been particularly lively all the day, had taken her usual exercise in the baby-jumper, and was put into her bed, in the evening, apparently in good health. When the nurse went to bed she appeared restless, and crawled into the nurse's bed from her own, which was close beside it. At five o'clock in the morning she sat up in bed, and ate a finger-biscuit. At half-past five she uttered a peculiar cry, for which some Dalby's carminative was given, without relief. The child shivered slightly. At six o'clock she was put into a warm bath, and had a dose of castor oil. At eight o'clock she took a basin of bread-and-milk. At ten o'clock she was violently sick, turned cold, and looked blue about the mouth, nose, and eyes. She was now put into a second warm bath, when she appeared to lose the entire use of her limbs, and her countenance became vacant. From this time she lay prostrate. When seen by the author, on the evening of the 18th of November, she was perfectly conscious, her head was cool, and the temperature of the surface generally natural, the pupils contracting under the influence of light; pulse moderately frequent, small, and languid; tongue slightly coated. The upper extremities were devoid of all power of motion or sensation, even from pinching or pricking with a pin; but the lower extremities were drawn up on her feet being tickled. Nothing unnatural was detected in the course of the spinal column, or any other part. Two leeches had been applied behind the ears; a blister was put between the shoulders; aperients and a saline mixture, with ammonia, were given. During the five weeks that the child lived, no change took place in the paralytic symptoms, and she remained perfectly conscious to within a few hours of her death. She was much weakened by diarrhoea, which set in on the 9th of December, and from that time she became emaciated, and was restless and feverish, while the lateral incisors came through the gums. During the five weeks she cut six teeth. The body was examined twenty-four hours after death. The dura mater, as well as a portion of the brain, was torn in opening the head; and about an ounce and a half of sanguineous fluid escaped. The vessels on the surface of the brain were somewhat fuller than natural; the cerebrum itself healthy; the cerebellum and medulla oblongata, as well as the nerves at the base, were particularly firm. The medulla spinalis was equally firm, its investing membrane tough, and vessels tinged. There was no fluid in the ventricles of the brain, and no lesion was discovered either in the brain or in the spinal cord. The viscera of the thorax and abdomen were generally healthy in appearance. The author remarks, that paralysis, coming on suddenly, not preceded or accompanied by any apparent disease of the brain, is by no means uncommon in children between the first and tenth year. In all cases, he believes, the predisposing cause is the process of dentition. The exciting cause has, in the majority of cases, appeared to be some derangement of the digestive organs. But in the case now related, which is peculiar, from the sense of feeling, as well as the power of motion, being lost, he believes the exciting cause was the succession of shocks received by the spinal cord through the use of the baby-jumper. He adduces some arguments and quotations from authors in support of his opinion; and in an appendix gives a brief account of four other cases of paralysis in children.

Dr. M. HALL said he had been as deeply interested in listening to the details which had just been read to the Society, as he was to the case of Mr. Dunn, read at the last meeting, and which, if he might make a suggestion, he would advise to be published, divested of its commentary. The author had evidently felt all the difficulty, as well as all the importance, of an accurate diagnosis in cases of paralysis; and the question had for many years been an object of special investigation with himself. He would endeavour very briefly to state to the Society some of the conclusions at which he had been enabled to arrive. In the first place, paralysis had been for ages aptly distinguished from hemiplegia and paraplegia, the former being, generally, not always, *cerebral* in its origin, the latter *spinal*. But besides hemiplegia and paraplegia, there are cases of partial paralysis, arising from affection of the nerve of the part itself—an affection most frequently seen in the face; so that we have cerebral, spinal, and what might be termed neural paralysis. But all cases of *partial* paralysis are not affections of this nerve merely; for we may have partial hemiplegia, hemiplegia *limited* to the eyelid, to the face, to the arm, to the leg, &c. We may also, he believed, have partial paraplegia, or paraplegia *limited* to an arm or leg; though of this he was not so certain. This remark led him to the case before the Society—a case of paralysis of the two arms, and, as he understood, of the two arms only, the legs being unaffected. What could its nature

