Effective Testimony for Scientific Witnesses

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THE research scientist is trained by instructors who are experts in his selected field of specialization. He reads professional magazines and converses with his colleagues. Among associates in his field, the writings and conversations are carried on from a vocabulary of words having very specialized meanings, content, and acceptance. Though quite unintelligible to the average listener, the conversations are highly meaningful to all associates. As a witness, he must present his findings in words and exhibits readily understandable by the audience.

The audience. When called to testify in a court of law, the scientist will find himself (professionally) among strangers, although all present may be citizens of his own community. Vocabularies, methods of procedure, restrictions, and evaluations will be different from anything experienced in his scientific training; even the oral examination for his advanced degree will not be comparable.

Technical expressions, unless clearly explained, have no place in testimony before the average jury. The jury, to whom a scientist is reporting his findings, knows little or nothing of his procedures, the cumulations of evidence, the precautions taken to avoid error, and the formulation of a conclusion supported by all the evidence. Unless he explains these, he loses much of his effectiveness.

Qualifying. After being sworn "to tell the truth, the whole truth, and nothing but the truth," the witness will usually find the attorney anxious to go further into his qualifications than is disclosed by a mere statement of his school training or that he is "a graduate of the state university and holds the degree of bachelor of science." The attorney will ask about his professional employment and achievements and his particular activities in the special field in which he claims excellence.

All this is necessary for the benefit of the judge who will later accept or reject the scientist as an expert. It is especially beneficial for the jury that is privileged to accept or reject his testimony and conclusions. Finally, it is needed by a court of appeals if one is called upon to reweigh the competence of the expert.

A judge is practically compelled to admit, as an expert, a graduate of a state school or a federal or state employee authorized to work in the field covered by the testimony, unless there are irreguarities in his career or in his reasonings in the special field. This is based on the judicial conception: "There must be no quarrels in the family." When the state's educational institution trains a citizen and presents him with a diploma guaranteeing certain attainments, rights and privileges, the state's judicial institution must not deny these credentials without well-documented reasons.

The expert. One definition of an expert is: "One who has acquired, by special study, practice, and experience, peculiar skill and knowledge in relation to some particular science, art, or trade." In admitting the expert, the judge usually explains to the jury that certain evidence is about to be introduced which is of a technical nature and not generally understood by all individuals. The court will now permit this expert to present the evidence and to explain its significance in the case before the court. Conclusions, if they are to be effective, must be based upon tangible and compelling evidence. They are far more substantial than opinions. Use of the opinionated expression "I think" can get an expert into sudden trouble. He is supposed to *know* or to *conclude* that certain conditions or findings *prove* the statements that he makes. It will be the duty of the jurors to weigh the evidence submitted and to give to it whatever value it may, in their opinion, deserve.

This formality may seem strange to the witness upon his first appearance as an expert. The only answer necessary for this type of procedure is that it has been found to be satisfactory over a period of many years. The expert can rightly be "eyes for the jury." He must not attempt to be "brains for the jury." If he is truly an expert, the conclusions of the jury will be the same as his. The witness should always remember that the judge of the court is the official of highest authority. His requests are to be obeyed if possible. If requested to give a categorical answer (yes or no), the witness may appeal to the judge if the question is impossible of a categorical answer. However, if overruled by the judge, he must attempt to answer it but may add: "with reservations." Counsel will give the witness an opportunity to explain the reservations upon redirect examination.

Procedures. It may come as a surprise to discover that attorneys who know little about the special field under consideration are so prominently identified with and are so vocal in the sessions. There are reasons. There are rigid regulations about admitting evidence, particularly of the type known as "hearsay" evidence, evidence about which definite facts are not available, statements not made in the presence of the accused,

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and dozens of other regulations. Furthermore, the attorneys must screen the evidence to be presented, eliminating all irrelevant and immaterial testimony, and above all, must not omit any item pertinent to the case. Conferences at the bench between the attorneys and the judge are frequently called to decide these problems. This saves time during the trial and prevents reopening the case at a later date on a plea of new evidence (which may really be only forgotten evidence). In other words, the attorneys are charged with presenting all the evidence and nothing more. For these reasons, court procedures must (with very few exceptions) be handled through qualified attorneys. The expert will do well to accept these regulations and attempt to adapt his performance thereto.

