ation shall be passed, is conclusive. The supreme court of Colorado in Railway Co. v. Woodward, 4 Colo. 162, and in Lundin v. Railway Co., Id. 433, holds that section 11 of the bill of rights operates as a saving clause in repealing statutes. The subject is carefully examined in the first of these cases, and in the other it is applied to a case where the right derived from the repealed statute had not become fixed and established by judgment. The judgment that the writ of attachment is abated is reversed, and the cause is remanded for further proceedings.

UNION PAC. RY. CO. et al. v. YATES.

(Circuit Court of Appeals, Eighth Circuit. March 22, 1897.)

No. 802.

1. EVIDENCE-MEDICAL BOOKS.

Medical books cannot be read to the jury as independent evidence of the opinions therein expressed. Therefore, in an action against a railroad company to recover for personal injuries, in which it was contended that the plaintiff sustained a severe shock, which affected the nerves of the spine, and had produced a dangerous and progressive disease of the spinal cord, it was error to permit plaintiff to read to the jury certain extracts from a medical book relating to such diseases, especially as some of the medical experts stated that it was not regarded as an authority, and the fact in question was susceptible of proof by competent living physicians.

2. Same—Federal Courts—Binding Effect of State Decisions.

While the federal courts sitting within a state must enforce the provisions of a local statute prescribing rules of evidence, unless it is in conflict with some law of the United States regulating the same subject, yet the decisions of the state courts construing common-law rules of evidence are not obligatory on the federal courts, though they will be followed when the question at issue is balanced with doubt.

McClain's Code Iowa, § 4903, providing that "historical works, books of science or art, and published maps or charts, when made by persons indifferent between the parties, are presumptive evidence of facts of general notoriety or interest," does not authorize medical works to be read in evidence for the purpose of establishing the probable effects of a physical injury.

In Error to the Circuit Court of the United States for the Southern District of Iowa.

John N. Baldwin, for plaintiffs in error.

James McCabe (Charles M. Harl and George E. Hibner with him on the brief), for defendant in error.

Before SANBORN and THAYER, Circuit Judges, and LOCH-REN, District Judge.

THAYER, Circuit Judge. Horace W. Yates, the defendant in error, sued the Union Pacific Railway Company and its receivers, who are the plaintiffs in error, for injuries sustained in a railway collision, which occurred on November 22, 1892, near the town of Alda, in the state of Nebraska, on the line of the Union Pacific Railroad. The plaintiff below was a mail agent in the service of the United States, and he was riding in that capacity on one of the trains at the time of the collision. The injuries which the plaintiff sustained in consequence of the collision, to all outward appearances, were not serious. One of his arms and one of his legs were bruised, but not broken, and his left ear was cut, but beyond this his body appears to have borne no visible marks of injury. It was contended at the trial, however, that the plaintiff sustained a severe shock, which affected the nerves of the spine, and had produced a dangerous and progressive disease of the spinal cord, which had permanently disabled him, and was liable to prove fatal. In support of this contention, the plaintiff offered in evidence, and was allowed to read to the jury, over the objection of the defendant company, certain extracts from a book or monograph, which was published by Dr. John Eric Erichsen, entitled "On Concussion of the Spine and Nervous Shock and Other Obscure Injuries to the Nervous System, in Their Clinical and Medico-Legal Aspects." The material parts of the extracts thus read were as follows:

"It is well known to every surgeon of experience that no injury to the head is too trifling to be despised. This observation, made of old by Hippocrates, may be applied with equal, if not greater, justice to injuries of the spine; for, if the brain is liable to suffer serious primary lesion and protracted secondary disease from the infliction of slight, and perhaps, at the time, apparently trivial, injuries to the head, the spinal cord is at least equally prone to become functionally disturbed and organically diseased from injuries sustained by the vertebral column.

