the right, without the occurrence of any other untoward symptom.

But, where the lower section is preferred and accomplished without accident, it has the *disadvantage* of not being, in the majority of persons, so fully covered, nor so evenly and quietly supported by its corresponding lid, as in the upper operation. The relative position of the inferior tarsal border and the lower segment of the cornea is such in some patients that, in the event of the occurrence of active horizontal nictitation, the flap of the cornea is liable to be caught up by the tarsus, to become everted, and to rest upon the inner margin of the free border of the lid; and union is thereby interrupted. Morbid nictitation sometimes passes into spasmodic entropion—a most serious complication—which I believe to be caused by the everted flap, or a protrusion of the iris, giving rise to the sensation of a foreign body in the eye, which the lids attempt to remove by active winking. Moreover, there is a disposition in some old persons to inversion of the lower lid, even where no perceptible irritation exists, either upon the surface of the eye or its appendages.

As consequences of the disturbance of the corneal flap, the eye may be lost irremediably, or the pupil closed by inflammatory lymph. In the more favourable instances the wound is, after much delay, healed by a broad, unsightly cicatrix, to which the pupil, of irregular shape, has become adherent.

Again; few old persons can obtain sleep, unless their head and shoulders are raised in bed—a position which, in the operation we are considering, throws the whole weight of the aqueous humour that is contained in the anterior chamber upon the mutilated half of that cavity; besides which, on philosophical principles, there must be a tendency in this fluid to stream out and unite with the secretions which collect on the outside of the wound. It will be conceded that the greater the attraction to the aqueous humour to escape, the less is the probability of early union; and in practice we find, *ceteris paribus*, that the lower section does heal more slowly than the upper.

In the preceding remarks I have assumed that the operation has been completed without the occurrence of accident, that the iris has escaped injury from the knife, and that a large effusion of vitreous humour has not occurred. Surgeons, however, are not always so fortunate as to preserve the normal size and position of the pupil; the form of it may be altered, and the size enlarged; (1.) from a portion of the iris being cut off in the passage of the knife across the chamber; (2.) as a result of an unredressed prolapse of the iris through the wound (*hernia iridis*); (3.) in consequence of the escape of a large quantity of the vitreous humour, when that part of the iris which is near to the incision becomes folded or curled up against the interior of the globe; or (4.) of injury by the knife to the ciliary nervous apparatus. From whatever cause the pupil may be abnormally enlarged, the deformity will, as a rule, be less obvious, and the disorder of vision arising from unequal refraction less felt, and more within the control of the patient, in the upper than in the lower section.

Nevertheless, it must be admitted that, in certain exceptional cases of cataract, the eyes are so deep in the orbits, and the globes so perseveringly turned upwards, that the lower section only is practicable. Happily, in the former of these conditions the corneal flap is comparatively well covered by the corresponding lid. The position of the lids to the cornea is, in some subjects such, that in the act of closing the eye, the lower one arrives at the equator of the pupil sooner than the superior; and in these the evil effects which are consequent on irregular refraction will be, of course, susceptible of correction.

In regard to the use of atropine the night before the operation, I consider it undesirable, where there are not important adhesions between the iris and lens. The iris, when under its influence, is more liable to be cut by the knife, or to form a hernia in the wound after the lids have been dressed.

Position of the Patient at the time of the Operation. As relates to the position of the patient, the recumbent one is,

without doubt, generally preferable. In cases, however, where the eye and the anterior chambers are small, and the patient not nervous, I have sometimes made the upper section in the right eye whilst the patient is sitting, and completed the other steps of the operation after he had lain down.

Should both Eyes be operated upon on the same day? When the patient is quite healthy, of spare habit, supplied with an efficient nurse, and the eyes do not present signs of disease, the double operation is justifiable. But where there is a doubt on either of these points, a single extraction should be performed.

Is it well to defer Extraction till the Patient is quite blind? Assuming that there have not been recent evidences of congestion of the internal structure of the eye, my reply is No; because the health of old people on losing their sight is often at once deteriorated from the loss of their usual exercise and amusements; they become highly nervous, and sometimes affected with a mild form of delirium, popularly termed rambling, and among the lower classes "mumbling." Another objection is that the vitreous choroid and retina are prone to become diseased.

The dressing of the eye after the operation cannot be too light and simple in its details, provided the case is properly tended by night and by day.