The atmosphere. Many witness rooms are not particularly inviting. Witnesses called to testify for the defendant may be in a sullen mood. Those called to testify on behalf of the government are usually restless after waiting a few hours in a smoke-filled room. Occasionally, the expert witness is invited to wait in counsel's office or library.

In one court where three cases were being tried, special exhibits (charts showing handwriting) were reluctantly admitted in the first case. The accused was convicted. In the second case, the court was requested and agreed to omit the special exhibits. The witness went to the blackboard and made comparisons of agreements in writings. The accused was convicted. In the third case, it was agreed that no charts or blackboard would be used. The witness used scratch paper and a wax crayon to make the comparisons. The third accused was convicted. Substituting a pad for a blackboard may have been near "contempt of court." The witness chose to take the chance and escaped without citation or penalty.

The Witness and His Testimony

Qualified expert. When qualified as an expert, a witness is elevated to one of the highest positions in the court. The judge has vouched for his professional attainments and ability. The expert should maintain the poise and dignity of a professional man and do nothing to make the judge regret his action. He should rise, not "swell," to the position.

Meekness or dignified reserve will inspire confidence in his integrity and will enhance the weight given to his testimony and conclusions. Meekness is in no respect related to weakness, indecision, or fear.

Fear. Anxiety and a degree of fear are normal for the conscientious man who wishes to present the evidence in the most effective manner. Thirty years of experience has not removed it completely from one man.

A prominent professor in one of our leading universities gave very helpful assurance to his students when he reminded them of their preparation and attainments. Have no fears, he said, when you appear as an expert in court to testify on matters covered by your training. When you graduate from this school, you will know more about the subject than any attorney in the United States and as much as any other graduate. You will always know what the attorneys are talking about, unless they attempt to confuse you with ambiguous or trick questions. You should recognize these in time to protect yourself.

Superior evidence. Answers to questions on qualification should be straightforward and addressed to the jury. Show no special appreciation of the "glamorization" that was applied to your abilities. Keep in mind that the evidence you develop is of much greater significance than your personal record. Facts are your total asset. They are all you need. The opposing counsel may call more handsome and better dressed experts. Unless you develop better evidence, use better reasoning or build better foundations and support for your conclusions, you will lose.

Every real expert will admit the limitations to his abilities and the fact that there are borderline cases. On such cases, he will give no positive conclusion.

The jury. Size up the jury as composed of businessmen, financiers, laborers, servants, housewives, and college professors. Fix in your mind the conclusion that each member is equally important and is earning an honest living.

If you do not speak loud enough for each juror to hear and understand every word, you are not a top expert. Unless your explanations are clear enough to be grasped by the most critical juror (and all other members) you are weak. Loss of only one juror in criminal cases means a hung jury and a total loss of the effort. Study the expressions on the jurors' faces. If one looks at another with a blank expression, you may wish to make another attempt to explain the point you have tried to make. When you make the evidence speak, you have achieved your mission. The jury may lose all interest in your personal achievements, dress, and reputation and may become saturated with the evidence. This is perfect testimony.

Cooperation. You have previously gone over your testimony with associates at your laboratory and with the attorney who sponsors your testimony. (This is standard procedure.) If asked whether you have discussed your testimony with others, say, "Certainly." (Many lay witnesses will answer "No" and later have to change the answer to "Yes.") No one dares tell you what to say. Any conclusion expressed must be yours. When you are qualified as an expert, you are on your own.

If the attorney repeats a question with little apparent change in the wording, you may be sure that your first answer was not complete. In your preliminary conferences, you have told him something or expressed a conclusion that you forgot to include in your answer. He is trying to get you to tell it to the jury just as you told it to him.

Cumulative testimony. Your testimony and outline of procedure in making examinations and tests should show an open-minded approach to the problem. They must be explained to the court. Gradually the findings suggested a conclusion. This was further supported by additional findings. When the conclusion seemed positive, you made additional tests to see whether an opposite interpretation could be justified. Finding no support for any other conclusion, you summarized the tests in the following conclusion: That the signature

John Smith on exhibit 1 (hold it up before the jury) was written by the individual who wrote the exemplars designated as known writings of William Jones and shown on exhibit 5. Hold both exhibits up before the jury. Conclusions must be clear, complete, and as simple as possible.

The bank cashier who sums up his testimony in the line "I would pay money on that signature," has left a conclusion not easily bowled over.

