

Remarks and comments on the medical and chemical evidence adduced at the trial of John Tawell / by G. L. Strauss.

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REMARKS AND COMMENTS
ON THE
MEDICAL AND CHEMICAL EVIDENCE

ADDUCED AT
THE TRIAL OF JOHN TAWELL.

BY
G. L. STRAUSS.

LONDON:
PRINTED BY G. J. PALMER, SAVOY STREET, STRAND.
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THE TRIAL OF JOHN TAWELL

ROYAL COLLEGE
OF
PHYSICIANS
OF
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1812.

REMARKS. *82*

It is in the interest of justice and of science that I venture to publish a few remarks and comments on the late trial at Aylesbury, and more especially on the medical and chemical evidence adduced in support of the accusation of wilful murder against the unhappy man who is now under sentence of death.

It will be readily admitted on all sides, that the case against Mr. Tawell rests principally upon the evidence and opinions given by the three surgeons and by the chemist who were called for the prosecution. On the one hand, Messrs. Champneys, Norblad, and Pickering, affirm most positively that Sarah Hart died from the effects of prussic acid, and Mr. Cooper, on the other hand, states that a minute amount of prussic acid was obtained from the contents of the stomach of deceased. Now it may safely be averred that this evidence induced judge and jury, on the trial, to assume at once, as a *positive and indisputable fact*, that deceased died from the effects of prussic acid; and this assumption, in connexion with certain apparently suspicious circumstances in Mr. Tawell's conduct shortly before and after the death of deceased, naturally led to the verdict and sentence in which this truly lamentable case has terminated for the present. Mr. Baron Parke, in his summing up, and the jury in the

finding of their verdict, were undoubtedly guided by the most conscientious principles and motives; they relied firmly and unhesitatingly upon the medical evidence adduced on the part of the prosecution, probably deeming that the gentlemen who gave this evidence were in every way and sense qualified to decide upon the questions submitted to their consideration. That judge and jury should have placed this implicit reliance on the opinions and statements of Messieurs Champneys, Norblad, and Pickering, is deeply to be regretted; since in reality, neither of these gentlemen seems to possess that thorough and practical knowledge of the medical art and science, and more especially of toxicology, which is absolutely required in a professional man in order to give due weight to his report in medico-legal cases. I have most carefully perused the evidence given in this case, before the Coroner, as well as at the trial, and the only conclusion I can come to, *on the face of that evidence*, is, that Sarah Hart did not die from the effects of prussic acid; and, moreover, that Messieurs Champneys, Norblad, and Pickering, are nearly altogether unacquainted with the nature and action of that poison, nay, indeed of poisons in general. I am quite aware that this is a bold assertion on my part, and one which would be altogether unjustifiable, were I not fully prepared to prove it; nor should I venture to cast the slightest reflection on the professional abilities and acquirements of the gentlemen in question, but that the life of a fellow-creature is at stake, *whom I most conscientiously believe INNOCENT of the crime imputed to him.*

After these preliminary observations, I will now at once proceed to review at length and in detail the medical and chemical evidence given before the coroner and at the trial, and to comment upon the many grave errors and fallacies with which this evidence abounds; I shall, at the same time have occasion to point out certain discrepancies between the evidence given before the coroner and that given at the trial.

Previously to entering upon *Mr. Champneys'* evidence, I deem it necessary for the sake of connexion, to relate briefly the facts and circumstances deposed to by other witnesses as having taken place before that gentleman's arrival at the residence of deceased.

The next-door neighbour of deceased, a Mrs. Ashley, deposed, that on the evening of the first of January, between six and seven o'clock, she heard a few high words, succeeded shortly after by a sort of stifled scream, or rather, as she stated at the trial, a succession of screams, coming apparently from the house of deceased: she thereupon took up her candle and proceeded immediately to Mrs. Hart's. She found deceased in her room on the ground floor, lying flat on her back, her dress in disorder; deceased was breathing by fits, crying, "Oh, oh, oh!" convulsively for three or four minutes after witness got into the house. Witness asked her what was the matter, and lifted up her head, but deceased did not reply; witness then went to fetch a neighbour, and an attempt was made to pour some water down deceased's throat. Although the evidence exhibits some discrepancies on this point, yet it is positively admitted, that some water was *introduced into the mouth of deceased, and that the attempt made her foam.* In the mean time Mr. Champneys, who had been sent for *immediately* by Mrs. Barrett, arrived in great haste. It results from a fair calculation of time and distance, that no more than ten minutes could have elapsed from the moment that Mrs. Ashley heard deceased scream, till the arrival of Mr. Champneys.