ON MEDICAL EVIDENCE.

By J. G. DAVEY, M.D., Northwoods, Bristol.

[Read at the Quarterly Meeting of the Bath and Bristol Branch, November 20th, 1856.]

[Concluded from page 1077.]

THE particulars of the trial of William Palmer are, of course, fresh in the memories of us all. The medical part of this famous case furnishes an abundance of materials for thought and inquiry; but these, in the abstract, it is not my place to consider; my object being rather to demonstrate the objectionable routine observed in all medico-legal inquiries, and the consequent awkward position, and even difficulties, of the medical witness. You will remember the apology offered by the Lord Chief Justice for the counsel engaged in the defence of William Palmer, as conveyed in these words: "*when a man enters upon the consideration of a case with a strong bias on his mind, he is liable to be led into error.*" Now, if this remark applies to one profession, it must to another; or if to one man, it must to another. I would, then, fain borrow it, for the benefit of certain members of our own profession, whose names are connected with the evidence on which the culprit was found guilty of the murder of his friend, and therefore executed.

I would premise, that whatever the doubts and difficulties in the way of getting at the truth in all its details, these could hardly have assumed the proportions they did during the twelve long days devoted to the investigation into the innocence or guilt of William Palmer, if the medical bearings of the case had been of another character; *i. e.*, if the medical witnesses had not been brought into so objectionable an antagonism as they were; if they had not been made (in point of fact) the supports and defenders of either the prosecuting or defending party.

It is quite impossible to do else than conclude that, for example's sake, Mr. Curling, Dr. Todd, and Sir B. Brodie, had met Messrs. Nunneley, Letheby, and Partidge in quiet consultation, away from the bustle and excitement of the Old Bailey, and out of reach of all the stale and wearisome formalities of a public court, and where they would have escaped the cross-questioning and worrying of the *bench* and the *bar*, their various opinions would then have approximated, and the medical chasms which now appear would have been bridged over in an easy, graceful, and truthful manner.

I will place before you the salient points of the evidence given by Mr. Curling, Dr. Todd, and Sir B. Brodie, and

afterwards the same afforded by Messrs. Nunneley, Letheby, and Partridge; we shall then be in a position to judge whether or not I am right in the statement here made.

After describing the symptoms of traumatic tetanus, Mr. Curling, in reply to a question from the Attorney-General, says: "The time in which the disease causes death varies from twenty-four hours to three or four days, or longer. The shortest period that ever came to my knowledge was eight or ten hours. Tetanus, when once commenced, is continuous."

"Q. Did you ever know of a case in which a man was attacked one day, had twenty-four hours respite, and was then attacked the next day? A. Never. I should say that such a case could not occur.—Q. You have heard the account given by Mr. Jones of the death of the deceased; were the symptoms there consistent with any forms of traumatic tetanus that has ever come under your observation? No.—Q. What distinguishes it from such cases? A. The sudden onset of the disease. In all cases which have come under my notice, the disease was preceded by the milder symptoms of tetanus, gradually proceeding to the complete development.—Q. Were the symptoms described by the woman Mills as being presented on the Monday night, those of tetanus? A. No; not of the tetanus of disease.—Q. Assuming tetanus to be synonymous with convulsive or spasmodic action of the muscles, was there in that sense tetanus on the Monday night? A. No doubt there was spasmodic action of the muscles.—Q. There was not, in your opinion, either idiopathic or traumatic tetanus? A. No.—Q. Why are you of that opinion? A. The sudden onset of the spasms, and their rapid subsidence, are consistent with neither of the two forms of tetanus.—Q. Is there not what is called hysteric tetanus? A. Yes. It is rather hysteria combined with spasms, but it is sometimes called hysteric tetanus. I have known no instance of its proving fatal, or of it occurring to a man. The character of the spasms of epilepsy is not tetanic.—Q. Not of the spasms; but are not the contractions of epilepsy sometimes continuous, so that the body may be twisted into various forms, and remain rigidly in them? A. Not continuously.—Q. For five or ten minutes together? A. I think not. Epileptic convulsions are easily distinguished from tetanus; because in them there is an entire loss of consciousness.—Q. Is it one of the characteristic features of tetanus that the consciousness is not affected? A. It is."