Quick answers. Take time to think over all questions. If you snap back answers to the attorney before he completes the question and slow up on cross-examination, it will be noticed by the jury and may be interpreted as "in trouble." Also, an attorney may shoot a fast, ambiguous question and get you in real trouble.

Ace in the hole. All pertinent testimony must be given or mentioned during direct examination. Some attorneys prefer little detail at that time. They ask for the conclusion and then turn the witness over for cross-examination, the theory being that cross-examination will hurt the cross-examining attorney and discredit him before the jury. Enhancements of a conclusion while you are under cross-examination are devastating to the opposition. But suppose there is no cross-examination and the opposition uses other experts who make impressive presentations of unimportant items. Double efforts will now be necessary to take the emphasis off these unimportant items and then to direct it to the important items.

The degree of certainty of a conclusion, expressed mathematically, is complicated and should be mentioned only during the direct testimony. Let any confusion that may develop on explaining come to the cross-examiner.

Notations. If during the testimony something comes to mind that is important and should be elaborated, you should make a note on the back of your exhibit, notebook, or card. If the attorney asks what you are writing, tell him, let him see it, and say that it is important. Above all, it will be a signal to your attorney to find out what you have written and to elaborate that part of the testimony.

Exhibits. Photographs and simple exhibits are very important. They impress the facts through an additional sense. They continue to testify after the expert leaves the stand.

Simple equipment may be introduced for use in showing details of an item. Simple hand-lens magnifiers are always appropriate when they will bring out a detail. Compound microscopes are not easily adjusted by those who do not use them regularly. There is always a question about what they see or do not see. Finally, you may be asked by opposing counsel to explain the operation of the instrument. Can you explain to 12 individuals what values are attached to apochromatic lenses, numerical apertures, depth of focus, or dark-field illumination sufficiently to convince them that you yourself know their functions? Perhaps a statement that this microscope is an accepted instrument such as is used by all federal and state laboratories will be a sufficient answer.

Records. Witnesses may refresh their memory by referring to records (preferably original). They are not permitted to read from the record book. They may only look at the book, then look at the jury, and state their findings. Records so used may be inspected by the opposing attorney in their entirety (all pages related to the case). Erasures, wisecracks, or other extraneous material on a page may have to be explained.

Original documents. Wherever possible all identifications must be made on original documents. This brings up the question: Why have the models or photographic exhibits? Exhibits are made to aid those with faulty vision to see much of what was seen under the microscope, to assemble conveniently the parts of the documents used, to preserve a record, and to furnish support and protection for the expert. Graphs are used to summarize data or to show trends in events. Everything in the graph is in the data.

Photographs or photostats introduced must be identified and authenticated as accurate photographic reproductions of the originals made under the instructions of the expert. At one time it was necessary to produce the photographic technician to identify his work, but this is no longer mandatory.

Disclosing evidence to the opposition. Attorneys occasionally request permission to see their opponent's evidence. This may be granted by special agreement between the attorneys and the court. Such disclosure usually brings a plea of guilty if the case is called for trial.

Press relations. Releasing information to the press is a function of counsel's office. As an expert, you know only one phase of the case. You may not be called to testify. To give pertinent information prior to your testimony will weaken your prestige before the jury. They expect and have a right to hear it first. Reporters' promises to hold the information until after you have testified are not always dependable. Refer all requests for interviews to the attorney who called you to testify.

Unpopular prosecutions. Unpopular prosecutions are to be taken in stride. If the parties concerned wish to have the issues settled in court, it is your duty to present the evidence. The jury will do the right thing in cases where there are mitigating circumstances.

Cross-Examination

Complete answers. When testimony and explanations are hurting a case, the opposing attorney may attempt to stop the witness by asking a new question. Most lay witnesses will accept the new question. This is a victory over the witness. He should say: "I have not completed my answer." If the judge rules in favor of the new question, your attorney will make a note and will, on redirect, give you a chance to complete the answer.

Multiple questions. Some attorneys specialize in involved questions and hope for a single answer that may be correct for the last part of the question but not for the first or middle part. It is always proper to respond with: "That seems to be a triple question. Do you wish to separate it or shall I do so?" Another

way is to ask the clerk please to repeat the question, then answer each part separately.

Praise. When the opposing counsel begins asking questions that seem to build you up and all answers are "Yes," "Yes," and so forth, be extremely careful. He is maneuvering for a quick answer, which if answered without due consideration, may hurt your qualifications or the accuracy of your statements.