This gentleman states that he found deceased lying flat on her back, with her eyes fixed. Upon feeling her wrist, he *fancied* he perceived three weak pulsations; he observed a momentary slight convulsion of the lower jaw. Upon feeling her heart, he could not perceive the slightest pulsation. He then felt satisfied that she had fairly departed this life. Being informed of the circumstances which preceded his visit, and also, that deceased had been very shortly before

seen in a state of perfect health and in excellent spirits, he begins at once to suspect that there has been foul play, and that the sudden death of deceased has been caused by the administration of some deleterious drug or other.

Having made up his mind upon this point, he proceeds, *about three minutes after the death of deceased*, to open one of her veins,—not, as he very naïvely stated before the coroner, with a view to bring her back to life, but in order to *ascertain the cause of her death from the state and appearance of the blood!* How this object could be accomplished, I must confess I am altogether at a loss to divine. At the trial, indeed, Mr. Champneys, who has then had two months' leisure to find out the absurdity of such a proceeding, declares that he bled deceased simply in order to satisfy the persons present that nothing was left undone; but this after-statement has surely not the power to annul the deliberate statement made before the coroner. This part of the evidence is very wavering and contradictory in every respect. Mrs. Ashley, for instance, stated before the coroner, that deceased died IMMEDIATELY AFTER Mr. Champneys' attempt at bleeding her, whilst at the trial she asserts most positively that deceased *was dead* when Mr. Champneys bled her. If deceased was really still alive, bleeding, under the peculiar circumstances of the case, was highly improper, and could only tend to accelerate death.

The fact, perhaps, is, that Mr. Champneys fancied at the time, he had to deal with a case of cerebral congestion, or of apoplexy, and that bleeding would restore animation. The blood which flowed was *perfectly natural*, and Mr. Champneys of course derived no information whatever from its appearance. Cases of sudden death *may* be caused by fits induced by strong mental emotion, just as likely as by either prussic acid or oxalic acid; and the symptoms which deceased exhibited before death are observed in fits as well as in cases of poisoning by prussic acid or by a cyanide: nay, more, some of the most characteristic symptoms of poisoning by prussic

acid seem to have been wanting altogether. Mr. Champneys states that he smelt at the mouth of deceased, and that he could *not* perceive any odor of prussic acid. Had prussic acid been administered, he *MUST* have smelt it, especially as the quantity must have been considerable enough to cause death within from ten to fifteen minutes. He, moreover, states that her eyes were fixed; he does not mention a word of that peculiar brilliancy of the eye which is generally considered one of the characteristic symptoms of poisoning by prussic acid,* and which persists even for a considerable time after death. I myself have seen three cases of poisoning by hydrocyanic acid, and this symptom existed in every one of them. With regard to the *repeated* screaming of deceased, I will admit that this would not very much militate against poisoning by prussic acid, since it results from Coullon's† experiments that animals poisoned by prussic acid scream repeatedly during the second period of the action of the acid. It is, however, generally held, that after, or rather with that peculiar shriek usually emitted by persons poisoned with prussic acid, and which has not improperly been termed "*death-scream*," all power of volition ceases, and complete insensibility supervenes.

The absence of the peculiar odor of prussic acid *militates, however, most strongly against* the supposition of poisoning by this deleterious substance. Mr. Champneys, as well as Mr. Norblad, seem indeed to have felt this difficulty—at least they endeavoured, before the coroner, to account for the absence of the characteristic odor of prussic acid. I shall subsequently have occasion to revert to this point.

The next following day, Mr. Champneys is charged by the coroner to make a *post-mortem* examination of the body of deceased, in order to ascertain the cause of her death. Mr.

* This symptom occurs, however, likewise in cases of poisoning by some other of the narcotic and especially of the narcotico-acrid poisons, such as belladonna, &c.

† Coullon, Recherches et considérations médicales sur l'acide Cyanhydrique, Paris, 1819.

Champneys enters at once cheerfully upon this arduous task, associating with himself Mr. Norblad and Mr. Pickering, two surgeons whose professional attainments seem to be pretty nearly on a par with his own. Well, these gentlemen set about this business: the body itself does not exhibit the slightest mark of external violence; the brain is found in a PERFECTLY HEALTHY STATE; the lungs are found PERFECTLY HEALTHY; (this statement, however, Mr. Champneys modified at the trial, inasmuch as he asserted, in cross-examination, that he found them slightly congested,) with the exception of some old adhesions of long standing; the stomach and the abdominal viscera likewise are found to be PERFECTLY HEALTHY, though rather fat: the internal surface of the coat of the stomach is found to be covered with more mucus than is usually the case, and its contents are found to manifest an acid reaction. There is nothing whatsoever to indicate the action of a poison. The acid reaction of the contents of the stomach is owing, as is now generally admitted by chemists and physiologists, to the presence of free hydrochloric acid in the gastric juice.

