THE VALUE OF EXPERT EVIDENCE.

By Ardemus Stewart.

There is a wide difference of opinion in the reported cases in regard to the value of the evidence of experts, ranging from the extreme of commendation to that of condemnation; and it is utterly impossible to deduce any general rule from them, for, founded as they are on the personal experience, impressions or predilections of the writers, they are the expressions of prejudice rather than of judgment, and present as great a variety as the phases of human nature and modern education. In some instances, perhaps, the cause lies on the surface. It is only natural that a criminal lawyer, who has all his life relied on expert evidence to save his clients from justly-deserved punishment, should have the very highest opinion of its utility, and should, upon his elevation to the bench, give utterance to that opinion; while it is equally natural that a district attorney, who has had his well-earned laurels snatched from his brow by the skilful use of such evidence, should in the like case express his utter contempt for it. As a rule, therefore, text-writers have either preferred to pass the subject by rather than waste time in the hopeless effort to bring order out of chaos, or have contented themselves with simply adducing the arguments urged on both sides of the question, leaving the reader to make his choice, uninfluenced by any opinion of theirs.

There is one notable exception, however. Judge Taylor, in his work on "Evidence,"[1] does not hesitate to express in unqualified terms his very low estimate of the value of the testimony of experts. "These gentlemen," he says, "are usually required to speak, not to facts, but to *opinions;* and when this is the case, it is often quite surprising to see with what facility and to what an extent their views can be made to correspond with the wishes or the

[1] 8th Ed., § 58.

interests of the parties who call them. They do not, indeed, wilfully misrepresent what they think; but their judgments become so warped by regarding the subject in one point of view that, even when conscientiously disposed, they are incapable of expressing a candid opinion. Being zealous partisans, their belief becomes synonymous with faith as defined by the Apostle, and it too often is but 'the substance of things *hoped for*, the evidence of things *not* seen.'"

It is evident to any one who has given any consideration to the subject, that this, besides being the opinion of an author of great weight, very fairly represents the popular estimate of expert evidence as voiced in the conversation of men, in the newspapers and other periodicals, and even at times in stray remarks let fall from the jury; but does it fairly represent the actual substantive value of such evidence and the weight that should justly attach to it? It can hardly be questioned that, theoretically at least, it ought not to be correct. As expert evidence is confined to matters that are beyond the reach of the ordinary intelligence and education of men, the testimony of those who have made these matters their special study ought to carry great weight to the minds of those who, like the average jury, know nothing whatever about them unless so instructed. The opinions of an architect on the proper construction of a building, of an engineer on the tensile strength of a girder, of a physician on the cause of death or the proper treatment of a wound, are, in common with numberless other such, the sole guides by which the jury can arrive at an intelligent decision of the case, and ought, therefore, to be almost, if not quite, conclusive; and yet everyday experience proves that they are not. What is the reason of this apparent anomaly?

In the first instance, it arises from the very nature of expert evidence. No matter how learned or how famous the witness may be, his testimony is only an expression of his personal opinion, based, it is true, on a proved state of facts and a careful study of similar phenomena, but none the less

an opinion pure and simple. Now, it is an unquestionable fact that no man is bound to accept the opinions of another; but he may, if he chooses, set up his own ignorant prejudices in opposition to the judgment of the most enlightened scholar, and there is no way of calling him to account for it. It is, therefore, the inherent vice of an opinion that it can never be conclusive, but is wholly at the mercy of the jury to accept or disregard as they please. Whatever, then, may be the theoretical value of expert evidence, it is clear that its actual value depends wholly upon the weight the jury see fit to allow it; and this being in every case an unknown quantity, its practical value is equally uncertain. Yet in many cases it is the only evidence that can be given. In murder by poisoning, for example, the proof of the cause of death must almost always rest upon the evidence of the experts who have examined and analyzed the viscera of the deceased, and the jury are practically forced to accept their conclusions, if uncontroverted, or to acquit the accused.

The theoretical, as well as practical, value of expert evidence is seriously impaired by its uncertainty and contradictoriness. When the experts brought forward by both sides agree on a matter, there are very strong grounds for believing their opinion correct, and great weight ought to be given to it; but, unhappily, such agreement is one of the rarest phenomena of nature, fit to be classed with the seven wonders of the world. Mr. Justice STORY has remarked on this point:[1] "In all my experience I can scarcely recollect a single instance in which the general question whether the principles of two machines were the same or different has not produced from different witnesses, equally credible and equally intelligent, opposite answers." This, no doubt, has its rise partly in that subjective tendency of the human mind that leads it to lay undue stress upon its own conclusions, and to display an irrational disregard of the opinions of others, and even of plain facts, forming the mainspring of what is termed professional jealousy. But it is also in large measure due to the inexact-