"My object in these lectures will be to direct your attention to certain injuries of the spine that may arise from accidents that are often apparently slight, from shocks to the body generally, as well as from blows inflicted directly upon the back, and to describe the train of progressive symptoms that lead up to the obscure, protracted, and often dangerous diseases of the spinal cord and its membranes, that sooner or later are liable to supervene thereon. These injuries of the spine and spinal cord occur not unfrequently in the ordinary accidents of civil life, in falls, blows, horse and carriage accidents, injuries in gymnasiums, etc., but in none more frequently or with greater severity than in those which are sustained by persons who have been subjected to the violent shock of a railway collision. And if, in these lectures, I speak more of the injuries of the spine arising from this than from any other class of accidents, it is not because I wish to make a distinction in injuries of the spine according to their causes, and still less to establish anything like a specialty of 'railway surgery,' but rather because injuries of the nervous system of the kind we are about to discuss have become of much practical importance from the great frequency of their occurrence, consequent on the extension of railway traffic, and because they are so frequently the cause of litigation. There is also a special and painful interest attaching to them from the distressing character of the symptoms presented by the sufferers. Moreover, in these cases there is always a peculiar difficulty, which is often greatly increased by the absence of evidence of outward and direct physical injury, by the obscurity and insidious character of the early symptoms, the slowly progressive development of the secondary organic lesions, and the functional derangements entailed by them, and the very uncertain nature of the ultimate issues of the case. Thus, they constitute a class of injuries that often tax the diagnostic skill of the surgeon to the very utmost. * * *

"I wish particularly and very specially to impress upon you that, although I shall have frequent occasion to speak of 'shocks' to the nervous system arising from railway accidents, I do not consider that these injuries stand in a different category from accidents occurring from other causes in civil life; and it will be one of the main objects of these lectures to show you that precisely

the same effects may result from other and more ordinary injuries. It must, however, be evident to you all that in no ordinary accidents can the shock, physical and mental, be so great as those that occur on railways. The rapidity of the movement, the momentum of the persons injured and of the vehicle that carries them, the suddenness of its arrest, the helplessness of the sufferers, and the natural perturbation of mind that must disturb the bravest, are all circumstances which increase the severity of the resulting injury to the nervous system, and which have led surgeons to consider these cases as somewhat exceptional and different from ordinary accidents. There is, in fact, much the same difference between these and the more ordinary injuries of the nervous system as there is between a gunshot wound and other contused and lacerated wounds of the limbs. The cause is special, and the results are peculiar; but, though peculiar, they are not so unlike those arising from other accidents as to justify us in regarding them as being in any essential respect distinct and different. The peculiarity of those obscure shocks is sufficiently great, however, to warrant us in grouping them together and considering them as a whole in a separate chapter in the great book of surgery. Perhaps the one circumstance which more than any other gives a peculiar character to a railway accident is the thrill or jar-the 'ebranlement' of French writers; the sharp vibration, in fact—that is transmitted through everything subjected to it. It is this vibratory shock or jar which by some is compared to an electric shock, by others to setting the teeth on edge, that causes a carriage to be shattered into splinters, and occasions the sharp, tremulous movements that run through every fiber of its occupants, and that constitutes the shock. In addition to this, the body of the traveler is thrown to and fro often five or six times, without any power of resistance or self-preservation. *

"In considering these injuries, I shall adopt the following arrangement: (1) The effects of severe blows directly applied to the spine, but without obvious lesion of the bone or ligament. (2) The consideration of the effects of slight and apparently trivial injuries applied directly to the spine. (3) The effects that injuries of distant parts of the body, or that shocks of the system, unattended by any direct blow upon the back, have upon the spinal cord. (4) The effects produced by sprains, wrenches, or twists of the spine. * *

effects produced by sprains, wrenches, or twists of the spine. * * *

"My object in the present lecture is to direct your attention to a class of cases in which the injury inflicted upon the back is either very slight in degree, or in which the blow, if more severe, has fallen upon some other part of the body than the spine, and in which, consequently, its influence upon the cord has been of a less direct and often of a less instantaneous character. Nothing is more common than that the symptoms of spinal mischief do not develop for several days after heavy falls on the back. The symptoms arising from these accidents have been very variously interpreted by surgeons, some ignoring them entirely, believing that they exist only in the imagination of the patient, or, if they do admit their existence, they attribute them to other conditions of the nervous system than any that could arise from the alleged accident. And, when their connection with and dependence upon an injury have been incontestably proved, no little discrepancy of opinion has arisen as to the ultimate results of the case, the permanence of the symptoms, and the curability, or not, of the patient.