NOT ONE SINGLE PATHOLOGICAL ALTERATION IS FOUND IN THE BRAIN, NOR IN THE HEART AND LUNGS, STOMACH AND ABDOMINAL VISCERA of deceased; however Messieurs Champneys, Norblad, and Pickering seem to have settled to their own perfect satisfaction, that some poison or other *must* have been administered, the notion that deceased *might* have died from natural causes, seems to have been scouted altogether and unanimously by these gentlemen. This point being thus satisfactorily settled, there remained simply one slight difficulty, viz. to find out what kind of poison had been administered to deceased. Now, in France and in Germany, where, at least in the large majority of cases—for there are exceptions to every rule—none but men of *real* and *acknowledged* science are ever allowed to meddle with medico-legal cases, the physician and chemist charged with the investigation of a case of suspected poisoning, try to infer in the first

instance from the symptoms preceding death, and from the pathological indications afforded by the dissection of the body, whether the death of the subject of the investigation, is ascribable to poison; and when they have come to the conclusion that such is either certain, probable, or possible, they endeavour to ascertain in the same manner what kind of poison may be fairly supposed to have been administered—and then proceed finally to attempt the detection of that poison.

Not so Messieurs Champneys, Norblad and Pickering. In the case before them, there have been but very few symptoms observed preceding death, and the post-mortem examination has furnished them with no clue whatsoever to guide them in their subsequent investigation of the case. All they know is, that death has ensued suddenly, and that the contents of the stomach are acid. It is upon these very slight indices that Mr. Norblad comes at once to the conclusion that *oxalic acid* has been the cause of death! in which opinion his colleagues seem to have joined at once, since it results from Mr. Cooper's evidence, that the contents of the stomach were tested in the first instance for oxalic acid. Now it is very true that oxalic acid causes death in some instances, almost as rapidly as prussic acid, especially when the acid is dissolved in a copious amount of water, so as to facilitate and accelerate its absorption;—it is true moreover, that in such instances no remarkable alteration is observed in the brain nor in the abdominal viscera—but the lungs *exhibit a number of spots of a lively red tint*, and the blood is either *black in the two vascular systems*, or the *venous blood is black*, and the *arterial blood of a vermillion tint*. Nothing of the kind was observed in Sarah Hart's case, and yet Mr. Norblad actually stated at the trial (in cross-examination) that he *firmly believed deceased died from the effects of oxalic acid, until he saw the special test for this acid fail detecting it*.

Mr. Champneys stated before the coroner, that not the slightest trace of the peculiar odor of prussic acid was per-

ceptible during the *post-mortem* examination; and, probably aware, that the absence of this odor militates most decisively against the supposition of *free* prussic acid being present, he as well as Mr. Norblad endeavoured to account for the absence of this odor by assuming that cyanide of potassium might have been administered instead of prussic acid—this proposition, however, is quite untenable, as these gentlemen themselves seem to have discovered afterwards, since at the trial they made no mention whatever of cyanide of potassium. (Mr. Cooper had probably told them in the mean time that cyanide of potassium in solution is readily decomposed, even by weak acids, such as carbonic acid, with evolution of hydrocyanic acid—and in the stomach, the cyanide encounters one of the strongest acids known to us; viz., hydrochloric acid.) Mr. Champneys mentioned, however, to the coroner, that during the examination he *thought* he smelt prussic acid, that he made a remark to that effect to Mr. Norblad, who replied that *he* perceived no smell. As this is a most important point, I think it will be better to quote from the evidence as taken down before the coroner:

Question.—By a JURYMAN. *Would not the smell of prussic acid be discovered if there was no other thing in conjunction with it, to destroy that effect (smell)?*

Mr. CHAMPNEYS. *It was very unusual not smelling the prussic acid, but I mentioned during the examination that I thought I smelt prussic acid, but Mr. Norblad did not think he did, and AFTERWARDS, ON OPENING THE STOMACH, I DID NOT THINK I DID AT ALL.*

The CORONER. *Then you abandoned that idea of SMELLING AT ALL?*

Mr. CHAMPNEYS.—YES, Sir.

Mr. Norblad likewise stated before the Coroner that there was *no* smell of prussic acid perceptible.

At the trial, however, Mr. Champneys asserts most positively that he in reality smelt prussic acid *immediately upon opening the BODY*, and that he mentioned something to that effect

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to Mr. Pickering, (before the coroner it was to Mr. Norblad,) that *this was not a mere passing conjecture of his*, but a *fact of the reality of which he was most positive*. In cross-examination he stated that NEITHER MR. PICKERING NOR MR. NORBLAD did smell it; and that he himself did NOT perceive it after having opened the stomach. Mr. Pickering, on his part, asserts *that it was upon making the first incision in the STOMACH of deceased*, that Mr. Champneys called his attention to the smell, and *that he himself DID perceive the smell of prussic acid*. Here we have more contradictions and discrepancies than would be considered quite sufficient to overthrow the evidence of witnesses in any common case.*

Mr. Champneys positively contradicts himself. Before the coroner he admits that he simply *fancied* he smelt prussic acid, and tells the coroner that he *abandoned that idea subsequently altogether*, at the trial this *passing conjecture* having had two months time to grow, had ripened into *positive certainty*.