The statements made by Dr. Todd, corroborative of the opinions of the first medical witness for the prosecution, were these, viz.: "the convulsions of epilepsy are essentially distinct from tetanus. In epilepsy, the patient always loses consciousness. Having heard described the symptoms attending the death of the deceased, and the *post mortem* examination, I am of opinion that in this case there was neither apoplexy nor epilepsy. I apprehend that there was nothing to prevent the discovery of disease in the spinal cord, had any existed previously to death. I think that the granules upon the spinal cord, such as I have heard described, would not be likely to cause tetanus."

Sir Benjamin Brodie affirmed: "The symptoms were not the result either of apoplexy or of epilepsy. Perhaps I had better say at once that I never saw a case in which the symptoms that I have heard described here arose from any disease (sensation). When I say that, of course I refer not to particular symptoms, but to the general course which the symptoms took."

So much, then, for this part of the medical evidence; for the deliberate and expressed opinions of Messrs. Curling, Todd, and Brodie, on this most important trial. We will contrast them with the *salient points* to be found in the examinations of Messrs. Nunneley, Letheby, and Partridge:—

"I have heard the evidence as to the symptoms of Cook," said Mr. Nunneley, "and had previously read the depositions as to that part of the case. Judging from those symptoms, I am of opinion that death was caused by convulsive disease. I found that opinion upon the symptoms described in the depositions, and the evidence before the court. From

the symptoms described by the witnesses in court, I am of opinion that death was caused by some convulsive disease."

Examination continued by Mr. Serjeant Shee: "I have been in court during the whole of the trial; I have heard the evidence as to the symptoms of Mr. Cook's health previous to his final attack at Rugeley, the description of the actual symptoms during the paroxysms, and the appearance of the body on the *post mortem* examination. I assume that Cook was a man of very delicate constitution; that for a long period he had felt himself to be ailing, for which indisposition he had been under medical treatment; that he had suffered from syphilis; that he had disease of the lungs; and that he had old standing disease of the throat; that he led an irregular life; that he was subject to mental excitement and depression; and that after death appearances were found in his body which show this to have been the case. There was an unusual appearance in the stomach. The throat was in an unnatural condition. The back of the tongue showed similar indications. The air vessels of the lungs were dilated. In the lining of the aorta there was an unnatural deposit, and there was a very unusual appearance in the membranes of the spinal marrow. One of the witnesses also said that there was a loss of substance from the penis. That scar on the penis could only have resulted from an ulcer. A chancre is an ulcer, but an ulcer is not necessarily a chancre. The symptoms at the root of the tongue and the throat I should ascribe to syphilitic inflammation of the throat. Supposing these symptoms to be correct, I should infer that Cook's health had for a long time not been good, and that his constitution was delicate. His father and mother died young. Supposing that to have been his state of health, it would make him liable to nervous irritation. That might be excited by moral causes. Any excitement or depression might produce that effect. A person of such health and constitution would be more susceptible of injurious influence from wet and cold than would one of stronger constitution. Upon such a constitution as that which I have assumed Cook's to have been, convulsive disease is more likely to supervene. I understand that Cook had three attacks on succeeding nights, occurring about the same hour. As a medical man, I should infer from this that the attacks were of a convulsive character. I infer that in the absence of other causes to account for them. According to my personal experience and knowledge, from the study of my profession, convulsive attacks are as various as possible in their forms and degrees of violence. It is not possible to give a definite name to every convulsive symptom. There are some forms of convulsion in which the patient retains his consciousness. Those are forms of hysteria sometimes found in the male sex. It is also stated that there are forms of epilepsy in which the patient retains consciousness."

By Lord Campbell: "I cannot mention a case in which consciousness has been retained during the fit. No such case has come under my notice."

Examination continued: "I know by reading that that, although rarely, does sometimes occur. The degree of consciousness in epilepsy varies very much. In some attacks the consciousness is wholly lost for a long time. Convulsive attacks are sometimes accompanied by violent spasms and rigidity of the limbs. Convulsions, properly so called, sometimes assume a tetanic complexion. I heard the passage from the works of Dr. Copland read to the court yesterday. I agree with what he states. Convulsions arise from almost any cause; from worms in children, affections of the brain in adults, hysteria, and in some persons the taking of chloroform. Adults are sometimes attacked by such convulsions. Affections of the spinal cord, or eating indigestible food, will produce them. I know no instance in which convulsions have arisen from retching and vomiting. I agree with Dr. Copland, that these convulsions sometimes end immediately in death. The immediate proximate cause of death is frequently asphyxia."

