shreds, it is always impressed upon him that he should pass his water before intercourse and that his wife should use an antiseptic douche immediately following a sexual act. It is also suggested, especially if a patient has had no sexual intercourse during the period of tests, that he wear a condom for six months after massage and then return for another examination. The wearing of a condom in any questionable case is the safest procedure, for if recurrences are to take place no harm will have been done. There is a test upon which much investigation is now going on known as the "complement-fixation test" for the diagnosis of gonococcal infection. This test consists in the examination of serum of patients who have been infected with the disease, and promises much in the decision of whether or not chronic discharges from the urinary tract are due to the gonococcus or other causes. A positive reaction of this test is regarded by the laboratory investigator as an indication of living gonococci somewhere in the body. Considering, however, the high percentage of positive results obtained in clinically cured cases after many years' freedom of symptoms, the results at present can hardly be taken as a means of making a positive decision in regard to marriage. This work may, however, as time goes on, prove of much value in this important matter.

In closing, I hope that I have impressed the facts that venereal diseases are extremely prevalent; that the attempts to control it are neglected; that we have therefore a certain moral duty in connection with it; and that we should use our influence wherever possible to have our Boards of Health aid us in deciding the matter of cure by a willingness to make bacteriological reports of secretions, if in no other way.

SOCIETY OF AMERICAN BACTERIOLOGISTS.—The meeting held in New York, December 31, 1912, and January 1 and 2, 1913, was one of the most successful the Society has ever had, both in general interest, as evidenced by the large attendance at each session, and in the importance of the papers presented. The following officers were elected: President, Prof. C. E. A. Winslow, American Museum of Natural History, New York City; Vice-President, Prof. Charles E. Marshall, Massachusetts Agricultural College, Amherst, Massachusetts; Secretary-Treasurer, Dr. A. Parker Hitchens, Glenolden, Pennsylvania; Council, W. J. MacNeal, L. F. Rettger, D. H. Bergey, H. A. Harding; Delegate to Council of American Association for the Advancement of Science, Prof. S. E. Prescott.

THE RELATION OF ACCIDENT AND INJURY TO PULMONARY TUBERCULOSIS FROM A MEDICO-LEGAL POINT OF VIEW.

BY JOHN B. HAWES, 2D, M.D., BOSTON,

Secretary of the Board of Trustees, Massachusetts Hospitals for Consumptives, and Assistant Visiting Physician, Director, Tuberculin Department, Massachusetts General Hospital,

and

ARTHUR DRINKWATER, ATTORNEY, BOSTON,

Member of the Board of Trustees, Massachusetts Hospitals for Consumptives.

ONE of the commonest questions that our courts have to decide is that based on personal injuries and their effects, immediate or remote. The remote effects may be directly connected with the injury itself, such as nerve paralysis following a wound, or they may be due to the development of some other disease or pathological condition which might, and often does occur, quite independent of any preceding injury, and which may, or may not have arisen because of the preceding injury or its debilitating effects. Tuberculosis is one of the diseases which often occurs in this way. While it is well known that tuberculous infection is the rule rather than otherwise, it is equally well known that it may strike down a person apparently in the best of health. In the majority of cases, however, some cause which makes for a lowered bodily resistance can be found, be this an inherited weak constitution, poor living conditions, a dangerous trade, or some previous illness or accident. One often sees examples of this reported after the autumn football season in the daily papers, according to which some player is said to have developed consumption as a result of injuries received on the football field. More and more often, suits are brought to court in which the question must be decided as to whether pulmonary tuberculosis, developing after some injury, was a direct result of this injury or not. In view of the frequency of questions of this nature, we have ventured to discuss this subject, illustrating it with cases in some of which one of us (J. B. H.) has been directly connected.

The superintendent of the North Reading Sanatorium, Dr. Carl C. MacCorison, in looking over the histories of patients at that institution, approximately 175, found 6, in whose own minds at least, a previous injury had led to the subsequent lung affection. These cases are in brief:

CASE 1. F. C. This patient was examined at the Massachusetts General Hospital in June, 1910, as a matter of routine, and was told that his lungs were in perfect condition. He was in good health at the time and continued so until February 12, 1911, when, in a fight, he was hit on the chest, fell forward and was unconscious from the blow and the fall. A week later glands in the neck swelled rapidly, and in March, 1911, pulmonary tuberculosis was found in his lungs.

In this case there seems no reason to doubt that the pulmonary and glandular tuberculosis developed as a result of this patient's injury.

