positively injurious. Any doubt previously existing on this point must have been removed by the observations of Dr. Waters, recently communicated to the Medico-Chirurgical Society. Dashing cold water on the chest, slapping the back or nates with the hand, or making circular friction with the tips of the fingers on the epigastrium, are all useful modes of treatment, and the last named I have rarely found to fail if the action of the heart had not altogether ceased. Dr. Marshall Hall's "Ready Method" has been highly extolled by some writers, but, should the treatment already recommended have failed, I should trust rather to direct imitation of the function of respiration by alternate inflation of the lungs by the mouth, and expulsion of the air by pressure on the chest and abdomen.

The early division and tying of the funis in still-born children has already been advised by writers of deserved celebrity, but by none, I believe, for the reasons assigned in this paper. Thus the late M. Moreau advocated it on the ground that the child, continuing to give out blood by the umbilical arteries, became gradually more anæmic and weaker. It seems to have escaped even him, that the beating of the cord is no proof that the blood is flowing through it. Dr. Richard King, in his very ingenious essay *On the Preservation of Infants in Delivery*, recommends the early tying of the cord, for a reason similar to that given by M. Moreau. He believes that after the birth of the child a drain of blood still goes on into the relaxed and uncompressed placenta, which in consequence becomes congested. And yet Dr. King came very near to the discovery of the fact which I have pointed out, viz., that pulsation of the cord is no proof of continuance of the circulation through it, for, at page 30, he says, "pressure on the umbilical cord will not for a considerable time, stop its pulsation. I have long been in the habit of calling attention to the pulsation in the piece of umbilical cord attached to the infant, while sitting in the nurse's lap, and therefore not only compressed but tied with tape and cut asunder."

Dr. King rightly describes the condition of still-born children who have not to some extent respired in the act of birth, as one of syncope, but his error consists, I conceive, in attributing the partial suspension of the heart's action to loss of blood, rather than to the causes assigned in this paper. The cases to which he refers (p. 58) of "deaths from drowning, where persons have fainted at the moment of submersion, in whom the face is pale and bloodless, and the features sunk and contracted," should have reminded him that an exsanguine appearance may exist without the previous loss of one drop of blood. As has already been shown, the ordinary signs of death by what is called asphyxia, being consequent on the suspension of respiration, can never be manifested in a being, in whom that function has never been commenced. I may add that my experience has led me utterly to disbelieve in Dr. King's theory of bleeding into the placenta, as evinced by congestion of that organ. In many hundreds of cases attended during the last five-and-twenty years, I have, after cutting the funis, left the extremity of the placental portion untied, and allowed it to bleed into the utensil provided for the reception of the after-birth, but I cannot remember an instance in which an ounce of blood so escaped. Were the congestion so great as imagined by Dr. King, bleeding, at least passive, to a much greater extent, would, in cases of still-birth surely have occurred.

In what has now been said, I am aware that I have advanced many opinions which are debateable, and some, perhaps, which will be thought positively erroneous. Where the latter has been the case, I shall be thankful to be set right, and shall be satisfied with having attracted the attention of my brother obstetricians to a field of research, hitherto, in this country, too little cultivated. I conclude with a brief recapitulation.

I maintain then:—

1. That the effect of even the earlier labour-pains is to close the ultimate ramifications of the uterine arteries, but that this closure is temporary only, and ends with the termination of each pain.

2. That, during the pains, the blood contained in the sinuses of the maternal placenta, not being renewed by fresh supplies of arterial blood from the curling arteries, cannot effect the needful changes in the fœtal blood in the placental tufts.

3. That the blood contained in the tufts, remaining venous, stagnates in their capillaries, and that the umbilical circulation is thus arrested.

4. That as a consequence of this arrest, the aorta of the fœtus and the ventricles of its heart become congested, and at the same time the brain ceases to be supplied with arterialised blood.

5. That, consequently, the rate of pulsation of the fœtal heart sinks nearly to half its normal frequency.

6. That, if these periods of lowered force of the fœtal circulation occur too frequently, as in tedious labour, or too closely together, as in very hurried parturition, the child may be born almost or altogether inanimate.

7. That the effects of the suspension of the breathing function of the placenta are intensified by pressure on the funis, or on the head or thorax of the fœtus.