Distorted answers. It is not uncommon for a cross-examiner to repeat one of your answers given in direct testimony with cunning distortions. You may reply: "I am sorry if I did not make the point clear. I do not recall saying it in exactly that way. If I did, I am grateful for this opportunity to correct it. What I should have said is '. . .'." Make it clear this time. Some prefer to ask the clerk please to read both the question and answer before correcting it. If the answer is worth the attempted distortion, it is important and may well be emphasized by this opportunity to reexplain it with all details—under the sponsorship of opposing counsel!

One of the best witnesses responds as follows: "No it was not that way. Let's get it straight. I'll tell you exactly how it did happen." He then repeats his testimony almost word for word and explains why the distorted statement cannot be true. Above all, you must not become angry or show any desire whatever to convict the accused. Convicting is definitely the prerogative of the jury or court.

Stinging retorts. There are frequent opportunities to make stinging retorts to snide questions. To do so will remove emphasis from the item of most importance. You may be able to embarrass the examiner but will most surely develop sympathy for him on the part of one or more jurors.

A report. Another trick question ambles along this theme: "Now let's rehearse the happenings. These documents were obtained by counsel; they were brought to you by Mr. Brown who asked you to examine them and identify Mr. Young as the writer." The reply is: "No, that is not correct. I was requested by Mr. Brown to compare the documents and make a report. This I did." The examiner may ask to see the report. The reply is: "The report was sent to counsel, I have no objection to your seeing it."

Ostentation. Should a pedantic question be asked, such as "What is your attitude toward holographic documents," and you are not sure of the meaning, you may ask for the popular expression used to describe such documents or for an explanation of what is meant. If you do know the meaning, be sure to explain the meaning of the word before answering. The jury will thank you for doing so.

Fishing. When opposing counsel's case is weak, he may ask very queer questions, apparently not related to the case. These questions may relate to your knowing a certan individual. First, he may ask if you ever knew Osborn the great document expert. Next, are you acquainted with the writings of the authority Alfred? There is probably no important document authority by this name. If you answer "Yes" and there is no such authority, you will be exposed and discredited. This practice of fishing for a lead, which may profitably be followed up, is quite common among poor attorneys.

Authorities. Be careful about giving unqualified endorsements for any textbook, magazine, writer, or official. Do not claim to know every line written on any subject. You should be able to name one or two textbooks, an abstracting magazine, or an individual whom you regard as a leader in the field. Unqualified endorsements of a textbook are almost surely followed by reading a paragraph from the book which may be interpreted as weakening your findings. If you can say you regard an author as a leader and, in general, you have found him reliable, you are protected. To establish your degree of expertness properly, you must admit that there are others who know the subject and with whom you have discussed problems, although not always accepting their opinions blindly.

As a layman. The routine procedure on cross-examination to try on a document expert is to present two documents and ask whether they were both written by the same individual. Obviously, identification in the case at issue was not completed in 2 minutes, neither can this comparison be made without extended study under instruments and with hours of time. Counsel should counter with: "It has not been shown that these documents are pertinent to this case. If opposing counsel wishes expert service he should procure it through proper channels."

If left to the expert to respond, he may volunteer the following: "If I may offer an expert's curbstone opinion, I would say that they have some similarities in general appearance. Also, there are differences that may or may not be disguise. I do not advocate, nor do I voluntarily indulge in giving, such opinions. Upon proper request from the court and authorization, I shall gladly make a study of the material and report agreement, nonagreement, or my inability to come to an unqualified conclusion. I am not prepared to specify what reimbursement will be asked."

If the judge approves and insists that the study be made, the expert will request that the known document be marked, that several exemplars of the known writer be supplied, that some of these be from writings made prior to the writing of the questioned document, and that the cooperation be as complete as that supplied in the case at issue. Insist upon being allowed as much time for this study as was used on the case before the court.

Success. The honest expert never looks upon the outcome of his work as a result of luck, the reward of a game, or victory in a battle of wits. He has built his qualifications through hard work. He establishes his conclusions through exacting procedures; he presents his testimony in the face of keen opposition and asks no favor beyond an honest consideration of the facts disclosed. Having done so, he has fulfilled the high obligations of his profession.

Justice is sometimes pictured as blindfolded. However, scientific evidence usually pierces the mask.