By Lord Campbell: "Death from a spasm of the heart is often described as death by asphyxia."

Examination continued: I have seen convulsions re-

couring. I have seen that in very various cases. The time at which a patient recovers his case after a violent attack of convulsions varies very much. It may be a few minutes, or it may be hours. From an interval between one convulsion and another, I should infer that the convulsions arise from some slight irritation in the brain, or the spinal cord. When death takes place in such paroxysms, there is sometimes no trace of organic disease to be found by a *post mortem* examination. Granules between the dura mater and the arachnoid are not common at any age. I should not draw any particular inference from their appearance. They might or might not lead to a conjecture as to their cause and effect. I do not form any opinion upon these points. They might produce an effect upon the spinal cord. There are three preparations in museums where granules are exhibited in the spinal cord, in which the patients are said to have died from tetanus. Those are at St. Thomas's Hospital. To ascertain the nature and effect of such granules, the spinal cord ought to be examined immediately after death. Not the most remote opinion could be formed upon an examination made two months after death, more especially if the brain had been previously opened. Independently of the appearance of granules, it would not after that period be possible to form a satisfactory opinion upon the general condition of the spinal cord. If there were a large tumour, or some similar change, it might be exhibited; but neither softening nor induration of the structure could be perceived. The nervous structure changes within two days of death. To ascertain minutely its condition, it is necessary to use a lens or microscope. That is required in an examination made immediately after death.

It is not very possible to imagine medical evidence of a more contradictory character than that of Sir B. Brodie and Mr. Nunneley, for example's sake; yet do I think that under other and more favourable circumstances, this would have been bridged over—to repeat an expression before employed—and so nicely approximated, that medical science would itself have gained thereby; and what is a very material point, practitioners of whatever denomination—physicians or surgeons—would have escaped the very severe criticisms which the public have thought fit to indulge in, in reference to the trial of William Palmer. Dr. Henry Letheby, was examined by Mr. Kenealey. He said: "I have been present during the examination of the medical witnesses, and have attended to the evidence as to the symptoms which have been described as attending the death of Cook. I have witnessed many cases of animals poisoned by strychnine, and many cases of poisoning by nux vomica in the human body, one of which was fatal. The symptoms described in this case do not accord with the symptoms I have witnessed in the case of those animals."

"Q. What do you attribute Cook's death to? A. It is irreconcilable with everything with which I am acquainted.—Q. Is it reconcilable with any known disease you have ever seen or heard of? A. No.—Q. Re-examined by Mr. Serjeant Shee.—We are learning new facts every day, and I do not at present conceive it to be impossible that some peculiarity of the spinal cord, unrecognisable at the examination after death, may have produced symptoms like those which have been described. I, of course, include strychnia in my answer; but it is irreconcilable with everything I have seen or heard of. It is as irreconcilable with strychnia as with everything else; it is irreconcilable with every disease that I am acquainted with, natural or artificial."

The evidence of Mr. Partridge is characterised by much practical good sense. It was in substance thus: "I have heard the evidence as to Cook's symptoms and *post mortem* examination. I have heard the statements as to the granules that were found on his spine. They would be likely to cause inflammation, and no doubt that inflammation would have been discovered if the spinal cord or its membranes had been examined shortly after death. It would not be likely to be discovered if the spinal cord was not examined until nine weeks after death. I have not seen cases in which this inflammation has produced tetanic form of con-

vulsions, but such cases are on record. It sometimes does, and sometimes does not produce convulsions and death.—Q. Can you form any judgment as to the cause of death in Cook's case? A. I cannot. No conclusion or inference can be drawn from the degree or kind of the contractions of the body after death. Some of the symptoms in Cook's case are consistent, some are inconsistent with strychnine tetanus. The first inconsistent symptom is the intervals that occurred between the taking of the supposed poison and the attacks."

In order to give a more positive character of completeness to these observations, I may add that Drs. Macdonald, Bainbridge, Robinson, and Richardson, all favoured the opinion that Mr. Cook's death was to be referred rather to some anomalous nervous affection than to strychnine.