CASE 2. A. C. This patient, now 29 years old, in the spring of 1893, when ten years of age, fell off a wagon and broke his left shoulder blade and collar bone. The bones did not knit well, and a second operation was necessary. He was confined to bed for three months and could do no work for one year. In 1899, at the age of 16, he was sick all spring and summer with a suspicious illness and was fed on eggs, milk, etc., but the doctor did not call this tuberculosis until two years ago.

In this instance the time between the injury and the development of tuberculosis seems far too long and the chain of evidence too incomplete to justify the conclusion that the consumption resulted from the previous injury.

CASE 3. E. S. This patient at the age of 14 years, broke his collar bone playing football. Good health followed until he was 21 when he had what was called typhoid fever. In July, 1912, he was examined and found to have consumption.

Here again, although the patient seems to feel that his original injury had something to do with his present condition, there is not sufficient evidence to justify any such conclusion.

CASE 4. J. McD. In 1893 this man was thrown off the running-board of a car and dislocated his left shoulder. He was sick one month. He remained in good health until ten years later when tuberculosis developed.

CASE 5. B. P. This patient, when a young boy, fell off a roof and injured himself about the chest. Tuberculosis developed ten-years later.

CASE 6. M. L. In 1905 he fell forty feet while painting and injured himself most severely. Six years later he developed consumption.

In these last three cases there is no evidence to show any connection between the injury and the later development of tuberculosis.

Cases of tuberculosis following chest injuries are not uncommon. In such cases the train of events is usually so clear as to leave no doubt as to the part played by the injury as the direct or proximate cause of the subsequent tuberculosis. So far as the question of recovery of legal damages is concerned, it is immaterial whether the injury has led to a definite infection with tuberculosis or has awakened an old latent process. Thiem reports the case of a mason who fell and fractured his skull. On examination at this time his lungs were found to be normal. He recovered from the injury, but during convalescence developed a pleurisy which turned out to be tuberculous. The same author reports the case of another man who was struck in the side by a heavy box. Six months later he had a

hemorrhage and developed consumption. The following case is a striking example of pulmonary tuberculosis developing after a chest injury.

CASE 7. S. P. H., officer Metropolitan Park Police. Prior to October, 1908, this man was in excellent health; in fact, he had never had any serious sickness in his life up to that date and was in appearance one of the strongest men physically in the entire force. In October, 1908, while doing duty on a motor cycle in the Middlesex Fells District, he met with an accident in endeavoring to avoid collision with a small boy. He lost control of his motor cycle, was twisted round and round on the highway several times and hurt his right side severely. Another officer arrived shortly, stopped the engine and helped him up. He began coughing immediately and raised some blood and continued that night and the next day to raise blood. His right side pained him for a long time, and he never really felt as well as before the accident. From the date of the accident up to March, 1909, his general symptoms were a slight cough, occasionally raising blood, and constant loss of weight and strength. He was not obliged, however, to give up duty until March, 1909, when he stayed at home for one week and consulted a physician, who treated him from time to time during the period from March, 1909, to August 20, 1909, but told him that he did not have tuberculosis. Between August 20 and August 30, however, he was examined by three specialists, who reported that he had tuberculosis of the right lung, which disease began to develop rapidly from that time. On September 3, 1909, he went to the Rutland State Sanatorium for treatment, remained there eight months, returning to duty May 1, 1910. He worked in the station at Middlesex Fells until May 30, when he was taken sick and confined to his bed, and on June 27, 1910, he applied for a pension. During this last sickness he was advised by physicians to go to Colorado. This he did. The condition and progress of his disease is such that it is not expected now that he will live very long.

The Metropolitan Park Commission asked one of the writers (J. B. H.) to decide as to whether or not this man should receive a pension on the basis that his present condition as a consumptive was directly due to the original accident which occurred while he was on duty as an officer. In view of the fact that previous medical examination and testimony of others had shown that he was not suffering from any disease of his lungs or elsewhere, but rather that he was an exceptionally strong and healthy individual, it seemed clear that his present sickness was directly due to the accident and that he should receive a pension on this account. This opinion was given to the Board and a pension granted accordingly.

The second class of cases, when the injury is not to the chest itself, but to another part of the body, offers problems far more difficult of solution. The following case is a striking example of this:

CASE 8. J. L. Age, 22; female; married. Previous to the accident this patient had been examined numerous times in the course of minor illnesses by her family physician and was found to have perfectly sound lungs. In September, 1909, while leaving an elevated car her hand was jammed in the sliding door and severely crushed. The patient was immediately taken to the Boston City Hospital where it was found that a miscarriage had taken place. After careful treatment for this at the hospital she returned home; flowed off and on for two months and did not regain the usual health and vigor which she had enjoyed prior to the accident. She was under the constant care of her family physician and given good medical treatment. Four months later, in January, 1910, she developed a cough and in March, 1910, was found to have pulmonary tuberculosis and was sent to one of the State Sanatoria. The process in her lungs still remained active, and in December, 1911, at her last examination, bacilli were still present in the sputum.