This assertion of Messrs. Champneys and Pickering was laid hold of by Mr. Baron Parke in his *very impartial* summing up, in order to prove that the prussic acid *existed as such* in the stomach *previously* to the contents of the stomach being subjected to digestion in the sand and water baths. It is this assertion which has *most materially* contributed to decide the issue of the trial, and yet it would have been so easy to confute it, simply by pointing out the discrepancies and contradictions which appear on the face of the evidence on this point.

I will now return to the consideration of the manner in which Messrs. Champneys, Norblad, and Pickering attempted the detection of the particular poison upon which

* Had Messieurs Champneys and Pickering *really* smelt prussic acid, they would have continued to smell it. Do these gentlemen imagine that a definite minute proportion of *odor* enters into the composition of prussic acid? Perhaps the acid in this case retained only sufficient to give a taste of it to two noses—which supposition would at once satisfactorily account for Mr. Norblad's inability to smell it.

the death of Sarah Hart might be charged. And here it must be obvious to the meanest capacity, that had either of them at that time entertained any *suspicion* about *prussic acid*, he would have communicated this suspicion at once to Mr. Cooper, and that gentleman would, under such circumstances, have tested for prussic acid at once. But it is evident from Mr. Cooper's statement that the three surgeons simply called upon him with the contents of the stomach of deceased; and after having pointed out *oxalic acid* as the most likely to have been administered, left the further investigation entirely to the chemist, ready to charge the cause of death upon any poison he might chance to hit upon. All they seem to know of the action and effects of the various poisons is,—that they destroy life—the rest is a complete *terra incognita* to them. Thus, if Mr. Cooper had detected opium, Sarah Hart would have been proved by Messrs. Champneys, Norblad, and Pickering to have died from the effects of opium!! And Mr. Cooper seems to have tested for nearly the whole range of poisons, and among others, for sulphuric acid!—(only fancy, oil of vitriol killing an individual in about fifteen minutes time, and without leaving the slightest trace of its destructive action on the organic tissues!)—for arsenic! for opium! for the mercurial salts! &c. &c. This kind of vague testing might, in some instances, be the very best means to defeat the object of the investigation. Every reaction has a limit of susceptibility, and the more the contents of the stomach are divided and subdivided, the more chance there is that the minime proportions of a poisonous substance which may in reality have been administered, may elude the detective power of even the most susceptible re-agents. I am, of course, quite sure, from Mr. Cooper's reputation as an analytical chemist, that he probably worked simply by special tests, and upon very minute quantities, so as not to diminish very sensibly the total amount of substance submitted to his examination. I merely mean to say that all this vague and useless testing might have been avoided, had *any* of the

three *surgeons* present given the slightest intimation to Mr. Cooper that prussic acid was suspected to have been the cause of death in this instance. But from Mr. Cooper's own evidence, it appears that HE HIMSELF was the FIRST to hint at a suspicion that prussic acid might be present—"Well, if this woman has taken poison, it can be no other than prussic acid:" these are Mr. Cooper's own words, as given in cross-examination.

Well, Mr. Cooper finds as much prussic acid in part of the contents of the stomach, as will, by calculation, yield about one grain of this acid for the whole contents of the stomach. It is THEN only, and NOT BEFORE this discovery, that it occurs to Messrs. Champneys, Norblad, and Pickering, that prussic acid has been the cause of death; but it is quite wonderful to see how positive, on this point, these gentlemen grow at once. Mr. Champney has *not the slightest doubt* but that prussic acid has killed Sarah Hart. Mr. Norblad, before the coroner, states and repeats at that functionary's desire, that "*from the absence of disease, the manner of her death, and the proof of the presence of this poison in the stomach*, he can come to no other conclusion than that deceased died from prussic acid, and he gives it therefore as his deliberate opinion that Sarah Hart died from the effects of prussic acid." At the trial he contents himself with simply asserting, in the *most positive* manner, that death was caused in this instance by prussic acid. Mr. Pickering, of course, chimes in with his colleagues.