have been? It is almost impossible to imagine disease of the spinal marrow so situated as to induce paraplegia of both superior extremities, without involving in its effects the parts situated below. Paralysis of one arm, like paralysis of one leg, might arise from disease of the vertebra, so situated as to involve the immediately adjacent portion of the spinal marrow, or the origin, roots, or trunk of the brachial nerve. But how such disease could affect both brachial nerves, without involving the intervening substance of the spinal marrow, and so inducing paraplegia of the inferior extremities, it is difficult to imagine. He concluded, therefore, that Dr. Davies's case could not arise from disease of the vertebra, or it could not be one of half-paraplegia, using this term in its ordinary acceptance. What, then, was its intimate nature? There are two cases, one of which the given case may have been: the first is effusion at the base of the brain, slowly encroaching on the spinal canal, and compressing the roots of each brachial plexus. But this case is slow in its accession, and the case before us was more or less sudden. The second is of a totally different character. Sudden attacks of paralysis, of an arm, of a leg, or of both arm and leg of the same side, in children, are not very uncommon. They are generally preceded or accompanied by spasmodic or convulsive affection. He thought they were to be traced to dental, gastric, or intestinal irritation, acting, in a reflex manner, on the muscular system, and especially on the muscles of the neck, whence the veins of this region became compressed, and the nervous centres congested with blood, and there were coma and general convulsion. If such a state of things may occasionally leave one arm paralyzed, it seems not difficult to imagine that in rare cases both arms may suffer the same loss of power. Both arms are frequently convulsed; why should they not be equally paralyzed? yet, he repeated, this is rare. Before he concluded these remarks, he said he felt compelled to revert, in a few words, to the observations which fell from a Fellow of this Society (Mr. Streeter) at their last meeting. Mr. Streeter animadverted on an experiment of M. Flourens, and on that gentleman's experiments on the nervous system, or centres generally, in terms, in his idea, neither just nor respectful. [See THE LANCET, p. 361.] It was not necessary, he believed, for him to defend his absent friend. But this he would say: no day of his life passed without his feeling most keenly how much he owed to the secretary of the Institute. His career of investigation in the nervous system, both of its physiology and its pathology, had been greatly promoted by the labours of M. Flourens, many of whose experiments he had had occasion to verify and confirm, and the whole series of which he believed to be amongst the most logical and important in physiology, and to present a model of investigation in that science. M. Flourens is a most honourable person, a most conscientious experimenter, and a most accurate observer; and a more beautiful and valuable work than his "Researches" did not, in his firm opinion, exist in the science of medicine.

Here Dr. M. Hall was interrupted by the President.

Dr. M. HALL added that the interruption was, he doubted not, perfectly proper; but that the remarks of a former evening, on which he had commented, should have been interrupted in like manner.

The PRESIDENT observed, that he was not aware of having allowed any improper observations to be made on that occasion.

Mr. STREETER said, that Dr. Hall had misapprehended the remarks he had made at the last meeting; he had said no one word disparaging to the character of M. Flourens. He had called into question the accuracy and value of the deductions which M. Flourens had drawn from his experiments. He (Mr. Streeter) had yet to learn that any man was above criticism in that Society, and protested against such an assumption.

Dr. HALL said, that no one in that Society could hear Mr. Streeter's explanation with greater satisfaction than himself.

Dr. HALL has forwarded to us the following note, which we here insert, to make the subject complete.

NOTE BY DR. MARSHALL HALL.
To the Editor of THE LANCET.

SIR,—I shall be obliged to you if you will append the following note to your account of the discussion at the Medico-Chirurgical Society on the 27th.

