—Patient.—John T. A. S., a white man, aged 43, married, was admitted to the Johns Hopkins Hospital Dispensary Aug. 22, 1908, complaining of his mind being affected. His father died at 64 from the "third stroke," having had the first eight years before. His mother was living and well, aged 76.

History.—The patient is the third of six children. Consanguinity between his parents, or any case of mental or nervous disease in the family was denied. According to the

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Boston Med. and Surg. Jour., Feb. 6, 1908, clviii, 187.

2. As additional testimony to this danger I would refer to the London Letter of THE JOURNAL A. M. A., Sept. 12, 1908, li, 928.

3. 1909, lxx, 545.

patient, he had gonorrhea three times before his marriage, which occurred when he was 29. Lues was denied; he had two healthy children. His first illness was an attack of typhoid fever at 35, during which he was treated at home and in which he was delirious at times. He had been a moderate user of alcohol, but had used tobacco very freely, probably chewing to excess. He stated he had been moderate in his sexual indulgences. History was negative as to religion and social disposition. From 21 until 42, or until ten months before admission, he was an engine man for the Baltimore and Ohio, being discharged for causing a wreck by falling asleep at his post. An effort was made to ascertain the amount of damage caused, but this was found to entail more search of records than the subject was worth. It was found, however, that the wreck was a "side-swipe" and probably not very serious and that the patient had been given relief until his discharge two months later. Following his discharge he invested in a small confectionery establishment, but he now thought that he would lose his money. The loss of his position worried him and he stated that he had been irritable for some time. He denied loss of consciousness, but admitted that there had been times when he had not known that he had done things, and forgot what he had gone for when he reached his storeroom. He thought that perhaps he might have been in "a study" at the time of the accident and not asleep, but from a feeling of shame told the railroad officials that he was asleep. From the patient's wife it was learned that since a wreck on June 22, 1903, when he was pinned under his engine for twenty-seven minutes, he had been absent-minded and she would have to see that he took his watch, switch-key and lunch basket when he went to work and that he wound his watch. She also spoke of his changed disposition, saying that he had become irritable, and that at times he did not appear to understand what was said to him and would ask the speaker to repeat what had been said. At times he had "an unnatural look;" "he looks wild and his eyelids look red and swollen." The patient said that occasionally he found that he had done something without having any recollection of having done it.

Examination.—Physically the patient was a well nourished man with a florid complexion. Tongue was protruded straight, was clean and showed slight tremor and slight tongue tie. Speech was negative. Reflexes were slightly below normal. Pupillary reflexes were apparently normal. Romberg's sign not present. Examination in the ophthalmologic department showed a hypermetropia and chronic conjunctivitis, for which he was given glasses and an eyewash. He also complained of tinnitus and was referred to the otologic department, where a chronic catarrhal otitis media was diagnosed and treated.

The man was seen but three times and he probably moved to Pennsylvania, where he expected to receive financial assistance from relatives.

Diagnosis.—From the above history and my personal observation of the patient I am inclined to make a diagnosis of psychic epilepsy, probably of traumatic origin, though I should like to have had a further period of observation in order to have been quite positive as to the diagnosis.

I cite the case to illustrate three points: first, a nervous disease in an engine man probably caused the railroad two wrecks, and it is probable that chance determined that they were not greater; second, the tests which have been suggested above would not have been sufficient to cause the detection of the disease and, therefore, even were they carried out as a routine, a number of men unfitted to hold responsible positions would continue to hold them; third, it partly shows the mental attitude of the man toward the officials and his mates, he preferring to state falsely that he had been asleep rather than to confess having periods of unconsciousness which he could not explain, and preferring not to seek advice through fear, possibly, of losing his position.

CASE 2.—Patient.—Walter J., a white man, aged 48, married, and a captain of a coast steamship, was admitted to the Johns Hopkins Hospital Dispensary Oct. 30, 1908, complaining of nervousness. His family history was negative.

History.—The patient had had three attacks of gonorrhea, had suffered from rheumatism for years, and at one time was alcoholic to a mild degree. He had been operated on for appendicitis ten years previously. He had five children, all of whom were living and well. The patient said that he had been feeling bad for a month and a half, having a poor appetite and being unable to sleep. He denied any attacks of unconsciousness.

