ting on. Thinking that his haymakers were working rather sluggishly, he scolded them for their idleness, threw off his coat, and set to work lustily, to show them a good example. It was a warm and rather moist day, the temperature in the shade being 73° . One of the men who was working next to Mr. E. remarked that he did not seem to get hot, or to perspire, from his exertions, although the sweat was pouring down his own face profusely. In the afternoon, Mr. E. felt ill, and went home and lay down, but was well enough to come down to tea. The lip continued to be itchy, and to tease him, but did not swell. He allayed the itching by bathing it repeatedly with warm water. He had a restless, uncomfortable night; but got up early next morning (July 17), and went off to the hay-field. After working there vigorously for an hour, he was compelled to give up and return home; and immediately went to his bedroom and called to his wife to help him to bed, for he felt very ill. When in bed, he said that he should never leave that bed again, and he proceeded to give directions respecting his affairs. His usual medical attendant was sent for, and noticed that he looked pale, and that there was apparently a little gathering in the lip.

"On Thursday morning, July 18th, the swelling of the lip had increased, and appeared to contain matter. It was lanced, but only a little reddish serum was discharged from the wound. The swelling increased rapidly during the day, and spread over the face; and by evening, the right eye was closed.

"On Friday, July 19, the lip was considerably swollen, and the swelling and discoloration extended completely over the face. The left eye was closed.

"On Saturday morning, July 20th, at ten o'clock, I saw him for the first time, in consultation with his regular medical attendant, an experienced surgeon.

"Mr. E. had been a handsome, well-featured man. He was now so frightfully disfigured that I could not recognise him. The face seemed featureless, swollen out of all shape and comeliness, and of a livid, purple hue. The upper lip was frightfully enlarged; the eyes were closed tightly; the eyelids were puffy, discoloured, and oedematous, and their edges crusted over with a gummy exudation. The swelling and discoloration affected the whole of the face, and all the anterior region of the head. He was propped up in bed, muttering deliriously; his hands trembling, his breathing hurried, the skin perspiring, the belly tympanitic, and the pulse so feeble and so frequent that it could not be accurately counted.

"Brandy and stimulants were freely administered; but he continued to sink, and he died about three hours after my first visit. The disease ran its course in seven days."

Three other cases, of which the particulars have been communicated to me, may be mentioned here as interesting in relation to the question of cause. The subject of one was a *tanner*; of another a *shepherd*, who had been engaged in tending diseased sheep; while a third was seized with malignant pustule in the *hand* immediately after being employed in *unloading hides*. In all three the disease was fatal. In the five cases which form the subject of this note, therefore, the circumstances not only pointed strongly to an animal origin, but brought the sufferers into actual contact with things which are recognised as common sources of the malady of which they died.

Of the cases related in the body of the paper, there were two in which the contagion was implanted by flies (a well known mode of communication), and one in which it was derived from contact with the carcase of a sheep that had died in a field. The callings of four other subjects were equally suggestive, one being a bullock jobber in a large way, another a great flock master, a third a provision dealer, and a fourth a shepherd. That is to say, in twelve out of thirty cases, *without any inquiry being once directed to the point*, the disease was

ascertained to occur, under the circumstances, or in the conditions of life, in which the malignant pustule of the continent is known most to happen.

As it is impossible to suppose this to have been the work of chance, the only rational explanation of the fact is that these conditions and circumstances operated in developing malignant pustule in these twelve persons, merely by exposing them to the specific cause of the malady. Had the real nature and origin of the affection been suspected by the observer, contact with this cause would probably have been actually traced in many of these as well as in other instances.

As regards the probable intervention of flies in the propagation of the disease, it is worthy of mention that, with the exception of one case which occurred in the latter end of March, all the cases of malignant pustule of the face that have come to my knowledge have happened either in the summer or early autumn, and for the most part in dry, hot weather. The cases in which it has occurred in the hands (presumably from direct contact with the virus) have happened at various seasons of the year.

Lastly, it should be remarked that in the five cases which form the subject of this note, as in the twenty-five before related, the disease occurred in the only parts of the body which are habitually uncovered.

PUERPERAL ECLAMPSIA: BRIGHT'S DISEASE: AUTOPSY.

By PAUL BELCHER, Esq., Burton-on-Trent.

On January 1st, 1863, I was sent for to see Mrs. C. (a multipara), who was expecting her confinement daily; and had just had an epileptic fit. She had been taken quite suddenly; the fit had lasted about a quarter of an hour; and she was now recovering. The power of vision was quite lost; her pupils were natural but sluggish. She had violent pain in the head with throbbing. She had passed very little urine to-day.

She was ordered ten grains of calomel immediately; some jalap mixture every four hours; and twelve leeches to the head immediately.