When interrupted by the President, I was about to add these observations:—First, I should have quoted the following extract from Mr. Streeter's remarks—"Read the biography of that wonderful hen, from which M. Flourens removed the cerebral hemispheres, and watched daily for ten long months,"

&c. Secondly, I intended to add a few remarks on those forms of paralysis attended and unattended with *pain* or *spasm*, applying the results of M. Flourens' admirable experiments, and some of my own. Thirdly, In order to remove an objection to experiment, which every humane person must have felt, I intended to suggest the inhalation of ether and chloroform, which having proved so great a boon to the surgeon and the subject of surgical operation, might prove also a boon to the physiologist, in all or most experimental investigations, except those which relate to the question of sensibility itself.—I am, Sir, yours, &c.

London, March 31, 1849.

MARSHALL HALL.

CASES OF PERFORATION AND OTHER LESIONS OF THE STOMACH, OCCURRING IN CONNEXION WITH DIABETES MELLITUS; WITH OBSERVATIONS ON THE GASTRIC ORIGIN OF THAT DISEASE. By WILLIAM MACINTYRE, M.D., Physician to the Western General Dispensary, Lisson-Grove.

The author commences his paper with some general introductory remarks on the unsatisfactory results of anatomical researches in diabetes, which have hitherto thrown so little light on the nature of this obscure affection, that a theory founded almost solely on a consideration of the phenomena observed during life, in which the assimilating processes are supposed to be impaired or perverted, has, from the earliest times, received very general assent. Adopting this view of its proximate cause, he then proceeds to relate three fatal examples of the disease which fell under his own immediate observation, and in which post-mortem appearances were met with in the stomach, strongly significant of that organ having been, at some period, subjected to a special morbid action. The first case was that of an adult male, in whom the disease was not recognised till about a year before the author was consulted. The symptoms were highly characteristic. Death took place under a state of obstinate constipation. On a post-mortem inspection, among other lesions, the left upper lobe of the lungs was found broken down in its centre into a softened purulent mass, more like the disorganization from unhealthy inflammation, than a tubercular vomica. The stomach was greatly dilated, and its walls very thin; its cardiac extremity presented a dark appearance, and its lining membrane was softened. The bloodvessels of this viscus were unusually large and turgid. The kidneys were much enlarged, and double their ordinary weight. The right freely admitted a wax injection; the left exhibited, under the microscope, the natural structure. The subject of the second case was also an adult male. He had been getting thin and weak for some months before he was seen by the author, and died, labouring under an extensive aphthous affection of the mouth and fauces, accompanied with symptoms of intense irritation of the stomach, pain at the epigastrium, eager craving for cold drinks, and incessant vomiting. The real nature of the complaint was not detected till two days before death, when the urine was found to be profuse, limpid, of specific gravity 1038°, and strongly saccharine. On inspection, the organ presenting the principal lesions was the stomach, which was remarkably capacious, and on being lifted up for examination gave way posteriorly at its large curvature, allowing the escape of a dark-coloured fluid into the abdominal cavity. Its walls around the rent thus caused were very soft, and throughout the entire splenic division reduced to extreme tenuity, being in some places almost diaphanous. The subject of the third case was a little girl, only five years old, who had been for some weeks under treatment in the country, for what appeared to be remittent fever, and was brought to town for advice, when the urine was found to be very copious, of great density, the specific gravity ranging between 1040° and 1045°, and abounding with sugar. The constitutional symptoms corresponded with the character of the urine, and the child sank rapidly, and died exhausted. On dissection an unusual dryness of all the tissues was observed. The kidneys appeared to be perfectly sound. No tubercles could be discovered in the lungs, but a coffee-coloured fluid, to the amount of several ounces, occupied the lower part of the pleural sac. When this fluid was removed, the cavity of the chest was seen to communicate with the stomach by one large irregular hole in the walls of that viscus, and several smaller perforations in the diaphragm. The openings in both corresponded exactly, but without any adhesion between the opposed surfaces. The structures bordering on the perforation were black, ragged, and thin, and the parietes of the stomach, throughout its whole splenic division, partook more or less of this attenuation. The fluid removed from the chest was inodorous, and found to consist chiefly of blood, epithe-