"I have often remarked that in railway accidents those passengers suffer most seriously from concussion of the nervous system who sit with their backs turned towards the end of the train which is struck. Thus, when a train runs into an obstruction on the line, those who are sitting with their backs to the engine will probably suffer most; whilst, if a train is run into from behind, those who are facing the engine will most frequently be the greatest sufferers.

* * * Those who are facing the engine are in the first instance thrown suddenly and violently forward off their seats against the opposite side of the compartment; hence they will frequently be found to be cut about the head and face, and more especially across the knees and legs, by coming in contact with the edge of the opposite seats. They then rebound, and in the rebound may sustain that concussion of the spine which they escape in the first shock. Those, on the other hand, who are sitting with their backs to the engine, being carried backward, when the momentum of the carriage is suddenly arrested, are struck at once, and, if traveling rapidly, are jerked violently against the

backs of their seats, and thus suffer, in the first instance and by the first shock, from concussion of the spine. The force with which they strike the partition between the compartments with their shoulders or loins is greatly augmented by their opposite fellow travelers being thrown upon them. In the oscillation and to and fro movement to which the carriage is subjected, they are apt to be thrown forward, and, rebounding, to be struck again about the posterior part of the body. They are more helpless than those who are facing the engine, who frequently have time to stretch out their hands in order to save themselves, or to clutch hold of the side of the carriage when in the act of being thrown forward. When a carriage is run into from behind, the reverse of this takes place, and the carriage is driven, as it were, against those passengers who have got their backs turned towards the hind part of the train. In the violent oscillations that take place, a passenger is thrown backward and forward by a kind of shuttlecock action, and frequently, coming in contact with others on the opposite side, may become seriously injured, especially by contusion about the head. The oscillations to which the body is subjected in these accidents are chiefly felt in those parts of the vertebral column that admit of most movement, viz. at the junction of the head and neck, of the neck and shoulders, and of the trunk and pelvis. Hence it is that the spine so frequently becomes strained and injured in these regions by railway injuries."

The admission of the aforesaid extracts from the writings of Dr. Erichsen constitutes the chief error that has been assigned. We think that the testimony in question was clearly incompetent when judged by common law rules of evidence. The authorities, both English and American, are practically unanimous in holding that medical books, even if they are regarded as authoritative, cannot be read to the jury as independent evidence of the opinions and theories therein expressed or advocated. One objection to such testimony is that it is not delivered under oath; a second objection is that the opposite party is thereby deprived of the benefit of a cross-examination; and a third, and perhaps a more important, reason for rejecting such testimony, is that the science of medicine is not an exact science. There are different schools of medicine, the members of which entertain widely different views, and it frequently happens that medical practitioners belonging to the same school will disagree as to the cause of a particular disease, or as to the nature of an ailment with which a patient is afflicted, even if they do not differ as to the mode of treatment. Besides, medical theories, unlike the truths of exact science, are subject to frequent modification and change, even if they are not altogether abandoned. For these reasons it is very generally held that when, in a judicial proceeding, it becomes necessary to invoke the aid of medical experts, it is safer to rely on the testimony of competent witnesses, who are produced, sworn, and subjected to a cross-examination, than to permit medical books or pamphlets to be read to the jury. Collier v. Simpson, 5 Car. & P. 73; Ashworth v. Kittridge, 12 Cush. 193; Ware v. Ware, 8 Me. 42, 56, 57; State v. O'Brien, 7 R. I. 336, 338; People v. Hall, 48 Mich. 482, 490, 12 N. W. 665; Gallagher v. Railway Co., 67 Cal. 13, 6 Pac. 869; Epps v. State, 102 Ind. 539, 549, 550, 1 N. E. 491; Com. v. Wilson, 1 Gray, 337; Melvin v. Easley, 1 Jones (N. C.) 386; Payson v. Everett, 12 Minn. 217 (Gil. 137); Fowler v. Lewis, 25 Tex. 380; Railway Co. v. Jones (Tex. Sup.) 14 S. W. 309, 310; Lawson, Ev. pp. 169-171, and cases cited.

