In a case of aneurism in a poor woman in Charing Cross Hospital, Dr. WILLSHIRE has recently drawn the attention of his class to a new diagnostic sign or symptom of aneurism of the aortic arch and innominate. Like as in Mr. South's case, pressure produced a completely benumbed condition of the thigh and leg, so pressure of an aneurism in the neck on some of the cervical nerves is considered to be the cause of a peculiar paralytic action of the iris in the eye of that side. The pupil of the right eye in this case was *contracted*. Dr. Willshire even dropped into it a solution of atrophine, which caused temporary dilatation of the pupil; but it returned again to its contracted state, and remained in this condition. The rationale of this sign furnished by Dr. Banks of Dublin is the following:—"The iris is furnished with nerves from two antagonist sources. The section of the sympathetic trunk in the neck [or pressure, it is presumed] paralyses (or benumbs) the nerves which act on the radiating fibres of the iris, from the spinal system through the sympathetic, and resigns the pupil to the exclusive influence of the circular fibres, or those which contract the pupil, and which are supplied from the inferior branch of the *motor oculi* nerve; and thus the pupil is kept permanently contracted." This is an ingenious and beautiful adaptation of anatomical fact to a pathological phenomenon, which, it is trusted, will prove very suggestive in such cases.

This poor woman, aged 60 years, presented very great dilatation of the commencement of the arch of the aorta of the innominate, as also some disease of the roots of the right subclavian and carotid: so it was easy to understand what extensive pressure on the cervical nerves was exerted. A strong purring thrill was felt by the finger placed horizontally above the right clavicle. Indeed, as we have seen occasionally, there is too much reason to fear that absorption of bone has been going on in the first rib. The case has not differed very materially from many of a similar kind seen in various hospitals, if we except this singular new symptom as to compression on the cervical nerves.

K.

Original Communications.

ON THE CHARACTER AND MODE OF INFLICTION OF WOUNDS OF THE FEMALE PUDENDA, CONSIDERED IN REFERENCE TO CRIMINAL CHARGES.

By JOHN BARRETT, Esq., F.R.C.S., Senior Surgeon to the Bath Western Dispensary.

[Read at the Meeting of the Bath and Bristol Branch, April 24th, 1856.]

WITHIN the last few years I have, in three instances, been present at the trial of husbands for the death of their wives by wounds of the vulva; two were charged with murder, the third with manslaughter, and all were found guilty of manslaughter. One was sentenced to penal servitude for life; one for twenty years; and one for six. A conviction for manslaughter is one which gives greater scope for the discretion of the judge than any other; the punishment may be, short of capital punishment, the severest that can be given, or it may be the lightest; and the judge in awarding it will necessarily be greatly guided by the *animus* of the criminal act. In these three cases the medical testimony had an important bearing on the question of *animus*; hence their interest. If we accept the view taken of them by Chief Baron Pollock, their interest would be greatly enhanced by their extreme rarity. In summing up in one case, he observed:—"The learned counsel for the prisoner said that the principal medical witness had never seen such a wound before. He (the learned

judge) believed that if the jury were to collect all the medical men in the kingdom, their experience would furnish very few such examples; and if they could bring from their graves the most eminent men who had ever practised, he imagined that not many similar instances could be supplied. This gave rise to the grave, he had almost said the awful responsibility, which rested on the jury in this case." I believe the judge to have been mistaken; and that, in expressing this strong opinion as to the rarity of such wounds, he was influenced by the supposed manner in which it had been inflicted in the case before him, viz., by a murderous attempt to reach the bowels or viscera with a sharp stick thrust *per vaginam*: and I believe it is possible to account for wounds of the vulva, even when presenting the peculiar features of that in the case then before the court, in a manner far less horrible and more probable. In these three cases death occurred from hæmorrhage, within, at the very outside, half an hour, without the wounding of any large artery. Such hæmorrhage is a common consequence of wounds of the vulva.

Two girls of the town had a quarrel; one kicked the other in the rump; she fell, and such severe hæmorrhage took place, that the police feared she would die before they could reach the Bath United Hospital, hardly a quarter of a mile distance; the kick had wounded the vulva. Taylor, in his *Medical Jurisprudence*, quotes (p. 370) several cases proving the frequency and importance of hæmorrhage from such wounds, without the wounding of any large artery.

A glance at the anatomical structure of the parts will readily explain this severe hæmorrhage, though no artery of important size be found wounded. "All the parts of the vulva are supplied abundantly with blood-vessels, and in certain situations there are masses composed of venous plexuses, or erectile tissue, which are analogous to those found in the male." (Quain's *Anatomy*, p. 1255.) The plexiform and venous character is most marked towards the upper part of the sides of the pubic arch, and here the arterial branches are smallest. Anything interfering with the venous circulation, such as pregnancy, will, of course, load such structure with venous blood, and the hæmorrhage produced from a wound here would be severe and venous, like the bursting of a varix in the leg: such is the fact. It also generally happens that wounds of the vulva occur towards the upper part, a circumstance arising, I presume, from the manner in which, as I shall presently have to show, they are generally caused—a blow from below injuring the soft structure between the bone and the striking body.