One of us (J. B. H.), who had been called in consultation in this case, testified at the trial that in his opinion the pulmonary tuberculosis was directly connected with the original accident. The jury awarded damages to the patient, and later the Supreme Court affirmed this verdict.

Recently the Supreme Court of Minnesota* gave damages for the death of a man from pulmonary tuberculosis who had suffered a severe accident eight months prior to his death. He was then 43 years old, in perfect health according to a good medical evidence, weighed 188 pounds and was a big, robust man. He received a severe head injury with considerable shock and concussion, as a result of which he was confined to the hospital for one month. He continued to lose steadily in health and strength and soon developed consumption, from which he died eight months later. The defense argued that pulmonary tuberculosis often attacks men of robust health and kills them. The Court, however, believed that the evidence was sufficient to sustain a finding that the injuries suffered were the proximate cause of this man's death; he further stated that, although these questions are often obscured by technical learning, they are usually questions of fact for the jury, to be solved by the exercise of good common sense in the consideration of the evidence in each particular case.

In a somewhat similar instance in which a man developed valvular cardiac disease, subsequent to an open wound of his leg and the accompanying sepsis, the judge instructed the jury that the test of the relation of cause and effect was not whether the condition ensuing after an accident was a common, ordinary one, but whether it does not sometimes follow, and, as a matter of common knowledge and experience may be expected sometimes, probably in rare cases, to follow such an injury. This

ruling was later approved by the Supreme Court and the man was awarded damages.*

Chief Justice Knowlton states the difficulty in these cases thus: "The question is often difficult to decide whether an unusual condition is the active, efficient, and proximate cause of a subsequent event, or is only a producer of conditions which open the door to another cause which directly and actively produces the result."† No definite ruling can be laid down according to which these cases can be decided. They are bound to occur frequently, and in the case of pulmonary tuberculosis, more and more frequently, as the public gains knowledge in regard to this disease. A physician, when called to give evidence, or to decide any such instance, should carefully weigh the facts and decide accordingly.

* McGanahan v. N. H., N. H. & H. R. R., 174, Mass., 211.

† Daniels v. N. Y., N. H. & H. R. R., 183, Mass., 393.

Clinical Department.

CHRONIC FOCAL SUPPURATION OF THE HEAD WITH GENERAL SYMPTOMS, ESPECIALLY IN ADULTS.*

BY FRANCIS PATTEN EMERSON, M.D., BOSTON,

Aural Surgeon Boston Dispensary; Assistant Aural Surgeon Massachusetts Charitable Eye and Ear Infirmary; Instructor in Laryngology and Otology, Harvard Graduate School of Medicine.

THIS paper and the following cases are presented for your consideration, with no claim that any new theory is being advanced, but because the author believes that such infections are constantly being observed by every practitioner in medicine in whatever department, and that the results lead to invalidism and often death if not detected.

The clinical picture may be that of chronic arthritis, peri- or endocarditis, adenitis, tuberculosis, nephritis, pleurisy, erysipelas, myalgias, indigestion, neuralgia, skin manifestations, general sepsis, etc., but the focal infection or portal of entry of the invading organism is becoming more definitely known by confirmatory observations from many investigators.

During the last decade and particularly during the last two years, many observers have reported cases of acute infection with involvement of the serous membranes, where the invading organism obtained entrance by way of the lymphatics of the throat, notably Waldeyer's ring, which includes the faucial, lingual and pharyngeal tonsils as well as the follicles in the pillars and pharyngeal wall, among whom are Libman, Apolant, Kretz, Gerhard, Holmes, Perigord, Dock, Hanot, Hedaeus, Jessen, Richardieu, Dermoyez, Metzner, Mayer, Rosenberg, Leyden, Morse, Jeppel, Kraske, Mayer, Trumbull, Joal, Fraenkel, Heubner, Bahrtdt, Babes, Stephanides, Finger, Halstead, Loeb, Thompson, Rosenheim and others.

* Read before the York County Medical Society at North Berwick, Maine, October 10, 1912.

* Healy vs. Hoyer (Minn. 132, N. W. R. 208).