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The subject of this discussion is direct examination of medical experts in actions for death and bodily injuries. Lawyers may be most interested in the practical and the tactical approach, law professors and physicians in how the practices of lawyers and courts in this area should be reformed, but I shall emphasize chiefly in this discussion some of the rocks of legal doctrine which the lawyer in planning the examination of his experts should keep in mind in charting his course.

Conference with Expert

Of course the investigation of legal doctrine is only a part of the preparation stage. Another and more important part is the lawyer's conference with the medical expert whom he expects to place on the stand. The doctor must be educated about the legal restrictions on medical evidence, and the lawyer must be taught about the medical aspects of his case. Dr. Gannon of Washington, D.C., has this interesting comment on the practices of younger and older lawyers in this respect. He says:

> "My employers, during the past 40 years in and out of court, have been mostly the defendants and my most satisfactory experiences as a medical witness have been with the younger and less experienced members of the legal profession. The reason for this has been that the youngsters are trying to learn, they are trying to get the viewpoint of the doctor, trying to understand cause and effect. Sometime before the trial they confer with the medical witness and learn what he thinks and why he has arrived at certain conclusions. . . . As the lawyer attains experience and reputation he apparently feels that these conferences are no longer necessary and they are not held. The result is that the medi-

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cal witness who has carefully prepared his testimony is not allowed to give it in a consecutive and detailed manner. He has not had an opportunity to reflect and consider the questions which the attorney thinks to ask. Misunderstanding of the object of the questions arises and I think cases are lost because of these circumstances." [1]

QUALIFICATIONS

The first impact of legal rules upon the lawyer's examination is through the standards of qualification of medical experts. Here the demands of good advocacy and the standards of legal qualification present a black and white contrast. The proper maxim for the advocate is "costly thy expert as thy purse can buy," and in a case of difficulty the attending physician should be reinforced by a specialist. For example, to quote Dr. Gannon again, "a general surgeon should not interpret an x-ray film for the jury. X-ray discussion belongs to the roentgenologist. It is not the business of the general surgeon. If he should succumb to the temptation to point out variations from the normal in an x-ray picture, he may be followed on the stand by an expert roentgenologist whose interpretation of the film may contradict the testimony of the medical witness and the jury would probably be correct if it believed the roentgenologist." [2] Moreover, the lawyer is entitled to show not merely the expert's bare qualifications to testify, but to examine him to reveal the special qualifications of training and experience, his honors and distinctions, which entitle him not merely to testify, but to be believed by the jury.[3] Nor should the common tactic of the adversary, of "admitting the qualifications" be ground for cutting off the proponent from presenting his expert in the strongest light.

The legal rules of qualification, by contrast, require no more in matters of medical science than that the expert witness be a licensed physician, and even when the most difficult and elusive scientific issues are involved, such as diagnoses of mental abnormality, specialists are not required. This minimal standard, though it is certainly not the best of qualification for scientists in hospitals and research laboratories, is evidently thought to be the only practical test for admitting experts under our adversary system where the parties, and not the court, have the responsi-

1. Gannon, The Witness Stand as the Doctor Sees It, 15 J. of D.C. Bar Ass'n 255, 261, 262 (1948).
2. Id. at 256.
3. Salmon v. Rathjens, 152 Cal. 290, 299, 92 Pac. 733, 737 (1907).

bility for selecting and compensating those who are to testify in court on scientific questions.

Moreover, the line is not even drawn at a medical degree. Mr. Busch[4] tells us that medical students, osteopaths, and chiropractors have been held competent to testify as experts in the fields of their particular knowledge and experience. The courts will face difficult problems in delimiting the fields of expertness of the licensed practitioners in the new pseudo-sciences of healing recognized by law in many states. In a recent Washington case[5] the court was called on to construe a statute which authorized a state board to license practitioners of mechanotherapy, suggestive therapeutics, food science, physcultopathy, or "any other separate system of drugless practice." Fortunately, the court announced that "drugless healers cannot qualify as expert witnesses as to matters in the general realm of medicine and surgery."