Examination.—The patient was a well-nourished and thick-set man with a ruddy complexion; looked a little below his age. He showed a marked speech defect, stumbling over the usual test words. Pupils were regular in outline and reacted rather sluggishly to light. Tongue deviated to the right and was tremulous. There was a marked tremor of the extended hands. Writing also showed a coarse tremor. Gait was rather unsteady and there was some swaying. The right knee-jerk was somewhat more brisk than the left. Later all tendon reflexes were exaggerated.

It is this case which serves as a text for the many questions which may be suggested by the title of this paper.

I did not see the patient at his first visit to the dispensary and when it was found that he was able and willing to pay he was referred to a colleague of mine under whose care he has since been. I have examined him twice at intervals of several months and while at the second examination he showed a considerable improvement, I am nevertheless of the opinion that this is a case of paresis of a slow course. As captain of a steamer he was responsible for a crew of about forty and passengers from 4 to 80. Here was clearly a case in which our moral duty demanded that something should be done to prevent his longer continuing in so responsible a position and he was accordingly advised to take a vacation, which he did; but after several weeks, during which his improvement had taken place, he became impatient of idleness and returned to his position. On account of the libel law of Maryland, which is an extremely delicate affair, none of us felt like saying to the patient that he positively had paresis, nor did we wish to go to the man's employers and warn them. Finally, however, this step was taken and one of us who personally knew the head of the steamship company told him of the case and suggested that the patient be ordered to have a medical examination. Unfortunately this was not done with the finesse that it might have and the patient came back at us for an explanation. Matters were easily arranged, however, and my colleague and another went to the patient's house to make a lumbar puncture. On the result of this, all of us who were interested in the case put considerable faith, and it is therefore extremely unfortunate it should have resulted in a dry tap, due principally to the fact that the patient, who is a large man, was unable to bend his spine and allow the needle to enter.

At the present time the patient is back at his work in a responsible position, but it seems to me that the danger of this course is very slight as he is seen between each trip and has himself been warned to be careful and to turn the boat over to his mate should certain symptoms occur.

I must confess that the pleasure of a trip on his boat would be considerably marred to me by my anxiety lest he make some of those defects of judgment to which paretics are so prone, but the man must make his living and there seems to be no other course to follow.

It seems to me that the simplest thing which railroads might do in order to minimize the danger of using a man who is nervously unfit to run their trains would be to institute tests of reaction time, repeated quarterly perhaps, the stimulus being the display of a red and a green light, the patient to make different movements, which should be recorded by a chronoscope. The same device could be used for steamship captains and pilots, while for those accustomed to follow auditory signals auditory stimuli could be used.

Should an individual show a slowing of reaction a neurologic examination might be made and the cause of such slowing learned if possible. Such procedure probably would be more satisfactory than the recording of the few tests which I have suggested and which would

necessarily be conducted by a number of men who are probably unskilled in the employment of such tests.

The second case history which I have detailed brings up several questions concerning which a great deal might be said. Our action in notifying the man's employers that he was probably suffering from paresis and was, therefore, an unsafe employé may be viewed by many as a violation of professional secrecy. By such action one of us at least made himself liable to a criminal prosecution and to damages. On the other hand, it would seem that by every moral law such action was justifiable.

Considerable time might be spent in discussing the subject of professional secrecy and this paper might be expanded far beyond its present size merely by giving a summary of some of the papers which have appeared on the subject in the past ten years, but unfortunately such a summary would not bring us much nearer to a solution of the question.

By the Hippocratic oath the physician binds himself to secrecy. "My tongue shall be silent as to the secrets which are confided to me and I will not use my profession to corrupt manners or aid crime." The last clause, "to prevent crime," in many instances will serve as an excuse or reason for violating professional secrecy; but in the present case it seems to me doubtful if we can consider that a crime is about to be committed and our only excuse was "the greatest good to the greatest number," and possibly the Golden Rule. I am not quite sure whether even the last will serve us, for while I would feel grateful to any one who would save me from any act by which I might work harm to others, yet I probably would resent such interference if it meant the loss of my position and the impairment of the livelihood of myself and family. So that without spending considerable time in arguing the question, we are reduced to the single excuse of the "greatest good to the greatest number." This must be the excuse for violation of professional secrecy in many cases, but no rule can be given and each case that we meet with must be decided of itself.