Now, none of these three gentlemen has ever witnessed a case of poisoning by prussic acid: neither of them has the *slightest* knowledge of the composition, nature, and action of that poison. (Mr. Champneys, for instance, stated that prussic acid is a compound of 62.12 of carbon, 14 of nitrogen, and 1 of hydrogen; whilst in reality, prussic acid is a compound formed by the combination of one equivalent of cyanogen, consisting of 2 equivalents of carbon = $2 \times 6.13 = 12.26$, and one equivalent of nitrogen = 14.2, with one

Albion
 equivalent of hydrogen.) And yet these three gentlemen venture to come forward and to assert positively, that there is no doubt whatsoever on their minds, but that a case of sudden death, preceded simply by such symptoms as may be equally chargeable to poisoning by prussic acid as they may to fits, (induced, perhaps, by some very strong and sudden emotion,*) must of necessity be ascribed to the effects of prussic acid; *simply because about one grain of prussic acid was found in the stomach of the deceased.* This conclusion is most absurd. Non sequitur, Messrs. Champneys, Norblad, and Pickering, (and Mr. Baron Parke,) that *because* prussic acid is obtained from the contents of the stomach of an individual who has come by his or her death in a sudden and suspicious manner, that the individual in question must of necessity have been poisoned by prussic acid. If, instead of taking upon yourselves a task and a responsibility far beyond your power and abilities, you had turned your attention to the study of toxicology, you would have found that the greatest toxicologist living, M. Orfila, states in his celebrated work on Toxicology,† that *the mere detection of prussic acid in the digestive apparatus, or in matter rejected by vomiting, does most decidedly NOT entitle the physician and chemist, charged with medico-*

Medico
 * Death may, in this case, possibly have ensued from the attempt of forcing water down the deceased's throat; a few drops of water may have found their way into the aerial passages, and in that case, the conclusion as to the result lies not very far off.

† *Traité de Toxicologie*, Paris, 1843, t. ii. p. 322.—*Question médico-légale relative à l'empoisonnement par l'acide cyanhydrique.*

Suffit il de constater la présence de l'acide cyanhydrique dans les matières vomies, dans le canal digestif, ou dans le foie d'un individu que l'on soupçonne d'avoir été empoisonné par cet acide, pour affirmer que l'empoisonnement a eu réellement lieu? *Non, certes*, Je puiserai les preuves de cette assertion dans trois ordres de fait : 1. Il se développe quelquefois, chez l'homme sain ou malade de l'acide cyanhydrique ; 2. Il n'est pas démontré qu'il ne s'en produise pas à une certaine époque de la putréfaction : 3. L'acide cyanhydrique peut avoir été introduit dans le canal digestif après la mort.

Then what does
 legal investigations in cases of suspicious death, to affirm that this acid has been in reality administered to the subject of the investigation. PRUSSIC ACID IS FORMED IN SOME CASES IN THE ANIMAL ORGANISMUS, EVEN THOUGH THE INDIVIDUALS OFFERING THIS PHENOMENON BE IN A STATE OF PERFECT HEALTH. It is a well-known fact that the perspiration of some perfectly healthy individuals exhales the peculiar odor of hydrocyanic acid, and sulphocyanide of potassium has been detected in the saliva, by Tiedemann and Gmelin. Moreover, it would be very absurd indeed to deny that prussic acid may be formed in the decomposition and putrefaction of organic matter, just as likely as ammonia, acetic acid and other similar compounds, to the formation of which the simple decomposition of organic matter gives rise. Bitter almonds and pomaceous seeds may be present in the stomach, and subsequently upon the distillation of its contents, yield hydrocyanic acid. Ferrocyanide of potassium is a perfectly innocuous substance; this may by chance have been partaken of; (as is frequently the case in manufactures of ferrocyanide of potassium—vide Liebig's lectures on organic chemistry in the *Lancet*;) and would, of course, upon distillation, yield a considerable amount of prussic acid.

In the year 1841, M. Orfila was called in to refute the evidence of two physicians and four chemists, in a case of suspicious death. The physicians and chemists in question asserted most positively that a certain Monsieur Pralet, procureur at Chambéry, had died from the effects of prussic acid. M. Orfila proved, however, most clearly and satisfactorily, that M. Pralet died from apoplexy, and not from prussic acid.

According to Mr. Orfila, the detection of prussic acid in the digestive apparatus, etc., assumes the value of positive evidence, ONLY in such cases where the subject of the investigation has exhibited previously to his or her death the characteristic symptoms which are constantly attendant upon poisoning by prussic acid, and where the post-mortem examination

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*reveals the pathological alterations produced by the action of this deleterious substance upon the animal organismus.** Did you observe all the characteristic symptoms of poisoning by prussic acid in the case of Sarah Hart, Mr. Champneys?

Or did you discover in the post-mortem examination *any* of the pathological alterations usually produced by the action of prussic acid upon the animal organismus, Messieurs Champneys, Norblad, and Pickering? No! no! not one; and yet you had the courage to swear that Sarah Hart died from the effects of prussic acid!