COURT'S DISTRUST OF EXPERT TESTIMONY

Assuming that the expert has been selected, what are some of the legal problems that may be encountered in the direct examination? In general, I think the older attitude of judges was that of a special distrust of expert testimony. As late as 1920 the Illinois court said, "it is the most unsatisfactory part of judicial administration . . . the expert is often the hired partisan and his opinion is a response to pecuniary stimulus."[6] This attitude has by no means disappeared and is occasionally manifested by a supertechnical treatment on appeal of the testimony given on direct examination. An Ohio case[7] is an object lesson for the examiner. There the plaintiff brought an action to recover for illness and injuries suffered after eating peas bought at defendant's store. The plaintiff called as witness the physician who attended him at the time he became ill and who testified as follows:

"Q. 'What did you diagnose his illness as, at that time?'

"A. 'I thought he had food intoxication, food poisoning.'

"Q. 'Dr. B., based upon your examination of the plaintiff in this case . . . what is your opinion as to the peas in that

4. Law and Tactics in Jury Trials § 430 (1949).
5. Kelly v. Carroll, 36 Wash. 2d 482, 219 P. 2d 79, syl. 2 (1950).
6. Opp v. Pryor, 294 Ill. 538, 545, 128 N.E. 580, 583 (1920).
7. Scaglioni v. Oriti, 83 Ohio App. 351, 83 N.E. 2d 657 (1948), acutely criticized in Note, 18 U. of Cin. L. Rev. 353 (1949).

transaction having been spoiled and unfit for human consumption?'

"A. 'Yes, I thought they were.'

"Q. 'Let me ask you what is your opinion as to the peas being the cause of this plaintiff's illness at the time you examined him?'

"A. 'Yes, I thought they were.' "

On appeal the court held that this testimony did not support the verdict for the plaintiff, because the doctor only swore to what he thought when he examined plaintiff and did not give his opinion as of the time of trial.

Physicians Employed Only to Testify

Another manifestation of the judicial distrust of experts is the set of rules in some states placing severe restriction upon the testimony of doctors who have examined the plaintiff not for the purpose of treating him as a patient, but for the purpose of preparing himself to testify about his injury. Certainly it is good practice and in furtherance of justice for parties to call in such doctors, frequently specialists, to supplement the testimony of the attending physician who is usually not a specialist and is frequently an unpractised and inadequate witness. But the courts in Texas, Illinois, Wisconsin and Washington and perhaps in other states, by what seems a rather questionable rule, have decreed that the doctor employed not to treat but to testify must be limited to giving his opinion based solely on the objective facts observed by him (or upon a hypothetical question), and is barred from giving an opinion based even in part upon what the patient told him about the history of his injury or his sufferings and symptoms.[8] Accordingly one should warn his witness that he must be prepared to state, if he truthfully can, that his opinion is based solely upon his medical knowledge and what he actually saw, without giving any weight to what the patient told him about his condition. This puts an undue strain, I think, on the veracity of the expert. A doctor in reaching an opinion can and does discount the patient's statements considerably, but

8. Greinke v. Chicago City R.R., 234 Ill. 564, 85 N.E. 327 (1908); Texas Employers' Ins. Ass'n v. Wells, 207 S.W. 2d 693, syl. 1 (Tex. Civ. App. 1947); noted in 24 Texas L. Rev. 387 (1946); Peterson v. Department of Labor, 36 Wash. 2d 266, 217 P. 2d 607 (1950); Schields v. Fredrick, 232 Wis. 595, 598, syl. 2, 288 N.W. 241, 242 (1939); Beckwith, Medical Evidence, 23 Wis. Bar Bull. 6, 10 (1950).

for him to disregard them altogether in reaching a decision is as impossible as for a jury to obey a judge's instructions to use a prior statement of a witness only to impeach and not as substantive evidence.

TREATISES

It would often be convenient if the attorney could suggest to his doctor that, upon some point where the doctor's own experience is slight, he should fortify his opinion by reading brief statements from a medical text or treatise which can often furnish clear, picturesque and impressive passages. Nearly all courts however will forbid such readings on direct examination, though some will permit the doctor on direct to mention the name of a text, as supporting his opinion, and many will permit the cross-examiner to read from texts passages inconsistent with the witness's conclusions.[9] There are obvious arguments against the use of treatises in jury trials, though I am not sure they should be controlling, but in judge-tried cases without a jury it seems that they should be freely usable in evidence, as far as the judge finds them helpful.