Perhaps enough has been said of the moral and ethical side of the question, but considerable more might be added.

On the purely legal side, it must be remembered that in this country each state has different laws in regard to the professional relations which a physician bears to his patient. Before taking any step which entails a violation of professional secrecy it would be well to look up the state law with its definitions and penalties, and thus learn of the risks that will be incurred. It takes but slight study of the literature or but a few moments' talk with a lawyer to learn that each case must be decided of itself and that no hard and fast rules can be laid down.

Becker,⁴ in considering the question in quite a narrow sense, concludes with the observation: "In all statutory enactments in a free country the test of the law must be whether it works the greatest good to the greatest number."

"Apply that test to the statutes under consideration in this paper for yourselves, and no doubt you will reach such a conclusion as will be eminently satisfactory to the dictates of professional etiquette, and to the

duty that you owe to yourselves, your employers and to the public sentiment."

Tait⁵ gives a number of instances which illustrate some of the difficulties which beset the question. His paper is well worth reading.

Nichols,⁶ Benedict⁷ and McKee⁸ give illustrative cases with brief discussions which furnish considerable food for thought and probably will be of greater value to those who desire to look up the matter than the papers previously cited.

Morrow,⁹ while dealing with the question in a limited sphere, has written an excellent paper and in the beginning lays down some broad principles which will be helpful to all.

I have not quoted any foreign papers, as the laws of Great Britain and France are quite different from those of this country.

As conclusion to the present paper I would say that if a physician has as a patient a person unfit to hold a responsible position and a menace to public safety he should endeavor to have the patient voluntarily give up such a position, or if circumstances are such that there is no immediate danger the patient may continue in it under observation. If the last is impracticable and if the patient refuses to be guided by medical advice, some steps should be taken to have the patient removed from this position. We physicians should also endeavor to have transportation companies institute such tests as will insure against the employment of those likely to be a menace to public safety.

The Treatment of Cholera.—At the session of the Royal Society of England, Jan. 28, 1909 (*Nature*, February 25), Prof. L. Rogers offered a communication on the composition and pressure of the blood in cholera and the use of hypertonic solutions in its treatment, based on experience in India. The blood of Bengalis has been found by Captain Mackay to contain a higher proportion of salts and a smaller proportion of erythrocytes than that of Europeans, and Rogers has found that their blood pressure is lower. In cholera the enormous secretion of fluid into the bowel drains away the fluid part of the blood and there is a very definite relationship between the amount of fluid thus lost and the severity and mortality of the disease. Injections of normal salt solution (0.65 per cent. of sodium chlorid) into the veins has an almost miraculous effect, but this is only transitory and in the course of a few hours the symptoms recur. It occurred to Rogers that if he were to inject the hypertonic solution of 1.35 per cent. there would be less likelihood of the diarrhea recurring. This treatment simply revolutionized the results and instead of being a rarity the recovery of collapsed patients is a rule. In severe cases the proportion of chlorids in the blood falls below normal in spite of the concentration from loss of water, and he therefore sometimes uses a saline solution of 1.65, but usually 1.35 is sufficient. In bad cases the coagulability of the blood is greatly reduced and he now generally adds three grains of calcium chlorid to a pint of saline solution. Uremia is likely to occur in the reaction stage of cholera and is associated with a comparatively low blood pressure; and the hypodermic administration of adrenalin and digitalis is indicated for the prevention of this serious complication.

5. Tait, W. C.: Professional Secrecy; Its Legal Aspects, *THE JOURNAL A. M. A.*, 1899, xxxiii, 458.

6. Nichols, A. H.: Privileged Medical Communications, *Boston Med. and Surg. Jour.*, 1903, cxlviii, 683.

7. Benedict, A. L.: The Limitation of the Principle of Privileged Communications, *Am. Med.*, 1905, x, 703.

8. McKee, E. S.: Professional Confidences, *New York Med. Jour.*, 1907, lxxxv, 837.

9. Morrow, P. A.: Professional Discretion; the Medical Secret, *Med. News*, 1903, lxxxii, 1009.

4. Becker, T. C.: Observations Concerning the Law of Privileged Communications between Physician and Patient, as Applicable to the Duties of Railway Surgeons, *THE JOURNAL A. M. A.*, 1896, xxvi, 1065.