Though not the first in date of the three trials to which I have referred, I shall first take the following:—

At the Wilts Assizes, held at Devizes, in August 1853, Thomas Simmonds was indicted for the manslaughter of his wife, Jane Simmonds, at Wootton Bassett, on 2nd August, and tried before the late Mr. Justice Talfourd. He had been returning with his wife and others from a hay-making supper, where they had drank rather freely, particularly the prisoner. As they went along the towing path of a canal, the prisoner, who had lagged behind, came up, struck his wife two or three blows on her head, and, after a struggle, threw her into the canal, and walked on; with some difficulty the other parties rescued her. For this gross and brutal conduct he seems to have had literally no excuse in the shape of provocation. She then went home, and he afterwards came in and began beating her. The deceased was then seen to run out of the house into a neighbour's, closely followed by the prisoner. There was a good deal of scuffling between them in that house, and then the prisoner was seen dragging his wife along the road, and the sound of a blow was heard. The prisoner then left his wife lying on the ground, and said she should not enter his house that night. The poor woman crawled a little way, and again fell. She was within a month of her confinement. All this noise had alarmed the neighbours, and a woman went down to her, and found blood pouring from her. She ran to the prisoner's house, and called him to come up, for

his wife was dying. The prisoner replied she might die, she was only in a drunken fit. The woman went back to the deceased, who contrived to get up from the ground, but she died in her arms in about ten minutes.

After he found the result of his brutality, the prisoner appeared much distressed. The surgeon's evidence went to prove that she had died from hæmorrhage from a lacerated wound of the vulva, which had been caused by "a blow or kick pressing the bone of the pelvis against the flesh", or rather dividing the soft parts between the striking body, whatever it was, and the resisting bone lying beneath; that this wound could not have been occasioned by a fall; that the hæmorrhage had been such as to make the body quite bloodless.

A verdict of manslaughter was returned, and the prisoner sentenced to twenty years transportation, Mr. Justice Talford remarking, as well he might, that it was the most aggravated case of manslaughter he had ever known.

I was present at the trial, and was much struck with the plain and simple manner in which the medical witness gave his evidence. I have no doubt whatever that, so far, his explanation of the manner in which the wound is produced, viz., by the pressing between, and consequent division of the soft parts by the striking body and bone beneath, holds good not only in this case, but in the great majority of wounds of the vulva; and this in cases which, at first sight, may appear to require a very different explanation. Of this more hereafter.

Another part of this medical evidence I could not quite so readily accept—that the wound had been caused by a blow or kick, and could not have been occasioned by a fall. That it was occasioned by a blow or kick in this case appears to me far most probable; if done in a fall, still that fall was produced by the outrageous brutality of the prisoner, and the *animus* of his conduct was marked throughout the whole transaction; but in another case, where such conduct had not occurred, the view taken by the medical witness might have been of the deepest importance. The stump of a tree, the obtuse angle of a large stone, even an inequality in the ground in a room, the cut off stump of a bedstead, the corner of a chair, if the chair be tilted up, in short, any body sufficiently angular to pass between the thighs posteriorly supposing a woman violently falling backwards on it, or between them anteriorly if she fall forward, would, I conceive, even if the violence be external to the clothes, explain such a wound, by the resistance of the bone beneath. In truth, the wound is effected not altogether by the striking body, whatever it may be, but the structure of the vulva is divided and split up by the resistance of the bone beneath; and if it lie over the edge of the arch of the pubes, this will more readily occur, just as we see wounds of the face and forehead, having very much the appearance of incised wounds, given by the fist, or some other obtuse body. And it is not necessary that wounds produced in this manner should always be open their whole length; that is, the deeper structure may be split up by the edge of the subjacent bone through the whole length of the wound, whilst the more superficial is only partially divided; in such case the wound will bear a very close resemblance to a punctured wound, and, as I shall hereafter have to show, has, in my judgment, been mistakingly considered such. The following cases are interesting illustrations of what I am stating.

A man in a low neighbourhood of this city gave his wife what he intended to be a kick on the rump, as she was stooping down. Profuse hæmorrhage immediately occurred, endangering her life, and the surgeon found that he had divided the left labium pudendum minus. Here the wound was open to the whole extent; at least the surgeon who saw the case does not remember that it presented the punctured appearance.