STATEMENT OF GROUNDS OF OPINION

May the examiner, after having elicited the facts as to the doctor's training and experience, and the fact that the doctor has examined the injured party, proceed at once to the pay-off question, such as, was the cerebral hemorrhage suffered by plaintiff caused by the fracture of the skull, or has the plaintiff's arthritis been aggravated by the injury? Must he elicit from the witness, either beforehand or in connection with the question, a statement of the facts and theories on which he grounds his opinion, or is he permitted to leave this task to the cross-examiner if he chooses to do so? As a matter of legal requirement this is a disputed question. Wigmore and some of the courts say "yes," he can leave that to the cross-examiner,[10] but many courts, perhaps the majority, say that the grounds of opinion must precede or accompany

9. See 6 Wigmore, Evidence § 1700 (1940); Notes, Medical Books as Evidence, 65 A.L.R. 1102 (1930); Medical Treatises, 12 So. Calif. L. Rev. 424 (1939). The court looked tolerantly upon an expert's reading from treatises, and seemed to approve it in Coastal Coaches v. Ball, 234 S.W. 2d 474, 478, 479 (Tex. Civ. App. 1950). As to use on cross-examination, see Note, 82 A.L.R. 440 (1933).

10. 7 Wigmore, Evidence, § 1922. See also 2 Wigmore, Evidence § 675; Lumberman's Mut. Cas. Co. v. Industrial Accident Comm., 29 Cal. 2d 492, 500, 175 P. 2d 823, 828, syl. 11 (1946).

the conclusion.[11] However, as a question of advocacy there will usually be little doubt. The doctor's statement of his reasons is the heart of his testimony, and usually his persuasiveness will depend on how effectively he can explain why he reached his conclusion. Occasionally, a lawyer will omit these questions as to grounds, in the hope that the adversary on cross-examination will choose to nibble at this hook. More often the direct examiner will prefer to bring out the reasons on direct, because he knows his opponent would steer clear of this sucker-bait.

Opinion Based in Part on Reports of Technicians

A rather tricky point as to grounds of opinion is raised in some of the decisions, namely, whether the physician-witness may in forming his conclusions rely upon the reports of technicians, or hospital charts, when these have not been introduced in evidence. Of course, he could not base his conclusions upon the opinion of another doctor on the whole medical issue even though that had been received in evidence. He cannot simply add his "me, too." But it is obviously standard practice for doctors in making a diagnosis to rely on factual reports of technicians as to tests of blood and urine, or hospital charts showing temperatures, et cetera, in reaching a diagnosis. However some of the cases, as in Missouri,[12] for example, require these reports to be in evidence if the witness is to use them as a basis for his opinion. The Wisconsin court more sensibly dispenses with this requirement,[13] but if the question has not been passed upon in the particular state in which the trial is held, it would seem wisest to make sure that the reports to be relied on are put in evidence.

Most of the problems thus far discussed involve risks which can usually be rather easily avoided by careful planning of the examination. Those which follow present inherent difficulties, and hazards which can be lessened but not always entirely avoided by preparation.

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11. Note, 82 A.L.R. 1338, 1340 (1933).

12. Baumhoer v. McLaughlin, 205 S.W. 2d 274, syl. 5, 6 (Mo. App. 1947) (x-ray picture and another doctor's report thereon). See also People v. Black, 367 Ill. 209, 10 N.E. 2d 801 (1937) (physician in charge of mental cases at house of correction improperly permitted to give his opinion based partly on observation and partly on reports of investigation by social workers, and of examination by other physicians); People v. Keough, 276 N.Y. 141, 11 N.E. 2d 570 (1937).

13. Sundquist v. Madison Rys. Co., 197 Wis. 83, 221 N.W. 392, syl. 4, 5 (1928); and see 3 Wigmore, Evidence § 688; Note, 175 A.L.R. 274, 285 (1948).

HYPOTHETICAL QUESTIONS

The first of these is the web of restrictions hedging about the use of hypothetical questions. Probably these restrictions look more complex to one who examines the picture in the general texts, encyclopedias, and digests, which present all the variant rules, than to the lawyer who has only to conform to the practice in a single jurisdiction. Even so, the fact is that most of the recent decisions where problems of expert testimony are debated turn on the technique of hypothetical questions, and this shows the underlying difficulties in the use of this device. Moreover, the hypothetical question is a comparatively ineffective way of presenting the expert's conclusions to a jury. And a long one is a real soporific! Reading a speech is bad, but how much entertainment did the jury get from a question in a California court[14] which covered eighty-three pages of typewritten transcript, followed by an objection covering fourteen pages?