The first fit was at about ten o'clock. At four o'clock, she had a second fit lasting a quarter of an hour; and was bled from the arm to faintness, losing about twelve ounces. At nine o'clock, she had a third fit, lasting twenty minutes. Shortly afterwards she had a turpentine enema, which acted well. Her head was ordered to be shaved, and cold bladders were applied. Her pulse was now 110, and she expressed herself as better, and had recovered her sight. The blood was highly buffed and cupped. Her urine was scanty, and highly albuminous. There were no signs of labour.

Jan. 2nd. She had had some sleep. Pulse 108. She complained of her tongue, which was much bitten. Her urine was scanty, and brandy-coloured. She was ordered to repeat the calomel at bedtime, and to have added to the mixture bitartrate of potash in half-drachm and spirits of nitrous ether in drachm doses.

Jan. 3rd. She had slept well. The bowels acted well, and she passed rather more urine, which was still highly albuminous, and showed casts of various sizes, some granular, others containing atrophied and fatty epithelium. Her pulse was 100. She was perfectly free from labour-pain, and thought she had a week to go.

Jan. 4th. She had slept well. The pulse was more thrilling and somewhat quicker. She complained of uneasiness as if labour were going to supervene. At 4 p.m., she was seized with another fit, lasting a quarter of an hour, followed by coma for a few minutes, and then by another paroxysm, again succeeded by coma. She was immediately bled to fainting, losing fifteen ounces in a

large stream. The bleeding seemed somewhat to have relieved the coma; but half an hour later a still stronger paroxysm occurred. During the fits, which were now incessant, I examined and found the os uteri soft and dilating, and could feel the membranes and shortly afterwards the head presenting. A sinapism was applied across the loins and along the spine. The pains, and synchronously the convulsions, became stronger and stronger; and, in a few hours from the commencement of labour, a fine female child was born alive. During this time I had tried chloroform fairly; it seemed to have no effect in controlling the convulsions, while I thought it rendered the pulse and respiration worse. More benefit appeared to follow the frequent splashing of ice-cold water on the face and breast, as recommended by Dr. Denman.

After the completion of labour she remained comatose, and within half an hour had the most violent convulsive paroxysm it has ever been my lot to witness. I again administered chloroform, and under its influence the paroxysm subsided, and she sank into a pleasant trance. As she came round, however, the fits returned, and I kept her gently under chloroform for two hours. She was now partially sensible; but in a few hours became lethargic and gradually comatose, while the pulse was fluttering and unsteady. She had a blister to the back of the neck, and was fed, as she could swallow, with beef-tea and brandy. Her pupils were neither contracted nor dilated, but they were insensible to light.

Jan. 10th. She remained much as in last report till to-day, when she was worse and evidently sinking. At times there would appear to be some improvement; but it was only temporary. She had taken beef-tea and brandy well till this morning; now she could not swallow. She died comatose and exhausted at 6 P.M.

AUTOPSY, twenty hours after death. There was very little subcutaneous fat; but the muscles appeared firm and healthy.

Head. There was slight adhesion of the dura mater to the frontal bone; no vascularity nor other sign of inflammation of the membrane. The brain was anæmic; its sulci were shrunken and grey matter pale. There was no effusion, and its consistence was natural everywhere.

Thorax. Both lungs were emphysematous, and there were adhesions on both sides. There was a slight excess of fluid in the pericardium. There was considerable hypertrophy of the left ventricle. The mitral valve was opaque and thickened; its free edges were roughened and granular. In other respects, the structure of the heart was healthy. Extending from the right auricle into the left ventricle and into the aorta was a firm decolourised clot as thick as an index finger, and six inches long.

Abdomen. The large intestines were much distended by flatus; the small contained feces. The liver was enlarged, but not greatly; it was of natural appearance and not congested. The other organs were healthy, with the exception of the kidneys. The right kidney was atrophied; it weighed three ounces five drachms. The capsule was adherent, the surface mottled and granulated. The atrophy appeared equally in both the cortical and tubular portions. The left kidney weighed two ounces; it was lobulated like a foetal one. Its capsule was adherent; its surface much granulated; its cortical structure almost and its tubular entirely obliterated. Under the microscope, the tubes of the right kidney contained atrophied and fatty epithelium with granular debris, while in the left neither tubes nor Malpighian corpuscles were fairly recognisable.

Pelvis. The uterus was normal in appearance; it contained a small coagulum. The plugging of the uterine sinuses was well shown. In the walls of the left ovary there was a small rudimentary cyst. The bladder was healthy, and contained urine.