In the following cases, to wit, Bowman v. Woods, 1 G. Greene, 441, Stoudenmeier v. Williamson, 29 Ala. 558, 566, 567, and Merkle

v. State, 37 Ala. 139, 141, certain medical works of standard authority were received in evidence, and were held to be admissible. But, so far as we have been able to ascertain, these cases are at variance with the well-settled rule which prevails elsewhere. In this connection it should be observed that while the prevailing rule is, as above stated, that medical books cannot be read as independent evidence of the opinions which they contain, yet, under some circumstances, such books may be referred to. For example, a physician is sometimes allowed, while testifying, to fortify an opinion which he may have expressed, by referring to medical works of standard authority on which his opinion is in part predicated; and, when a medical expert has thus indicated the source of his opinion, the books themselves may be offered subsequently, for the purpose of showing that they do not support the opinion expressed, or that they contradict it. Ripon v. Bittel, 30 Wis. 619; Pinney v. Cahill (Mich.) 12 N. W. 862. In some states, also, the practice prevails of permitting counsel, while addressing the jury, to read extracts from law books and from scientific works as a part of their argument. This latter practice is approved in some jurisdictions, and strongly condemned in others, while in some jurisdictions the practice in this respect is regarded as a matter which rests entirely in the sound discretion of the trial judge. Reg. v. Courvoisier, 9 Car. & P. 362; State v. Hovt, 46 Conn. 330; Lawson, Ev. pp. 178, 179. All the authorities agree, we believe, that standard works which deal with the exact sciences, including herein interest and annuity tables, and tables compiled from well-established data showing the average duration of human life, are receivable in evidence to establish the facts to which they relate. Schell v. Plumb, 55 N. Y. 598; Mills v. Catlin, 22 Vt. 98; Munshower v. State, 55 Md. 11; Green v. Cornwell, 1 City H. Rec. 11. We can perceive no reason why the truths of exact science to which all intelligent persons assent, and well-established historical facts, should not be proven by the writings of competent authors, and all courts agree that they may be so proven. But beyond this the rule does not extend of allowing a contested issue of fact to be established by the unsworn declarations of third parties.

It is contended, however, that in the state of Iowa the practice is approved of permitting medical books to be read to the jury as independent evidence of the opinions therein contained, and that the practice in that respect which prevails in the state courts of Iowa is obligatory upon the federal courts sitting in that state. Reference is also made to a recent statute of the state of Iowa which reads as follows:

"Historical works, books of science or art, and published maps or charts, when made by persons indifferent between the parties, are presumptive evidence of facts of general notoriety or interest." McClain's Code Iowa, § 4903.

We concede it to be the law that the federal courts sitting within a state must enforce the provisions of a local statute prescribing rules of evidence, unless the local statute is in conflict with some law of the United States regulating the same subject. McNeil v. Holbrook, 12 Pet. 84, 88, 89; Wright v. Bales, 2 Black, 535;

Potter v. Bank, 102 U. S. 163, 165. But the decisions of the courts of a state construing common-law rules of evidence are not obligatory on the federal courts. Such decisions are merely persuasive authority, and, while the federal courts will follow them when the question at issue is balanced with doubt, yet they will not be governed by such decisions when they appear to be at variance with the great weight of authority. Burgess v. Seligman, 107 U. S. 20, 2 Sup. Ct. 10; Railroad Co. v. Baugh, 149 U. S. 368, 372, 13 Sup. Ct. 914; Ryan v. Staples, 40 U. S. App. 427, 23 C. C. A. 541, and 76 Fed. 721, 727; Railroad Co. v. Hogan, 27 U. S. App. 184, 11 C. C. A. 51, and 63 Fed. 102. The decision above referred to in Bowman v. Woods, 1 G. Greene, 441, was a decision construing the common law, and, for the reasons last stated, we do not feel compelled to follow it.