There are two methods of framing hypothetical questions. The first, and the one which is customary in most of the states, is the familiar one in which counsel recites in the question the facts which he desires the witness to assume and asks for his opinion based on these assumptions. One drawback of this practice is that in some, probably a minority, of the states it is required that the questioner recite as assumptions substantially *all* of the facts in evidence material to the subject of the opinion sought.[15] This "all the facts" rule tends to put pressure on counsel to extend his question to such lengths as to be tedious and ineffective. Most courts, however, would require only that the facts assumed should be a fair selection of data sufficient to form the basis of a rational opinion.[16]

Another pitfall of the practice of reciting facts to be assumed is the obviously necessary requirement that all such assumed facts recited in the question must before the case is closed actually be supported by evidence. Recent cases in which judgments were reversed for failure to satisfy this requirement[17] indicate that careful advance preparation of the question, and

14. Treadwell v. Nickel, 194 Cal. 243, 263, 228 Pac. 25, 35 (1924).

15. Mathiesen Alkali Works v. Redden, 177 Md. 560, 10 A. 2d 699, syl. 2, 3 (1940); Aasen v. Aasen, 228 Minn. 1, 36 N.W. 2d 27, syl. 12 (1949).

16. Moore v. Belt, 203 P. 2d 22, syl. 19, 20 (Cal. App. 1949); and cases cited 2 Wigmore, Evidence § 682, n. 2.

17. Guardian Life Ins. Co. of America v. Waters, 205 Ark. 87, 167 S.W. 2d 886, syl. 2, 3 (1943); State v. Barker, 128 W. Va. 744, 38 S.E. 2d 346, syl. 3 (1946).

planning of the proof necessary to sustain the assumptions, are essential.

The other method of propounding hypothetical questions is to have the doctor sit in court and hear all or part of the testimony, and then to ask him, "assuming the truth of all the testimony in the case," or "assuming the truth of the testimony of witness Jones, heard by you, will you give your opinion," as to the cause of the plaintiff's condition, or the like. This method gives an automatic guarantee that the requirement last mentioned, that the assumptions must be supported by proof, will be satisfied. It appears to be frequently employed in Maryland, Missouri, Minnesota, Pennsylvania, and Wisconsin and recognized as proper in many other states.[18] It seems that the counsel planning to present expert testimony should always consider this technique as a possible alternative, except in the few states[19] where the method is disapproved. But this method, too, has its pitfalls. If the witness is asked to assume the truth of the testimony, and the testimony in fact is conflicting, then the question is objectionable because it is ambiguous. The jury will not know which of two conflicting stories the witness assumes to be true.[20] Moreover, if the testimony whose truth he is asked to assume includes the opinion of another expert witness, the question is held to be defective,[21] though perhaps this should only be condemned where the second witness is merely asked to echo or rubber-stamp the opinion given by the other doctor.

Perhaps these conclusions about hypothetical questions can be reached: First, they are to be avoided when possible. If all of the expert's conclusions can be based upon his examinations of the injured party, plus his training, reading, and experience, there is no need or requirement that the question be couched hypothetically.[22] Second, when resort to a hypothetical question is unavoidable, then for it to serve best its persuasive purpose, it should be kept as simple as the rules of law will allow. Nearly always if the doctor is to prove the causal connection between some bodily condition of the plaintiff and the external happen-

18. See cases collected in Note, 82 A.L.R. 1460 (1933); and in 2 Wigmore, Evidence § 681.

19. Note, 82 A.L.R. 1472, 1473 (1933) collects the cases.

20. Note, 82 A.L.R. 1478-1483 (1933).

21. Note, 82 A.L.R. 1489 (1933).

22. Lumbermen's Mut. Cas. Co. v. Industrial Acc. Comm., 29 Cal. 2d 492, 500, 175 P. 2d 823, 828 (1946); 2 Wigmore Evidence § 675 (1940); Note, 82 A.L.R. 1338 (1933).