[1] Barrett *v.* Hill, 1 Mason, 447.

ness of much of what is miscalled scientific reasoning, and the unconfessed ignorance that in reality exists regarding many of the phenomena of nature upon which the theories of scientists are based. "If the trumpet give forth an uncertain sound, who shall prepare himself for the battle?" It is impossible to place any confidence in conclusions drawn from premises which our past experience leads us to suspect may the next day be proved by some new discovery to be non-existent or misunderstood. There is no more general truth in nature than that "things are not what they seem." Yet the color-blind man is fully persuaded that he is justified in insisting, on the evidence of his senses, that the leaves and the ripe cherries are of the same color, and in refusing to accept the declaration of the man of normal vision that they are really different. So, too, the scientist, blinded by his own pet theory, is, from his own point of view, equally justifiable in contradicting the statements of his brother of less prejudice, or opposite tendency. It is a curious proof of the extent to which mental perversion can prevail, that some one can be found to champion any side of a question, and to controvert any of the facts and theories of science that are generally considered firmly established. There is a colored gentleman down South who, at this late day, declares that "the sun do move;" and there is a white gentleman in New York who is devoting his energies to the attempted overthrow, by a very specious logical fallacy, of the current theories as to the nature and origin of light, heat and sound, a very Don Quixote in the scientific world. These, especially the former, would, it is true, hardly be permitted to testify as experts; but their opinions are hardly less wild than many held by men of more prominence. What would the medical profession think of a member of their body who diagnosed a case of barber's itch as a blind carbuncle, or a ruptured capillary as a scrofulous growth? Yet this has been done by a very respectable physician, whose testimony as an expert would have been received in any court.

Of course, where there is uncertainty in regard to the

fundamental phenomena, and the processes by which they develop, there is much room for *bona fide* difference of opinion, as well as for ignorance, and it is very difficult to tell which is which; but at the same time it gives rise to many remarkable declarations. Not many years ago a prisoner in a penitentiary in one of the eastern States killed a keeper in his cell, no one else being present. On his trial the defence of insanity was set up; and one of the most reputable and successful physicians of that city, who was beyond all suspicion of venality, testified with the utmost positiveness that the defendant was insane. Fortunately, the jury disregarded this testimony, and found the man guilty. As the prisoner was leaving the court room he said to the officer in whose charge he was: "That lawyer of mine was a fool for sticking to that insanity plea when he saw the jury took no stock in it. Why didn't he claim self-defense? No one saw me kill him, and they couldn't have proved that he did not attack me first." In the light of this statement what shall be said of the physician's evidence?

This room for variance of honest opinion is especially noticeable in this very matter of medical evidence. One cause of it is certainly the very rapid advance and the consequent radical changes in that profession. Matters which ten or twenty years ago would have been facts are now shown to be as baseless as a mirage, and things which then were undreamed of are now the facts of the present. In such a state of affairs the older men, who are too much pressed by their professional duties to keep pace with these changes, find themselves necessarily at odds with the younger men, to whom these new things are the very A B C of their medical training. This, of course, introduces an element of confusion and uncertainty, and when a young man, fresh from France or Germany, gravely testifies that a gray-haired practitioner, old enough to be his grandfather, perhaps, knows nothing of the matter in hand, the sympathies of the jury are all with the older man, and tend to seriously affect the real value of the other's testimony.

In the matter of insanity, the evidence of experts is especially unsatisfactory. Apart from the fact that it is apt to be conflicting, it is untrustworthy, for the reason that medicine has a definition of insanity differing widely and radically from that of the law. In the purview of the former, insanity is any unsettling of the mental balance, irrespective of comprehension and responsibility; while to the latter the only legally recognized insanity is that which destroys responsibility or intelligence. This difference has led to some sharp expressions of the judicial opinion of the medical definition of insanity. "Unfortunately for the administration of justice, persons are sometimes found who with small experience and large conceit have succeeded in formulating theories under which, if properly applied, there would be hardly enough sane persons found to sit upon juries or attend to business."[1] People always find what they look for if they look long enough and close enough, and the expert alienist, who spends his life in ferreting out insanity, will light upon supposed traces of it where no other man would ever suspect its existence, and can then, from his point of view, testify with a clear conscience to what is essentially, in relation to the true state of affairs, an error, not to say an untruth.