The first-named gentleman said: "I have attended to the evidence as to Cook's symptoms. To the symptoms I attach little importance as a means of diagnosis, because you may have the same symptoms developed by many different causes. A dose of strychnia sufficient to destroy life would hardly require an hour and a half for its absorption. I think that death was in this case caused by epileptic convulsions, with tetanic complications. I form that opinion from the *post mortem* appearances being so different from those that I have described as attending poisoning with strychnia, and from the supposition that a dose of strychnia sufficient to destroy life in one paroxysm could not, so far as I am aware, have required even an hour for its absorption before the commencement of the attack. If the attack were of an epileptic character, the interval between the attacks of Monday and Tuesday would be natural, as epileptic seizures very often recur at about the same hours of successive days."—Q. Assuming that a man was in so excited a state of mind that he was silent for two or three minutes after his horse had won a race, that he exposed himself to cold and damp, excited his brain by drink, and was attacked by violent vomiting, and that after his death deposits of gritty granules were found in the neighbourhood of the spinal cord, would these causes be likely to produce such a death as that of Cook's? A. "Any one of these causes would assist in the production of such a death.—Q. As a congeries would they be still more likely to produce it? A. Yes."

The second, Dr. Bainbridge, gave in evidence that he "had had much experience of convulsive disorders. Such disorders present great variety of symptoms. They vary as to the frequency of the occurrence and as to the muscles affected. Periodicity, or recurrence at the same hours, days, or months is common. I had a case in which a patient had an attack one Christmas night, and on the following Christmas night at the same hour, he had a similar attack. The various forms of convulsions so run into each other that it is almost impossible for the most experienced medical men to state where one terminates and the other begins. In both males and females hysteria is frequently attended by tetanic convulsions. Epileptic attacks are frequently accompanied by tetanic complications. Loss of consciousness not universally, but generally, accompanies epilepsy."

Dr. Robinson said: "I have heard the whole of the medical evidence in this case. From the symptoms described I should say that Cook died of tetanic convulsions, by which I mean, not the convulsions of tetanus, but convulsions similar to those witnessed in that disease. The convulsions of epilepsy sometimes assume a tetanic appearance. I know no department of pathology more obscure than that of convulsive diseases."

You are aware that Dr. Richardson affirmed that Mr. Cook might have died of angina pectoris.

The toxicological part of the inquiry I have chosen altogether to omit. If, however, Dr. Taylor declares strychnia cannot always be detected, though administered in sufficient quantities to destroy life, it is very much to be regretted: for my own part, I would venture at the least to hope that Mr. Nunneley Dr. Letheby, and Mr. Herapath are not mistaken, when they assert that the presence of this substance can under any circumstances

be demonstrated, even to the twenty-thousandth part of a grain. But the chemists, not less than the doctors, have, are now, disappointed public expectation.

Whilst the preceding observations point to the necessity of a change in the relative position of medical witnesses engaged in inquiries of this and a similar nature, they demonstrate likewise how very objectionable is that relative position of lawyers and doctors, which not only affords the opportunity, but allows a legal functionary thus to speak of gentlemen whose position and attainments belong, or should do, to a higher order of things, and to a more advanced stage of human progress, i. e., civilisation. "Bearing in mind Mr. Herapath's eminence in his profession, I should have had much confidence in his testimony were it not for the active and zealous feeling of partisanship which he has manifested on repeated occasions in the course of this inquiry. It had come to my knowledge that he had been heard to assert that this was a case of death by strychnine, but that Dr. Taylor had not gone the right way to find out the poison. I pressed him urgently on this point, and I am sure you will be of opinion with me that his explanation of his having formed his judgment merely from the newspaper reports, was anything but satisfactory. There can be no doubt that in his conscience Mr. Herapath believes this to be a case of death by poison—indeed he has said as much; and yet we have seen him mixing himself up in this case with all the enthusiasm of a partisan, and suggesting to my learned friend questions with a view to the protection of a man whom he feels to be guilty of murder. . . . I reverence the man who from a sense of justice and an innate love of truth, comes forward on behalf of any accused person who is in danger of being swept to destruction by the torrent of prejudice; but I have no language to express my abhorrence for that traffic testimony which from professional pique or for the sustentation of a particular theory, men of science—I grieve to say it—occasionally are led to offer."