And then this post-mortem examination! (*post-mortem examination!* God save the mark.) Messieurs Champneys, Norblad, and Pickering, have a way of their own to interpret the meaning of technical terms. Neither of them examined the bronchial tubes; and as to the spinal marrow, why, they probably thought that that part of the nervous system could not by any possibility have anything to do with the sudden death of deceased. They simply state that they found the abdominal viscera perfectly healthy. What do they understand by the abdominal viscera? Does that term simply imply the digestive apparatus, or does it include all the organs contained in the cavity of the abdomen? We do not find in their evidence any thing relating to the appearance of the blood—one of the most important points in cases of poisoning by prussic acid. We are therefore justified in assuming that the appearance of the blood was perfectly natural, and this natural appearance of the blood militates altogether against the supposition that death was caused in this instance by prussic

* Orfila, *Traité de Toxicologie*, Paris, 1843, T. ii., p. 323.

Non pas que je prétende qu' à raison de la possibilité que j'admets, il faille toujours rester dans le doute, et ne jamais conclure qu' il y a empoisonnement par l'acide cyanhydrique; une pareille thèse ne serait pas soutenable, quand, par exemple, *un individu aurait éprouvé les accidents que détermine constamment l'acide cyanhydrique, que les altérations cadavériques seraient analogues à celles que l'on observe dans l'empoisonnement par cet acide, &c. &c. &c.*

acid. I shall have occasion, at the conclusion of my remarks, to revert to this point. But before I dismiss this part of the case for the present, I cannot refrain from commenting upon one part of Mr. Baron Parke's charge to the jury. That learned judge, having heard from Mr. Champneys that about one ounce of blood *flowed* from the vein opened in the arm of deceased, and having probably read in some work on medical jurisprudence that *fluidity* of the blood after death is one of the signs of poisoning by prussic acid, tells the jury gravely and deliberately that he considers this *flowing* of about an ounce of blood from a vein opened about three minutes after the death of an individual, as strongly corroborative evidence of poisoning by prussic acid !!)

But this is not all—a woman is brought forward for the prosecution, who deposes to *something which took place more than ^{two} seventeen months ago*; what does her evidence amount to? Why simply to this. Mrs. Hart was visited by the prisoner on a certain day, in September, 1843; she drank a glass of porter at one draught, and complained immediately afterwards of feeling ill, and of being scarcely able to stand; she looked pale and ill, retched a good deal, and vomited about a hand-basin full of matter, complaining at the same time of giddiness and sickness. 4/

She recovered, however, soon and completely, without asking ^{any medical advice.}—What on earth is there in this evidence affecting Mr. Tawell? Headaches, accompanied by sickness and giddiness, are not of such very unusual occurrence, especially among women, and surely their sudden invasion cannot be considered as a proof of poisoning. Yet Mr. Norblad has the incredible assurance to state *that these are the symptoms of a dose of prussic acid, SHORT OF DEATH*; and as he does not in the slightest degree qualify this statement, leaves us to infer that they are *exclusively* attendant upon poisoning by a dose of prussic acid, *short of death*! This evidence also had great weight with Mr. Baron Parke and with the jury. Mr. Norblad stated with the same confidence that *less than*

anhyd
 one grain of prussic acid would destroy life,—so it may in smaller animals, when administered in its pure state, or only slightly diluted, and especially when made to act immediately upon the blood, and more particularly upon the arterial system; but I can tell Mr. Norblad that I myself have taken as much as three drops of pure anhydrous prussic acid—(equivalent to about 2.1 grains—of course largely diluted with water, without feeling any very considerable inconvenience; and if Mr. Norblad will read Liebig's lectures on Organic Chemistry, (Lancet,) he will find that a cat can stand, without inconvenience, from two to three drops of anhydrous prussic acid, diluted with from four to six ounces of water. But if two drops of anhydrous prussic acid be placed on the tongue of a cat, preventing the animal at the same time from breathing, no effect will be perceptible; however, as soon as the obstacle opposed to the respiration is withdrawn, so as to enable the vapor of the prussic acid to reach the lungs, and thus to come into direct contact with the blood, the animal drops down dead, as if struck with lightning.*

so pharynx
 I may venture therefore to assert, that one grain of prussic acid introduced into the digestive apparatus in a high state of dilution, will not be sufficient to destroy life. Messrs. Champneys, Norblad, and Pickering, and also Mr. Cooper and Mr. Baron Parke, however, deem even less than one grain quite sufficient to cause death. On this point these gentlemen take their stand, more particularly upon the case of the seven epileptic patients in one of the hospitals at Paris, who are reported in English works on the subject of poisoning by prussic acid, to have died from so small a dose as 7-10ths of one grain of this deleterious substance. Now this is a most egregious blunder, occasioned probably by confounding the medicinal acid of France