So, too, medical experts are continually making alleged discoveries that, until their true effects and relations become fully known, tend to seriously embarrass the administration of justice by introducing new elements of uncertainty. In the late trial of Dr. Buchanan, in New York, where the prosecution set up the theory that the deceased was poisoned by morphine (a vegetable alkaloid), traces of which it was testified were found in the viscera, the defense introduced evidence tending to shake that of the experts for the prosecution, to the effect that certain of the ptomaines and leucomaines (products of animal decomposition), produce reactions similar to those of certain of the vegetable alkaloids, and that therefore it could not be said with certainty what was the substance that produced

[1] Peo. *v.* Finey, 38 Mich., 482.

the reaction. Here, it is clear, is an element of uncertainty that would last until the differences in the effects of these substances, and the true tests for distinguishing them, were found, were it not for the fact that the ptomaines are so offensive as to be rarely taken into the stomach (tyrotoxicon, found in ice-cream and cheese, being the most prominent exception), and that those formed in the alimentary canal are neutralized by some secretion of the body.

Another serious fault of expert testimony is its unintelligibility. Every science has its own technical terms, which are so much Greek or Hebrew to the average juryman. What would the ordinary man make of this answer to a question whether a certain dose of a prescription containing chloral would have been dangerous: "Not unless the patient was idiosyncratic to chloral?" And this word is mild when compared to some medical and chemical terms (for which the curious may consult special dictionaries). It is no wonder that the foreman of the jury that tried Dr. Buchanan remarked that he thought that after the trial was over they ought all to receive diplomas as scientists; nor that another juryman declared that he had experienced seventeen different kinds of coma during the course of the trial.

It ought not to be any cause for wonder that, with their ears buffeted by words they never heard before, and their attention called away from the salient features of the case by ceaseless wrangles over scientific matters they do not understand and care nothing about, the jury become afflicted with a sort of mental nausea, and incontinently reject the whole undigested mass. A part of it they must reject whenever it is conflicting. "Who shall decide when doctors disagree?" Certainly not a body of men wholly ignorant of the subject-matter of the testimony. Would any one but a chemist presume to pass upon the question whether a test should be made with animal or vegetable indol, or would any one but a physician risk the assertion that atropine would conceal the presence of morphine in

the system without affecting the morphine coma? If, then, these gentlemen are not agreed on these or similar points, what are the jury to do? When a physician of wide reputation, profound learning and vast experience, testifies directly that certain blood stains are caused by human blood, and another of equal experience, learning and reputation testifies as explicitly that it is impossible to declare with certainty the origin of any blood-stains, and that no physician with any regard for his reputation would assert that it was the blood of any particular animal, whom shall they believe? In such case, and it is by far the most common, they cannot decide in any true sense of the word; they can only choose at random whom to credit, and of course will always choose in the line of their private inclinations and prejudices.

There is another cause of the waning prestige of expert evidence, for which the lawyer is chiefly responsible; that is, the excessive length to which such evidence is pushed, both in direct and cross-examination, and the consequent multiplication of side issues and the obscuration of the main point. It is no uncommon thing nowadays for a murder trial to consume three, four or more weeks, and to put anywhere from six to a dozen experts on the stand. With each of these comes an investigation into his credibility, his standing, his learning, his means of knowledge, until the jury are fairly bewildered. It has its advantage for the defence in this, that it may cause the jury to lose sight of the main issue; but if that is its only object, it does not add to its value or respectability. And if the jury once get an idea that such is its purpose, it becomes a boomerang and recoils with fatal effect on the head of him who employs it. But even when used in a perfectly legitimate way, it is often carried to the verge of absurdity, in view at least of the probable effect it will have on the jury. They cannot be expected to follow out the course of logical reasoning that is developing itself in the testimony, for they are not fitted, either by nature or education, to do so. The matter is, therefore, exhausted for them long before

the lawyer arrives at the point at which he has been aiming, and the most beautiful chain of thought thus brought out is often, it is to be feared, not only of no value, so far as its effect on them is concerned, but even positively detrimental.

One consideration that materially qualifies the value of the evidence of the experts for the defence is that when they have had no opportunity to examine the material on which the evidence for the prosecution is based, their testimony can have no affirmative basis, but must be purely negative. That is, they can only testify that, assuming the facts testified to by the witnesses for the prosecution to be true, they think the deductions made therefrom are unwarranted. This sort of evidence is necessarily weak. It merely amounts to an opinion than another man's opinion is wrong, without a *full* knowledge of the facts on which that opinion is based, and is therefore certainly not entitled to the same weight. In the recent Harris case[1] the evidence of the experts for the prosecution was positive that the deceased had been poisoned with morphine; but the experts for the defence declared that with such symptoms as those testified to no accurate opinion of the cause of death could be given, and that it might have been uræmic poisoning, or hæmorrhage of the pons varolii. Would any one for a moment dream of permitting positive evidence of qualified experts to be overborne or even nullified by such a mere hypothesis? It is safe to say that no jury would grant it the least consideration; and in point of fact, in the case cited it had no effect upon either judge, jury or higher court.