8. That where there is not some mechanical obstruction to respiration, such as tenacious mucus in the fauces, or the membranes over the face, the efficient cause of still-birth is an excessive degree of a condition which at birth always prevails normally, viz., congestion of the fœtal heart, which is to be relieved, first, by bleeding from the cord, and, secondly, by exciting respiration.

9. That the difference between the syncopal and apoplectic forms of still-birth, is that in the latter there have been imperfect acts of respiration which, by closing the foramen ovale, have caused general venous congestion.

Since I read the above paper, my attention has been called by my friend Dr. Samelson to a work by Dr. Hermann Schwartz, of which a very elaborate analytical review is given in the 13th volume of the *Monatsschrift für Geburtskunde*, pp. 304 *et seq.* Treating on the state of the fœtus during parturition, Dr. Schwartz remarks, "an erroneous opinion has prevailed up to the latest period that after the birth of the child the placental circulation continues so long as the cord is felt to pulsate. But the contraction of the uterus which expels the child from the vagina must, to the uttermost, restrict the supply of arterial blood to the placenta, and either altogether detach it or close any of its vessels which still remain pervious." I need scarcely remark how closely these opinions agree with those which I have advanced. In respect of treatment also in cases of still-birth, I am happy to find an agreement. Dr. Schwartz says: "before tying the navel-string, it is useful to let it bleed a little."

CASE OF SUPPOSED HYDROPHOBIA.

By Henry Porter, M.D., F.G.S., Peterborough.

James Howlett, aged 58, a game-keeper and dog-breaker, called at my surgery on the evening of May 31st, complaining of an aching pain in his body and limbs, with inability to open his mouth, which symptoms he attributed to getting wet through and catching cold while in a state of drunkenness. Before leaving my surgery, however, I learnt that he had been bitten by a dog on the wrist four days previously, and he wished to know if that had been the cause of his lock-jaw.

I prescribed for him a draught, containing a grain of morphia, to be taken immediately; and a second one, to be taken six hours afterwards, if he did not sleep. I told him not to fear the bite of the dog, but to call on me the following morning. When he had left my surgery, I took the opportunity of calling on a man who

knew him, and expressing my apprehension as to the nature of his case.

On the following morning (June 1st), he called on me, accompanied by his friend. He had taken both doses of morphia, and had passed a comfortable night's sleep; he said the pain in his body and limbs was relieved, but that he could not open his mouth sufficient to admit his little finger, and that he had a constant inclination to sneeze, although unable to do so.

Four days previously, while in a state of drunkenness, he was pulling about and teasing a black retriever dog, which bit him on the wrist of the left hand, from which the thumb had been amputated twenty years previously. The wound inflicted by the bite was the size of a small barleycorn, apparently quite superficial, having no signs of inflammation about it, and no pain attached to it. He showed considerable signs of nervous anxiety, and expressed his apprehension that the bite of the dog would cause his death; or, as he expressed it, "would send him up the orchard." His pulse was 110, weak and compressible; and he complained of thirst. I ordered him a saline mixture, with fifteen minims of chloric ether to each dose, and told him to keep in bed.

Three hours afterwards, I visited him; and on giving him a teaspoonful of liquid, which he swallowed hastily and with great difficulty, I found it produced violent and distressing spasms, as he had predicted; and, although with considerable effort he was able to open his mouth to the extent of half an inch, the jaw immediately closed with a snap, and became rigid. His pulse was now 140, full, but easily compressed; and he complained of slight pain and tightness across the epigastrium. I allowed him to have a glass of porter, which he greatly desired, and ordered as much beef-tea and milk to be administered to him as he could swallow.

In the evening, he appeared more calm and composed. The trismus continued the same; and there was slight tetanic rigidity of the muscles of the neck. He had taken about half a pint of beef-tea, half a pint of milk, and a glass of porter. The splashing of water before him produced no spasm; and he could even dabble his hands in water without experiencing any uneasiness.

Throughout the following day (June 2nd), the symptoms continued precisely the same; and he took a fair amount of nourishment, but with extreme difficulty. I saw him for the last time at 9 o'clock at night, when he could open his jaw to the extent of half an inch, and continue to keep it open without assistance; but, on attempting to swallow, the spasm was more violent than I had before witnessed; his countenance looked wild and expressive of horror; and he said he felt convinced he should soon die, but was quite quiet in his manner, and perfectly sensible. His pulse had fallen to 70, and was very weak and small.