A little girl was riding across a banister, as children often do, coming down with a run on the small horizontal portion at the bottom; severe hæmorrhage occurred from the vulva. Mr. Fowler, of the Bath United Hospital, saw the case, and found a punctured wound of the labium puden-

dum, into which he could pass his finger. Here, no doubt, the wound was caused by the compression and division of the soft structure between the edge of the bony pubic ramus and the horizontal portion of the banister. The division, however, was only partial; where complete, it formed the mouth of the wound; where incomplete, the *cul-de-sac*.

A man kicked his wife in front, the blow being received on the pudenda; severe hæmorrhage followed, which proceeded from what had the appearance of a punctured wound of the labium minus. What was effected in the last instance by compression between the bone and horizontal portion of the banister was here evidently effected by the man's foot, probably his toe, and the bone. The deeper structure was more extensively divided than the superficial, giving the wound a punctured appearance. The important difference of the case is, that it was done by a kick, and it thereby bears on a question hereafter to be considered. It was mentioned at the late Bristol meeting by Mr. Clarke, now, or formerly, house-surgeon to the Bristol Infirmary, where the case was received.

The next case is one in which I have lately given evidence: *Regina v. James Howell*, tried at the Taunton Assizes, March 1856, before Mr. Justice Crowder, for the murder of his wife, Elizabeth Howell.

The prisoner sold fish about the streets, and lived in one of the lowest parts of Bath. On Saturday evening, January 21st, 1856, some words occurred between him and his wife at a public house; she used most opprobrious language to him, and he struck her in the mouth with the back of his hand; afterwards they drank together, and indulged, at a later period of the evening, in the luxury of some cold pudding and cold potatoe, which they jointly purchased. He went home before her, and when in his room was heard using threats against her and himself too. "I'll do for the bloody cow. I'll drown myself; there shall be murder to-night." He seems to have been in a state of mad drunken jealousy. His wife shortly came home, and addressed him in terms of affection, to which he replied by ill treatment. A scuffle was heard, as if he were pushing her into the room; two blows were heard, and a noise of falling—one witness said "a noise of stamping and kicking." The wife then cried out "Jem, you've killed me and killed the baby. Look about you, and see what you've done;" probably alluding to the hæmorrhage, and showing how profuse and instantaneous it is in these cases.

The husband then runs off for a midwife, apparently under the impression that he had brought on labour, his wife being close on her confinement; and the neighbours come in and find the wife on the floor on her side, with a pool of blood on the floor, and blood about her garments. He seems to have used every means to hurry the midwife, and to have expressed great sorrow when his wife was dead, which happened, it would appear, in from twenty minutes to half an hour from the time the injury was inflicted. I saw her, in company with another surgeon of this city, when she was still alive, but past all hope of restoration. As quickly as was fitting under such circumstances the Cæsarean operation was performed, but we found the child also dead. She was in her last month of pregnancy.

The cause of death was immediately, and during life, detected to be a wound of the vulva, from which venous blood was then issuing. This was a lacerated wound, separating the *meatus urinarius* from its attachment to the pubic arch, and extending from this point on each side downwards and backwards, in a direction corresponding with the descending rami of the pubes; that on the right side about two inches and a-half in the right labium; that on the left side, one inch and a-half in the left labium. On each side, these limbs of the wound had the appearance of a punctured wound, that is, the upper part was open, allowing the insertion of the little finger, which passed down in the structure of the labium, and then the passage of the wound became so small that it would admit only a probe to reach its extremity. The *meatus urinarius* was thrust backwards under the arch of the pubes, towards the vagina.

No distinguishable artery was wounded. The body was quite bloodless, with the exception of the right side of the heart, which contained dark fluid blood. The organs throughout were perfectly healthy. Nothing was found in the room to explain the wound by her falling on it, except a chair, which possibly might, but not probably, if tilted up, still less any instrument by which a punctured wound might have been inflicted, and the character of the wound forbade such a supposition. The conclusion we came to was, that the wound was inflicted by her husband by a stamp with the heel or a kick with the toe of his boot; his boots were not heavy, nor marked with blood; but then the night was wet, and he had walked about afterwards. We also agreed that this violence would have produced the appearance we found if inflicted through, not beneath the clothes; that the punctured appearance of the wound was given by the division of the structure of the labium between the striking body and the bone, probably the edge of the bone. But we disagreed on the question whence the blow was delivered, whether from before or from behind, and the question is not unimportant; a man who inflicts such a wound, by kicking his wife in front when large in the family way, is guilty of a most ferocious act, if not of one plainly murderous in intention, for he can hardly do other than intend the blow for her belly, and would seem to aim at the life of both his wife and child; but, gross as such conduct may appear to those living in better society, a kick in the rump in his sphere of life would probably pass muster as fair conjugal chastisement.