REMARKS. What is the value of albuminuria as a symptom in puerperal eclampsia? By itself, I believe, of very little; but if taken in connection with, and leading to, microscopical investigation, of very great value. It tells us that there is certainly deranged circulation in the kidney, and that there may be perhaps structural and permanent change there. Which of these two states is present is an important question; and if there be structural change, of what kind and to what degree are important questions; and though the test-tube cannot solve these matters, the microscope probably may. In the class of cases where the premonitory symptoms are more marked and come earlier under observation, the microscope is especially useful; for by its aid I believe a skilful pathologist may mark as surely the hidden changes of the kidney as he can by sight and touch follow the dropsy. This was, however, a somewhat sudden case, and one in which the urgency of symptoms, and the necessity of taking prompt action to meet them, lead one away from the slow but sure use of the microscope. There had been no dropsy, more than the ordinary œdema in pregnant women; no unusual degree of *malaise*, no vomiting, no sopor; a little pain in the loins, and a little frequency of micturition, but not more than usual towards the close of gestation. Yet this woman is suddenly taken with vertigo and blindness; has an epileptic fit; passes albuminous urine, and probably has passed it for months; and her autopsy shows an extensive and fatal amount of renal degeneration, which would never have been suspected but for the microscope, and which was not appreciated as it ought to have been, in consequence of the difficulty in obtaining urine for examination.

The case does not seem to elucidate the question of treatment much. Indeed, in the essence of the case, palliation was all that was possible; but it does seem to teach a very important practical lesson; namely, how important it is to differentiate cases of puerperal eclampsia; to find out the meaning of the albuminuria; and, in fatal cases, to ascertain, by inspection, the kind and degree and stage of kidney disease. Having done this, we place our cases on a basis which has something of the certainty of science, and we are in a position to be able—by comparing appearances during life and after death; by contrasting plans of treatment in similar cases and by distinguishing cases which are of necessity irremediable—to arrive at sure and logical deductions as to general treatment. I conceive that a given series of cases, where albuminuria has been simply noted, and no microscopical or *post mortem* details are given, is absolutely useless as proving the utility of a given plan of treatment. For instance, take bloodletting. Most persons would grant that if albuminuria is merely a result of congestion, and if it is not expedient to remove the cause of this (by delivery), bleeding would be an appropriate and logical remedy; but if, on the other hand, albuminuria is an indication of serious degenerative mischief, is this then so logical a remedy? For my own part, had I detected earlier the nature of the case, I should have been more sparing of the lancet. Again, supposing this case put into a series (reported in that loose way and without *post mortem* examination which we too often see) illustrative of the effects of a particular plan of treatment, say bleeding in puerperal convulsions, it would tell statistically against that plan, and most unfairly so, because it was a case the result of which could not have been altered by any remedial measures. It is probably not common for albuminuria in puerperal eclampsia to mean degeneration of kidney structures; but this one case proves that this may be its meaning; and I fear we must admit that, if the degree of degeneration is excessive, whatever plan we adopt—whether we are of the Todd school, whose theories are said by some to exert so baneful an influence, and whose *bête noir* is said (unjustly) to be bleeding; or whether we are of

that other school, whose antiquity at least makes it respectable—whether we bleed or whether we forbear—our result must be the same.

NOTES ON CROUP.

By W. H. DAY, M.D., L.R.C.P.Lond., Newmarket.

CASE I. Recovery. H. H., aged 8 years, with light hair and eyes, was first seen by me on the night of the 30th of March, 1861, at 10 o'clock p.m. According to the parents' account, he had a bad affection of the chest two years previously, from which he made a poor recovery. Any exposure to damp weather always brought on cough and cold. He was in his usual health till 4 o'clock on the day named, when he came in from his play complaining of an uncomfortable feeling in his throat. I found the boy sitting on his mother's knee, having an anxious and terror-stricken countenance, with characteristic breathing, and a barking, ringing cough. The inspiratory effort was long and difficult, and the pommel Adams rose and fell with respiration; the lips were dusky; the eyes swollen and bloodshot; and the alæ nasi active. The skin was hot and dry; and the pulse small, hard, and rapid. He repeatedly put his hand to his throat, and, in a deep hoarse voice, said he could not fetch his breath. The respiratory murmur was much diminished throughout the chest, and a loud sonorous *râle* attended it. No moist sounds were heard, and the child did not expectorate. He was put into a bed surrounded at the top and sides by curtains; and two pans of boiling water, into which heated bricks had been thrown, so as to generate a large quantity of steam, and literally to give the patient a vapour-bath, were included within the curtains. Similar pans were also scattered about the room, as there was no fireplace.* A mustard emetic was given, and a mustard poultice applied to the throat. A messenger was despatched for a mixture containing four grains of tartar emetic in an ounce and a half of water, one teaspoonful of which he was to take in a little water every ten minutes till free vomiting set in.