ing for which the defendant is charged to be responsible, a hypothetical question is essential, and it is in this area of proof of cause that it is most often employed. One way of keeping it simple is to question the doctor first concerning the facts which he has found as to the plaintiff's condition from his observation and examinations, and then to ask the hypothetical question, somewhat like this: "In the light of these facts learned from your examination, to which you have testified, and assuming that the plaintiff fell twenty feet from a scaffold to a cement sidewalk on January 2, 1952, and has not sustained any other violence or injury, do you have an opinion as to the cause of the present condition of his back?" This might not meet the requirements in the few states demanding that the hypothetical question embrace all the facts but would seem to be otherwise acceptable.[23]

INVADING THE PROVINCE OF THE JURY

Another doctrine which was once a great stumbling block to counsel examining medical experts, particularly upon the issue of causal relation between the injury and the disability, was the rule against invading the jury's province. This rule has now been liberalized in most states, by recognizing an exception for expert testimony, even when it goes to the ultimate issue, when the question to be resolved is a scientific one upon which the jury needs the opinion of experts.[24] A few states, however, have retained the prohibitory rule, as applied to expert testimony as to cause, in a form so extreme that it is surprising that it should ever have been seriously defended. This is the view that the doctor may not testify that in his opinion the accident *did* cause the present disability, but may only answer the question, "Can you say whether in your opinion it *could* or *might* have caused the injury?" As has been pointed out, this restriction is unfair to the expert. If he answers yes, the jury may believe that his opinion is no stronger than a belief in the *possibility* of causal relation, whereas in fact the doctor may be convinced that the

23. The question is modeled on the situation and holding in Cobb v. Spokane P. & S.R. Co., 150 Ore. 226, 44 P. 2d 731, syl. 3, 4 (1935). For other cases holding that the question may embrace both facts assumed and facts known by the witness, see Biddle v. Riley, 118 Ark. 206, 176 S.W. 134, syl. 6 (1915); George v. Shannon, 92 Kan. 801, 142 Pac. 967, syl. 1 (1914); Houston & T.C.R. Co. v. Rutland, 101 S.W. 529, syl. 7 (Tex. Civ. App. 1907); 58 Am. Jur. 487; Note, 82 A.L.R. 1340 (1933).

24 Grismore v. Consolidated Products Co., 232 Iowa 328, 5 N.W. 2d 646 (1942); 32 C.J.S. 75, n. 36. Cases on expert opinion as to cause of disability are collected in Dec. Dig., Evidence, Key No. 528(1).

accident *was* the cause, but is not allowed to say so. Moreover, if he should answer *no*, it could not have been the cause, the answer would offend the court's canon, for it would clearly be an opinion on the issue. Nevertheless, some of the states, including Illinois, Michigan and North Carolina, seem to retain this archaic obstruction.[25] The following passage from an opinion by Federal Judge Gardner in the Eighth Circuit stands in refreshing contrast and represents the prevailing approach:

> "Dr. McBratney, who qualified as an expert, testified that he had examined and X-rayed the plaintiff. Based upon his examination and certain facts assumed from the testimony in the record, he was asked his opinion as to the cause of plaintiff's condition. Similar questions were propounded to Dr. Tibe. The court sustained objections to their testimony on the ground that the answers called for would invade the province of the jury. But if the questions propounded were such that the jury might not be capable of determining from the evidence, then it was proper that they should have the benefit of the opinion of an expert. . . . The purpose of a trial is to investigate the facts so as to ascertain the truth, and the modern tendency is to regard it as more important to get to the truth of the matter than to quibble over distinctions which are in many cases impracticable, and a witness may be permitted to state a fact known to him because of his expert knowledge, even though his statement may involve . . . the ultimate fact to be determined by the jury." [26]

Certainty of Future Consequences

Passing from cause to consequences, the interview and interrogation of the doctor as to the future results of the injury require careful handling. In the instructions the court will limit the liability for future consequences such as future suffering and new complications (such as blindness in an eye injury, the spreading of an infection into new areas, or the necessity of a future operation) to those consequences which are found to be "reasonably probable." [27] Accordingly, testimony of the expert

25. Fellows-Kimbrough v. Chicago City R.R., 272 Ill. 71, 77, 111 N.E. 499, 502 (1916); De Haan v. Winter, 258 Mich. 293, 241 N.W. 923, syl. 11 (1932); Patrick v. Treadwell, 222 N.C. 1, 21 S.E. 2d 818, syl. 4-9 (1942).