I ordered him to have small quantities of beef-tea frequently given to him, unless he felt inclined to sleep. From 11 o'clock that night until 5 o'clock the following morning, he slept comparatively calm, when he awoke apparently refreshed, could open his mouth wider, and speak plainer, but could not be persuaded to attempt to swallow anything; about an hour afterwards, he heaved two or three deep sighs, and expired calmly and without spasm.

Remarks. Although I am inclined to believe that this was a case of hydrophobia, I am struck with the apparent mildness of the symptoms throughout, in comparison with other cases of which I have read and heard. The point, however, which I wish particularly to bring under notice is, that the dog was perfectly healthy when he inflicted the wound, and has continued to be so up to the present time: a circumstance in connection with hydrophobia which, I believe, is not generally admitted, although it tends to confirm my previous opinion, that it is possible for this malady to supervene on the bite of a dog, even though he be perfectly free from rabies, especially if the wound is inflicted at a time when the animal has been excited to anger. I am also inclined to think that the bite, being contingent to the cicatrix of the amputated thumb, may have acted as a predisposing cause in producing the disease. I may mention, that I could not learn that he had ever been bitten by a dog before; and although the disease set in so shortly after the infliction of the wound, which is at variance with previously recorded cases, still the *primâ facie* evidence is such, as must, in my opinion, lead to the conclusion, that the wound inflicted by the dog was the sole and only cause of the symptoms and death; but whether the case be looked upon as one of pure "rabies canina", or simply as one of tetanus, I will leave to the judgment of others.

PERFORATING ULCER OF THE THROAT.

By Thomas Williams, M.D., F.R.S., Physician to the Swansea Infirmary.

Twenty of these cases have fallen under my notice during the last twelve years. Fourteen occurred in adults, and six in young people below fifteen. These and others are pretty equally distributed as regards sex. In the majority (in fifteen out of the twenty), it could be proved that venereal disease in some of its forms had preceded the attack; in one the point was doubtful; in four (one in the younger patients, and three in the grown up) it was certain that no syphilitic disease had ever been contracted.

To these cases no reference is made in standard works on medicine and surgery. Dr. Gibb, in his book on the throat, scarcely alludes to the subject. Dr. Risdon Bennett, in an excellent lecture (*Medical Times and Gazette*, Jan. 11, 1862), relates a case which presents some points of analogy to those which will be related in this paper. They are by no means of infrequent occurrence. It is common, in moving through society, to meet with persons in no small number who seem to have undergone this form of disease. The voice is nasal, and the cough has a cracked, coarse sound. Previously to any discussion as to the causes and nature of these cases, it may be expedient to relate a few examples.

Case I. In 1849, a gentleman, aged 30, who had "once had chancres", became the subject of redness of the soft palate. Little pain was felt. In forty-eight hours an ulcer appeared at the root of the uvula. The nitrate of silver was freely applied, and chlorate of potash was given. In two or three days the uvula had been completely cut through at the base, and a rent had been made in the velum, and the voice had become quite nasal. He now went to London, and was treated by a distinguished hospital surgeon. The ulceration was arrested, the surfaces healed; but the voice never regained its natural tone. [For the particulars of the above case I am indebted to a medical friend.]

Case II. Shortly after the above instance, a clergyman called upon me, complaining of his throat. The soft palate was red, slightly painful; the tonsils were not swelled; he never had contracted any form of venereal disease. A purge was prescribed. In four days, when he came again, it was at once evident that the soft palate, during his absence, had been completely perforated; the handle of the pen could be pushed up through the orifice as high as the roof of the pharynx. The sides of the perforation were touched with pure nitric acid; chlorate of potash, and the iodide of potassium in small doses, were ordered. In a few days after, the "hole" had acquired the dimensions of a sixpenny piece; the ulceration ceased, and the parts healed. Ever since, the voice has remained very distinctly nasal in quality; which is removed only by plugging up the "hole" by some soft substance.

Case III. In 1853, a man, aged 25, who had been for