* Coullon, during his investigation of the nature of prussic acid, took upwards of two grains and a half of this acid, comparatively only slightly diluted with water, without feeling any very material inconvenience: of course I do not mean to say that he began with this dose. — *Recherches et considérations médicales sur l'acide cyanhydrique*. Paris, 1819.

with that of Scheele. The old pharmaceutical codex of France mentions two sorts of hydrated or medicinal hydrocyanic acid—the one, *acide cyanhydrique hydraté*, contains *one* part of acid to *two* parts of water, and the other, “*acide cyanhydrique médicinal* (dit au sixième) contains *one* part of acid to *five* parts of water! (by volume, and thus about seven parts of water to one part of acid by weight—taking the specific weight of the acid at 0.7.) Now, in the year 1830, when this lamentable case occurred, *hydrocyanic sirup* was usually prepared according to the old formula, viz., nine parts of sugar sirup to one part of medicinal acid—(whether the acid termed *au troisième*, or that termed *au sixième*, I will not venture to decide upon, although I feel inclined from Orfila's remark on the *enormity* of the dose to suppose, that the acid *au troisième* was used.)—The physician who treated the seven patients in question, prescribed eleven grammes fifty centigrammes of hydrocyanic sirup, which he intended to be prepared according to Magendie's formula.*

Had the sirup been prepared according to the physician's intention, every one of the seven patients would in the 172 grains of hydrocyanic sirup which were administered to him have received only one grain and one-third of absolute acid., But having been prepared by mistake, according to the formula of the old codex, the amount of pure and absolute prussic acid administered to each of the patients, was two grains and one fourth, on the most moderate calculation (i. e. if the acid *au sixième* was used ; if the acid *au troisième* was used, the quantity of pure acid amounted to *six grains* for every patient.†

Le siropi contre

* That is according to Magendie's formula of hydrocyanic sirup.—Magendie's prussic acid, which is now most commonly used in France, contains one part of acid to six parts of water, by volume, which makes by weight one part of acid to eight parts and a half of water.

† Orfila, *Traité de Toxicologie*, Paris, 1843, T. ii. p. 285.

En 1830, on prescrivit à sept épileptiques du sirop cyanhydrique. Ce sirop, qui, d'après les intentions du médecin, devait contenir, conformément à la

Thus for the seven-tenths of one grain of prussic acid which we find reported in the English books on this subject, we must substitute at the least *two grains and one-fourth*. Had Mr. Baron Parke known this fact, he would probably have abstained from stating in his summing up that a larger amount of prussic acid had been found in the stomach of deceased than would be quite sufficient to destroy life. (I may here just as well observe, *en passant*, that it was in this identical case of the seven epileptic patients, that the physicians charged with the post-mortem examination professed they could not detect the odor of prussic acid. Messrs. Gay-Lussac and Orfila, however, found no difficulty in detecting this peculiar odor in the contents of the stomach, even so late as eight days after death.) *Query if stomachs in operation to*

Can there be a grosser blunder than this? * And yet it is

formule de M. Magendie 1-130 d'acide cyanhydrique, avait été préparé à la pharmacie centrale avec 9 parties de sirop de sucre et une partie d'acide médicinal, d'après la formule de l'ancien codex. Chaque malade, ayant pris 11 grammes 50 centigrammes de ce sirop, se trouva avoir avalé 1 gramme 15 centigrammes d'acide médicinal, dose exorbitante et que l'homme le plus robuste ne saurait supporter sans périr presque immédiatement. Evidemment la formule du codex était monstrueuse, et l'on devait se hâter de la remplacer par celle qui était généralement employée par les praticiens de Paris et dans laquelle l'acide cyanhydrique n'entre que pour 1-130. Aujourd'hui que la substitution dont je parle a eu lieu, on ne verra plus se renouveler d'aussi affligeantes méprises.

* Another case was quoted from Taylor, where an individual was reported to have taken one drachm and a half of Scheele's acid, and to have suffered from the effects for thirteen days after. This, Taylor states, to have been the largest dose ever administered without killing. Now it happened that the dose in this case was much stronger. The case alluded to, is that of Doctor Bertin of Rennes. Doctor Bertin had been in the habit of taking comparatively large doses of prussic acid, and had thus in some measure got accustomed to the action of that poison. The country apothecary from whom he used to obtain the acid, probably did not prepare it strictly according to Magendie's formula—the acid must have been very considerably weaker than the

upon such and similar (*ex uno disce omnes*) authority, that a fellow creature is about being consigned to an ignominious death!!

It is by such evidence and such authorities that one of the most clear-headed judges of the land has allowed himself to be completely misguided.