26. Cropper v. Titanium Pigment Co., 47 F. 2d 1038, 1043, 78 A.L.R. 737 (8th Cir. 1931).

27. Note, 22 Texas L. Rev. 505 (1944).

that these consequences "may" or "might" ensue may be rejected as too speculative, or if admitted, may be held insufficient to warrant an instruction submitting such item as an element of damages.[28]

ADEQUACY OF GROUNDS OF OPINION

Finally, the party who plans to rely for part of his case upon expert testimony must bear in mind that his expert's conclusions, if they seem at all controversial, will have to run the gauntlet of trial and appellate judges as to the adequacy of the grounds for his opinion. Some examples of experts' conclusions which passed or failed to pass this scrutiny may be of interest.

In a Minnesota case[29] a woman bearing a child was injured by the railway by a fall which, as it appeared, could have caused peritonitis. Some time later she bore a child and, shortly after, died. The facts did not show whether death resulted from peritonitis following the accident, or from septicemia from child-birth infection. The court held that such facts could only have been ascertained by a post-mortem or microscopic examination, which was not had, and that there was no adequate basis for the conclusion of plaintiff's experts that the death was caused by peritonitis produced by the accident.

In an Illinois case[30] an action was brought on a policy for the accidental death of the insured, a woman of thirty-four, whose body was found floating on the surface of Lake Tahoe, near a small boat she had rented. Nothing was known of the circumstances of death. So far as appeared, she had been in good health. The insurance company defended on the theory that death was due to disease, not to accidental drowning. The defendant's doctor testified that the fact that the body floated tended to indicate that the deceased was dead before her body reached the water, and that her death might have resulted from chronic myocarditis. Surprisingly enough the jury found this persuasive and found for the defendant. The appellate court held, however, that the expert's opinion was based purely on "guess, surmise, and conjecture" and that the plaintiff was entitled to judgment.

The third and last case was a death action brought by the family of a husband and wife who as passengers were killed in

28. See Busch, Law and Practice in Jury Trials § 438 (1949).
29. Mageau v. Great Northern R.R., 106 Minn. 375, 119 N.W. 200 (1908).
30. Kanne v. Metropolitan Life Ins. Co., 310 Ill. App. 524, 34 N.E. 2d 732 (1941).

a rear-end collision of Southern Pacific trains in Utah. The engineer of the overtaking train passed through two stop signals just before he crashed into the train ahead. Live steam poured into the cab where this engineer was and he was found dead after the crash. The issue was whether the collision was due to his negligence, and the railway's theory was that the engineer was dead or unconscious before he passed the stop signals. As an expert the defense produced a pathologist who had performed about three thousand autopsies. He examined the report of the autopsy upon the body of the engineer and his testimony was largely based on the facts disclosed by the autopsy. "[H]e expressed the opinion that cause of death was advanced coronary arteriosclerosis. In reaching that conclusion he took into consideration among other things the condition of the heart and the condition of the skin, emphasizing that live skin and dead skin would have reacted differently to the steam which poured into the cab of the engine immediately after the accident." With the facts hypothesized, "the witness was asked whether in his opinion as an expert death or disability of the engineer had occurred at the time he failed to respond to the last stop signal before the accident. The witness answered that on the basis of the facts assumed in the question, it was his impression that the engineer would have responded normally had he been mentally competent at the time the red signal was seen." Presumably on the basis of this evidence, the jury found for the defendant, and on appeal the admissibility of the expert testimony was sustained, and judgment for defendant was affirmed.[31]

Probably the first of these three cases, where the doubt was between peritonitis and septicemia in childbirth, as the cause of death, was one where adequate fact-investigation might have enabled the plaintiff to furnish adequate grounds for a favorable opinion. The second, the drowning case, was perhaps one where the defendant refrained from gathering the facts, in the hope of winning, as he almost did, on a speculative expert opinion which might not have survived in the sunshine of actual facts. The third case, the train collision, seems to show the mighty potency of this combination: a careful preparation on the medical facts, a highly qualified expert witness, a well-devised hypothetical question, and persuasive advocacy at the trial and on appeal.

31. Francis v. Southern Pac. R.R., 162 F. 2d 813, syl. 6-8 (10th Cir. 1947).