With reference to the statute of Iowa above quoted, it is only necessary to say that, by its express provisions, "books of science or art" are only made "presumptive evidence of facts of general notoriety or interest"; and we are unable to find that it has ever been held that the provision in question was intended to cover medical works of all kinds, and to make them independent evidence of whatever medical opinions or theories are therein expressed or formulated. In the case of Brodhead v. Wiltse, 35 Iowa, 429, the statute in question was referred to, but it was simply held that the statute was not intended to render inadmissible proof which before was admissible. In Quackenbush v. Railway Co., 73 Iowa, 458, 462, 35 N. W. 523, a passage appears to have been read from a medical work on diseases of the throat and nose, which passage was objected to on the ground that it was "too indefinite"; but the court ruled that the objection, on the ground stated, was not well taken. In another Iowa case (Peck v. Hutchinson, 55 N. W. 511, 512), a medical work which was read in evidence was objected to, for the reason that it was an old edition, and therefore incompetent. The court ruled that, if an error was committed in reading passages from the book in question, it was not prejudicial to the complaining party, and therefore declined to reverse the judgment. On the other hand, the statute now under consideration received a definite construction by the supreme court of California in the case of Gallagher v. Railway Co., 67 Cal. 13, 6 Pac. 869; and it was there held that the statute does not authorize standard medical works to be read in evidence for the purpose of establishing the probable effects of a physical injury. It was further held that the expression "facts of general notoriety or interest" means "historical facts, facts of the exact sciences, and of literature or art," all of which, when relevant to a case in hand, may be proven by the production of books of standard authority, rather than by the mouths of living witnesses. We are of the opinion, therefore, that the authorities which have been invoked by the defendant in error are insufficient to establish such a settled construction of the Iowa statute as would justify a ruling that the evidence complained of in the case at bar was properly admitted under the provisions of that statute, the evidence being, in our judgment, clearly inadmissible under the common law.

Only one medical expert who testified at the trial pronounced the book of Dr. Erichsen, from which the foregoing excerpts were taken, to be a standard work, and so recognized by the medical profession. The same witness admitted, however, that some of the greatest physicians and surgeons in the world had disputed the theories of Dr. Erichsen, as contained in the book in question. Five other medical experts who were sworn testified, in substance, that the monograph written by Dr. Erichsen was not regarded by the profession as a modern or standard work, and some of them stated that it was not regarded as an authority on the subject of which it treats. We think that a work of that kind, concerning the merits of which there is such a wide difference of opinion among members of the medical profession, should not be accepted in a court of justice as competent evidence to establish the fact that a certain ailment, from which the plaintiff below appeared to be suffering, was the result of a nervous shock sustained some years previously in a railway collision. The case disclosed no apparent necessity for resorting to testimony of such a doubtful and uncertain character. The fact alleged is susceptible of proof by the opinions of competent living physicians, who may be subjected to a careful cross-examination, and compelled to state in the presence of the jury, in an intelligible way, the reasons upon which their opinions are founded; and we think that the defendants were entitled to insist that it should be so established. The judgment of the circuit court is accordingly reversed, and the case is remanded for a new trial.

McPECK v. CENTRAL VT. R. CO.

(Circuit Court of Appeals, First Circuit. March 23, 1897.)

No. 187.

1. TRIAL-DIRECTION OF VERDICT.

The rule applied that a verdict may be directed for defendant on a mere question of fact when the proofs are insufficient to support a verdict for plaintiff if he should recover one.

2. MASTER AND SERVANT—FAILURE OF MASTER TO REPAIR.

Where a servant of a railroad company was injured as the result of a defect in the management of trains, the fact that he had given notice of the defect does not relieve him of the risk he assumed in entering the service, when fully 20 days elapsed between his complaint and the injury without any change having been made in the methods of the company, and this fact was known to him.

3. FELLOW SERVANTS.

The foreman of a gang of railroad track builders and the engineer of a train are fellow servants, and the master is not liable for an injury to one by the negligence of the other.

4. SAME—CONTRIBUTORY NEGLIGENCE.

The rule that the contributory negligence of the party injured will not defeat the action if it be shown that the defendant might, by the exercise of reasonable care, have avoided the consequences of such negligence, or that