The opinion of the other medical witness, that the injury must have been produced by violence from before, was rested on the position of the separated meatus urinarius, which was driven backwards into the vagina, beneath the arch of the pubes; and it was contended that, if the blow had come from behind, it would have been forced out and in front of the pubic arch. But in this view, I think, sight is lost of the relative position of the pubic arch, the anterior plane of which, in the erect posture, forms an angle of about fifteen degrees only with the plane of the horizon; that is, the arch of the pubes and the vulva are, in the erect posture, nearly horizontal; and if the woman be stooping forward, this angle will necessarily be lessened, and the position be still more horizontal. Consequently, in a kick from behind, the toe of the foot will strike the pubic inlet at something very much like a right angle, and thus would nearly necessarily drive the separated meatus beneath and within the arch. If, as the woman stoops, the legs be somewhat separated, the access from behind will be still easier; whereas a kick delivered from before in the last month of pregnancy could hardly escape being delivered on the greatly prominent abdomen. The accessibility of the pubic arch from behind is shown by the general practice in this country of delivering and, indeed, of operating generally on the vagina therefrom; and in cases which have come to me of contusion of the vulva from acknowledged kicks by the husband, it has been generally by a kick on the rump.

I have already mentioned several cases where wounds of the vulva were inflicted by what was intended as a kick on the rump.

The judge summed up for manslaughter, putting the point to the jury that the injury might have been caused by a kick behind. They returned a verdict of manslaughter, and the prisoner was sentenced to six years penal servitude.

I have since learnt, from authority on which I can entirely depend, that the prisoner stated that he had effected the injury by kicking his wife; but whether before or behind my informant could not say.

It is then evident from this that fatal hæmorrhage may occur from a kick in the vulva inflicting a wound closely resembling a punctured wound.

[To be continued.]

ON FÆCAL FERMENTATION AS A SOURCE OF DISEASE.

By C. H. F. ROUTH, M.D., Physician to the St. Pancras Royal General Dispensary; Assistant-Physician to the Samaritan Hospital for Women and Children; Vice-President of the Medical Society of London; &c.

[Read before the Medical Society of London, February 23rd, 1856.]

PART I.

IN the following paper, my object will be to direct renewed attention to a subject which has of late years been too much neglected, until Dr. Snow first recalled public attention to it. I allude to the fact that fæcal matters develop, under certain circumstances, a contagious poison, which becomes a powerful exciting cause of disease. I do not deny that those diseases to which I shall presently allude may be generated by the decomposition of other vegetable and animal matters, nor do I in any way assert that the fæcal poison is the *only one* which is in general operation; but I wish peculiarly to direct attention to this poison as a frequent cause in originating and continuing these diseases, and in afterwards rendering them fatally destructive. I also hope thereby to call the attention of our sanitary corps of officers to this source of disease, so that it may be tested by those facts, with which they will be sure to meet in the performance of their duties; so that both in regard to prophylaxis and treatment a broader and more general principle of action may be adopted. And because, in the same measures by which these fæcal poisons are withstood and counteracted, other vegetable and animal poisons are equally opposed and destroyed, so we may hope that the occurrence of many diseases, especially those of the epidemic and endemic varieties, may be prevented, or at least the type of such diseases may be rendered so much more benignant that their treatment will become, under Providence, comparatively easy and successful. It is, therefore, with peculiar pleasure that I find the subject of malaria as a cause of disease in this country has been selected by the Council of this Society for the Fothergillian medal of 1858, and I also trust that among the number of chemical students in the nation there may be found one or more able and courageous enough to grapple with the subject, and to overcome the natural repugnance to make investigations in such a department of science. If so, we may hope that the specific and chemical nature of some of these poisons may be found out.

To go over the whole subject, even in a cursory manner, in one paper, is to me at least impossible. I can only, therefore, to-night consider some points connected with the formation of fæcal matters, their subsequent decomposition in the production of particular poisons, the general laws under which these, in common with other poisons, act, and, finally, their effects when partaken of in substance by the lower animals, or by man, when this can be done. The effects of their ingestion or absorption in solution in water, and of the emanations therefrom in the production of disease, and the rules of prophylaxis and treatment, must form the subject of a second and a third paper. I must, therefore, claim your indulgence for the necessary imperfection of these remarks, and ask you to look upon this paper as only introductory to others, which, I trust, may prove of more interest, and in which I hope to develop the subject more fully and more practically.

One other point, and I have done with preliminary remarks. You must not expect much originality in a communication of this nature. The merit of the paper must be based on the number of facts collected from all sources. Nay more, the collection of evidence of this nature, because it is not mine, is more worthy of your credence. Otherwise, I might be open to the charge of moulding my facts to my theory; not that I believe you would think me capable of doing so willingly, but, even with the most mathematical construction of mind, it is often difficult to escape all bias in our convictions. The facts, moreover, may be all easily examined by each of you for yourselves,