With regard to Mr. Cooper's evidence, I am perfectly satisfied that that gentleman stated simply and correctly the results of his experiments. Mr. Cooper is deservedly considered a first-rate *analytical* chemist, and *thus far* he is perfectly qualified to pronounce upon the presence or absence of a poisonous ingredient in any substance submitted to his examination. Nevertheless, with all the respect due to Mr. Cooper's eminent talents and abilities, I must beg permission to observe that medico-legal investigations require something more than even the most perfect knowledge of general and analytical chemistry. Such investigations ought to be *exclusively* confided to men who, like Orfila, combine the chemist with the physiologist and physician, and whose judgment has been matured by the most extensive researches and experiments. X

To sum up briefly, I repeat again that it is my most conscientious conviction *that Sarah Hart died from natural causes*. It is of course quite out of my power to point out the precise cause of her sudden death. I neither witnessed the symptoms exhibited by her during the few minutes immediately preceding the extinction of life, nor have I seen her body after

medicinal acid of Magendie. In September, 1824, M. Bertin took at an apothecary's, about one drachm of medicinal acid, prepared at one of the first-rate establishments at Paris; the dose contained about eight grains of pure acid—and would indubitably have destroyed life almost instantaneously, had it not been for the prompt administration of ammonia and of ammoniacal gas; the latter, however, whilst saving Mr. Bertin's life, produced a severe inflammation of the respiratory organs, and it was owing more to this inflammation than to the effects of the poison, that M. Bertin was laid up for a fortnight.

death. It would perhaps have been easy to come to a correct conclusion on this point, had the post-mortem examination been made by men of *sterling* science; however, as it is, the cause of death will probably remain shrouded in mystery.

My conviction that prussic acid had nothing whatever to do with the poor woman's death, is based *chiefly* and *principally* upon the absence of some of those symptoms which my own experience (limited as it is) has taught me to expect invariably in cases of poisoning by this acid; and moreover upon the total and complete absence of *any* of the pathological alterations which I should *invariably* expect, at least in all cases where the acid has not destroyed life *instantaneously*, but after the lapse of a few minutes or so. In all cases of poisoning by prussic acid, without exception, the venous system is found gorged with very fluid blood of a dark violet or black tint; the liver is gorged with blood of black color; the bile is in *most* cases of a deep blue color. The brain is in *most* cases overgorged with blood, which in many instances is found to have extravasated; the lungs are almost invariably gorged with blood of a deep violet or black color; the œsophagus, stomach, and intestines are generally in a state of greater or lesser inflammation, &c. &c. &c. Of all these indications of the action of prussic acid, we have *none* in this instance. How is it possible that any professional man, possessed of the slightest knowledge of his art, can, in the face of these facts, come to the conclusion that the death of Sarah Hart is chargeable upon prussic acid; simply because some prussic acid was obtained by distilling the contents of her stomach?

Medical men, when called upon to give their evidence in cases of this description, ought to weigh and consider the awful responsibility devolving upon them,—they ought to bear in mind that on their ipse dixit may depend not only the life and honor of a fellow being, but perhaps also the future happiness or misery of all those connected with that fellow-being. They ought to inquire of themselves whether they

possess in reality that perfect and practical knowledge of their art, which alone can save them from committing such grave and deplorable errors and blunders as have disgraced this trial.

I find in Orfila's treatise on Toxicology, a passage so peculiarly and felicitously applicable to the *medical* gentlemen who figured in Tawell's trial, that I cannot abstain from quoting it. I prefer giving it in Orfila's own words, since I should not like to spoil the effect by an inferior translation.

“ Il suit de là, que *l'ignorance*, l'intérêt ou le crime, peuvent dans quelques circonstances, confondre ou chercher à faire confondre l'une ou l'autre de ces affections spontanées avec le véritable empoisonnement. Combien de fois n'avons nous pas été témoins, *encore de nos jours, de procès de ce genre tout-à-fait scandaleux, où l'on voit des hommes parés du titre de docteur dresser avec la plus grande ineptie des rapports insensés !*” *

I have now arrived at the conclusion of my remarks. I beg it to be distinctly understood that I do not know Mr. Tawell, and that I am induced to step forward in his defence solely because I believe him innocent of the crime imputed to him.

In conclusion, I beg to propose two simple questions :—

1. If the facts and allegations averred by me are true, (and I challenge the strictest inquiry into their correctness)—will any impartial and unprejudiced man be bold enough to assert that Mr. Tawell has had a *fair trial, and that he has been condemned on indubitably conclusive evidence*?

2. If I have succeeded in shaking the medical evidence adduced against Mr. Tawell, and to render the principal fact in the case doubtful, would his execution, under the present circumstances, not positively amount to legal murder?

* *Traité de Toxicologie*—Paris, 1843 ; Tom. ii. p. 699. The italics are my own.

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our/see men killed & down
murder murder them that from
which another has occurred
Hearst's eyes on himself