This same fault vitiates all evidence given by means of what is called a hypothetical question, stigmatized by the *New York Times*, in commenting on the Buchanan case, as "a method that always, being based on a series of suppositions, simply opens up a field of conjecture in which the experts can theorize to their heart's content, while the lawyers wrangle, the court scolds and the jury yawns and wonders what it all means." But this has the additional vice that when, as sometimes happens, the question covers

[1] 33 N. E. Rep., 65.

a column or more of a newspaper, the jury have forgotten the beginning long before the middle is reached, and the middle long before the end; and are no wiser when the answer is at last given than they were before, and consequently do not permit it to affect their decision in the least.

Did the matter stop here expert evidence might still come out of the investigation with unimpaired respectability, though shorn of much of its fancied importance. But there is another and darker side to the question—the unconscious bias that the employed naturally has to subserve the interests of his employer, and the more than suspected venality of some experts. "Hardly any weight," said Lord CAMPBELL in the Tracy Peerage Case,[1] is to be given to the evidence of what are called scientific witnesses; they come with a bias on their minds to support the cause in which they are embarked."

"It must be painfully evident," remarked Judge TEMPLE in Grigsby *v.* Clear Lake Water Co.,[2] "to every practitioner, that these witnesses are generally but adroit advocates of the theory upon which the party calling them relies, rather than impartial experts, upon whose superior judgment and learning the jury can safely rely. Even men of the highest character and integrity are apt to be prejudiced in favor of the party by whom they are employed, and, as a matter of course, no expert is called until the party calling him is assured that his opinion will be favorable."

This tendency is very much enhanced by the vicious practice of paying experts more than the fees legally demandable, a practice now sanctioned by law in England and many of the States of the Union to the extent of allowing such extra fees to be taxed as costs. Of course, when a matter of hundreds of thousands of dollars is at stake the parties can afford to pay experts large fees for favorable testimony, especially when there is a chance of reimbursing themselves; and equally of course, the expert who has been

[1] 10 Cl. & Fin., 154.
[2] 40 Cal., 405.

liberally paid is actuated by a laudable desire to give his employer his money's worth. Large sums are thus paid at times. It is reported that in one will contest, involving about $300,000, a certain expert in handwriting was offered $5000 if he would testify that the signature of the testator was forged. To his honor be it said he refused the bribe. But would all experts have done so? No one who has any knowledge of human nature will answer that question in the affirmative.

The danger of venality in this kind of evidence appears yet more clearly from the fact that the profession of an expert has become a recognized branch of business, and it cannot be supposed that those who thus offer their testimony for sale will fail to make their wares attractive to all purchasers. On the contrary, they trim their sails to every wind, and change their opinions, as the chameleon his color, at each new change of circumstances, with the pleasing frequency of a South American revolution. This is, of course, disastrous in its effects upon the value of their testimony; and of all expert witnesses, the professional one, who offers himself to all comers, is least to be credited.

In view of all these facts—the uncertainty and inexactness of science, the rapid changes in knowledge, the unknown quantity in the personal equation which finds expression in hobby riding and professional jealousy, the unintelligible nature of technical terms, the inordinate length to which expert evidence is often inflicted on the jury, its lack of harmony, the natural bias of the witness to the side by which he is employed, and the danger of venality—in view of these, it is clear that the testimony of experts is not only not worth what it should be in theory, but does not possess the practical value that might reasonably be expected to attach to it. The only case in which it is of real value is when it is harmonious on both sides; for when it is conflicting, and the jury must choose at random which view to adopt, it can no more be said to possess an actual value than a ticket in the lottery before the drawing. It makes no difference that it *may* be accepted by the

jury; its value does not attach until it is so accepted. And unhappily for expert evidence, it very rarely happens that it does not conflict. "My own experience," says Mr. Justice MILLER, in Middlings Purifier Co. *v.* Christian,[1] "both in the local courts and in the Supreme Court of the United States, is that whenever the matter in contest involves an immense sum in value, and where the question turns mainly upon opinions of experts, there is no difficulty in introducing any amount on either side." This stigma can never be removed, and expert evidence receive the weight which it ought to possess, until, as suggested by Judge TEMPLE, in a case already cited,[2] the selection of expert witnesses is taken out of the hand of the parties, and left to the discretion of the Court, so that they may be removed from all possible suspicion of bias and venality, and act, not as advocates of either party, but as a sort of scientific *amici curiæ*.

[1] 4 Dill., 448.
[2] Grigsby *v.* Clear Lake Water Co., 40 Cal., 405.