3 A.M. After two doses of the medicine he was excessively sick, and his breathing much improved. He had coughed up some shreds of false membrane and glairy mucus. The bowels had copiously responded to four grains of calomel given at 1 o'clock a.m. The skin was sweating, and the face was much more calm, and the pulse softer. He was very thirsty. He was ordered to be allowed to drink milk and water *ad libitum*. The antimony mixture was to be resorted to only in the event of a recurrence of difficult breathing.

6 A.M. The cough was still characteristic; and, once or twice since last report, the difficulty in breathing had returned; but a dose of the mixture excited vomiting. He threw up a long shred of false membrane, which afforded immediate relief. He was ordered to have strong beef-tea, and the vapour to be unceasingly kept up.

March 31st. He was doing well. He vomited occasionally, when he brought up "thick stuff," which clung to his mouth. He had had no medicine since last report.

April 1st. He was better. He had not expectorated to-day, and said he breathed much more easily. The tongue was clean, and the cough was less and looser; pulse 120. Sonorous and mucous *râles* were heard in the chest. The bowels were active. He was ordered to take two grains of calomel and six of jalap directly; and to have one tablespoonful of the following mixture every four hours.

℞ Vinii ipecacuan. ʒij; tincturæ hyoscyami ʒj; oxy-mellis scillæ ʒij; aquæ ad ʒvj. M.

* This admirable plan I first saw adopted by Dr. Wm. Budd of Clifton. Vide *Medical Times and Gazette*, June 19th, 1862.

On the 3rd, his pulse had fallen to 100 per minute, and he breathed and expectorated freely. On the 15th, whooping-cough set in, with a good deal of expectoration. On the 25th, he had much improved; but the congestion of the lungs, which had increased on the 15th, necessitated his keeping in the house for some weeks.

CASE II. Death on the Fourth Day. A. R., aged 4 years, a fair and healthy-looking child, though very nervous and excitable, was seized with cough, hoarse voice, and dyspnoea, on the night of the 21st of February, 1862. He lived in a well ventilated cottage, and in a dry situation. The next day his mother requested me to see him. At my visit, he was reported to be better than he had been. His face was flushed, and there was great alarm in his manner and expression; the skin was hot and perspiring, and the pulse 120 per minute. The inspiratory effort was prolonged, and performed with some difficulty. In the chest, there were sonorous *râles*; and the air entered the lungs more sparingly than in health. Febrile excitement was well marked. He was put to bed; and a vapour-bath was constructed in the way just described. One-sixth of a grain of tartarised antimony, in a tablespoonful of water, was ordered to be given at once, and repeated every quarter of an hour till vomiting set in. He was sick after the first dose, and breathed easier. He continued calm through the day, having a brassy, distinctive cough. He was thirsty, and swallowed well, but refused all food. A mustard poultice was applied to the throat in the evening, and his mother was urged to get down beef-tea and milk and water. The mixture was to be given only in the event of the breathing getting worse. His bowels were well relieved after the vomiting.

February 23rd, 9 A.M. A messenger came to say that they supposed he was better, as he made no noise in breathing. I therefore deferred my visit till 2 o'clock, when I found him breathing much more croupal; his cough being more frequent and ringing, and his respiration laborious and painful. There was great activity about the larynx, and the carotids beat strongly. A mustard poultice was applied to the throat, and one grain of calomel given every four hours. He had been very sick during the night.

8 P.M. He was sleeping soundly, but made a great noise at every inspiration. The cough was frequent, brassy, and choking; pulse 140. There was slight stringy expectoration. The skin not being red from the mustard poultice, another was applied. He was ordered to take the mixture until he was again sick.

11 P.M. The breathing had much improved since the vomiting. The bowels being sluggish, three grains of calomel were given; which not having the desired effect, an enema of gruel with beef-tea was used. Nourishment was ordered to be given at short intervals.

February 24th. Since 4 A.M. he had become worse; the pulse was 160 per minute, very small and weak; the crowing and hissing sound in respiration were increased. There were great pallor of the face and lividity of the lips.

8 P.M. He had varied through the day, one hour improving, and the next becoming worse. The cough was very brassy and incessant, but nothing was dislodged. The countenance betrayed the most painful anxiety; pulse 120, feeble; respiration 48 per minute. He was constantly turning about, and threw his head back towards the spine, as if in dread of impending suffocation. There were no moist sounds in the chest. He became gradually worse, and died at 12.30 P.M., having drunk a large cup of milk half an hour previously.

POST MORTEM EXAMINATION, twelve hours after death. On opening the larynx and trachea, three long and narrow pieces of lymph, one upwards of two inches in length, and the other nearly as long, were found between the lower border of the cricoid cartilage and the last rings of the trachea. Near the upper border of the