lium, and textural detritus. After briefly remarking on the treatment of these cases, the author goes on to review the appearances found on dissection, dwelling principally on those observed in the stomach—viz., the extreme attenuation of the coats of the organ in all the cases, and the lacerations and perforation in two of them—conditions allying them to each other, and denoting, apparently, but different stages of a kindred disorganization. In considering the nature and import of these changes, the great question to be solved is, whether they are to be regarded as pathological lesions, or cadaveric changes. As respects the actual perforations in the last case, the author considers them to be post-mortem consequences. But though, under this view of their production, they might naturally be classed with the perforations or erosions which were attributed first by John Hunter to the digestive or solvent action of the gastric juice, he feels more disposed to rank them with those analogous changes which, since Hunter's time, have been noticed to occur in connexion with various diseases, some of decidedly gastric character, but the greater number not primarily referable to the stomach. The facts thus brought into notice add much to the interest of the subject, and, considering the force of various objections urged against the opinion of the great physiologist, would seem to lead us to take a modified view of the theory of solution, and regard the successive changes from softening to attenuation, and from attenuation to complete loss of substance, as the work, not of a gastric secretion in a normal and healthy state, but as the effects either of that fluid in an altered or vitiated state, or of other products secreted by, or generated in, the stomach, and endowed with corrosive properties which do not come into full play till after death, when the tissues are already enfeebled and wasted, and no longer defended by the vital forces. In diabetes, the sugar existing in the primæ viæ suggests a fertile source of products possessing most active qualities. Those which we are most acquainted with are the lactic and oxalic acids, both of them hostile to the constitution, the latter eminently so. It is admitted, however, that for the confirmation of these views and opinions, though they are entertained by high authorities, the evidence of demonstrative chemistry is still wanting. How far they are countenanced by the limited number of facts brought forward in the paper, the author leaves to be determined by future and more extended observations.

Mr. PRESCOTT HEWETT said that an observation had been made in the paper to the effect that he had never found complete perforation of the stomach after death. Now this was a mistake, as he had seen cases of the kind, and had put up the preparations of them, which were, at the present time, in the museum of St. George's Hospital. In one of these cases the perforation was through the diaphragm into the chest, and in one the opening communicated with the pericardium. He thought the mistake must have arisen from the question, whether he had ever seen solution of the stomach in connexion with diabetes.*

Dr. COPLAND believed it was now quite settled that diabetes was not a disease of the kidney; and he believed that that organ had nothing to do with the disease beyond eliminating the fluid from the blood. The disease was a disease of assimilation; was that error of assimilation primary or secondary? Diabetes was connected with disease of the liver or lungs in many instances; he had seen cases in which one or other of these organs had been diseased, and other cases in which both of them had been implicated. Now, were these lesions primary or secondary effects as regarded the diabetic disease? Were the changes noticed in the stomach in Dr. Macintyre's cases, those which occurred during life, or post-mortem? He, Dr. Copland, thought them post-mortem. Dr. Copland then mentioned some of the post-mortem changes which occur in the alimentary canal in connexion with diabetes, and concluded by referring to some cases of the complaint arrested by the use of ox-gall and kreosote.

Foreign Department.

Nature of the Blood Drawn and Disgorged by Leeches.

M. REVEIL has shown that the blood obtained from the capillaries is exactly similar in composition to the sanguineous fluid in the veins. In order to analyze the blood drawn by leeches, M. Reveil caused some of these annelidæ, which had

* This observation had reference to a statement in the paper respecting the conflicting evidence regarding the frequency of complete solution of the stomach. It is only necessary here to say, that owing to some mistake made in a communication by an eminent surgeon to Dr. Macintyre, this opinion was erroneously attributed to Mr. Hewett.—*REP. LANCET.*