With reference to the evidence given by the medical men for the defence of William Palmer, the Attorney-General is made to say: "You have had before you witnesses who have resorted to the most speculative reasoning, and put forward the barest possibilities, in support of theories for which there is little if any foundation. But this I undertake to assert, that there is not a single case to which they have spoken from their experience, or as the result of their own knowledge, in which there were the formidable and decisive symptoms of marked tetanus which existed in the present case. Having gone through these four sets of diseases, general convulsions, arachnitis, epilepsy proper, and epilepsy with tetanic complications—I supposed we had pretty nearly exhausted the whole of their scientific theories. But we were destined to have another, and that assumed the formidable name of angina pectoris. It must have struck you, when my learned friend opened his case, that he never ventured to assert the nature of the disease to which they refer the death of Cook; and it strikes me as most remarkable, that no less than five distinct and separate theories are set up by the witnesses who have been called—general convulsions, arachnitis, epilepsy proper, epilepsy with tetanic complications, and lastly, angina pectoris. My learned friend had an advantage in not stating to you what his medical witnesses would set up, because I admit that, one after another, they took me by surprise. The gentleman who was called yesterday, and who talked of angina pectoris, would not have escaped so easily if I had been in possession of the books to which he referred; for I should have been able to expose the ignorance or the presumption of the assertions he dared to make. I say the ignorance or the presumption, or, what is worse, the deliberate intention to deceive. I lay to his charge one or other of these three; and in the presence of this court, and in the face of the whole medical profession, I assert that one or other of these charges I should have been able to substantiate."

However, there remains yet some little credit due to the Attorney-General for what follows. The fact admitted, you will have perceived already, from the extracts above

read to you, nevertheless are our acknowledgments due to him for the manner in which even *he* has borne testimony to the love of truth which manifested itself in those whom, according to his own showing, the hard words just quoted did not include. "The medical witnesses", he remarks, "for the defence differ one and all in their views; but there is a remarkable coincidence between the opinions of some of them and the opinions of those who have been examined on the other side. All the medical men brought forward by the defence—Partridge, Robinson, and Letheby—concur with Sir B. Brodie and the other Crown witnesses in declaring that, in the whole course of their experience, and in the whole range of their learning and observation, they know of no disease to which the symptoms in Cook's case can be referred. When such men as these agree upon any point, it is impossible to exaggerate its importance."

Gentlemen, in bringing this subject to a close, I would submit to you if it would not be desirable, for the sake of science, and not less for the honour of our profession, that in all cases, of whatever kind, involving in any degree a knowledge of the principles and practice of medicine and its collateral branches, a plain statement of all the facts should be drawn up, and submitted to a *medical arbitration*. Reverting for one moment to the case of Mrs. Catherine Cumming, and to that of Mr. J. Parsons Cook, do you not feel with me that, had the physicians and surgeons engaged on either trial constituted what may be called a medical committee, then would the whole matter have been greatly simplified, the cause of justice very materially promoted, and science itself maintained in all its integrity, uncontaminated by the technicalities of law, or degraded by the sophistries of lawyers? Under these circumstances, would not law be made subservient to medicine, or, what is the same thing, mere precedent to scientific truth—the mere words of man to the glorious works of his Creator? In a word, would not mere art be made to fall prostrate before the natural or organic laws? The fact that the reverse of all this obtains to this hour is in every way sufficient to assure us that there is yet scope and opportunity for the medical reformer—for him who would venture on the responsible task of ameliorating the position of our own most honourable calling.

Association Medical Journal.

SATURDAY, DECEMBER 27TH, 1886.

THE CONFERENCE BETWEEN THE MEDICAL REFORM COMMITTEE OF THE ASSOCIATION AND THE PARTIES TO THE NEW MEDICAL REFORM BILL.

SOME short time since, we published the rough and imperfect draft of a new Medical Reform Bill put forth by the Medical Corporations of Great Britain and Ireland. This Bill, with one exception, is identical in its provisions with the measure advocated last year by this Association. After the long and almost disheartening struggle kept up by our body on behalf of those liberal and comprehensive regulations imperatively called for by the chaotic condition of our profession, it may be imagined that the Reform Committee of the Association read with peculiar satisfaction the heads of this new Bill, inasmuch as they narrowed the debatable ground between the corporations and ourselves to the single point of the manner of constructing the