she always turned it downwards towards the chin; and, when an effort was made to turn the tip upwards, she could not touch the skin of the upper lip at all. The tip, indeed, could only be very slightly directed upwards, so as to reach the mucous membrane of the upper lip.

The sense of hearing seemed altogether unchanged; she experienced no undue sensitiveness to noise, and no abnormal acuteness of hearing. The voice was slightly nasal in tone; the labial consonants *p* and *b* could not be pronounced; *o* and *a* seemed to be articulated fairly enough, but, of course, without movement of the lips.

She stated that for the first day or two, everything had had a saltish taste, but that this had passed off, and that there was now nothing particular in her sense of taste. She was tested, when blind-folded, with solutions of salt, sugar, quinine, tartaric acid, aloes, and other substances of a pronounced taste; and it was found that there was no diminution or perversion of taste; on the contrary, the perception of gustatory impressions seemed very prompt and decided, rather above the average in acuteness, and certainly was keener than in several of the students who assisted in the investigation.

On examination of the electro-muscular excitability, it was found that no muscular contractions could be produced by the induced current applied directly over the muscles, and used up to a strength which was smartly painful, and a good deal in excess of what caused vigorous contractions in the forearms and on the faces of some of the assistants. Nor could contractions be produced by exciting the nerve near its emergence at the stylo-mastoid foramen. With the voltaic current, however, it was quite different; the poles of a small battery, composed of four small pairs of Stöhrer's elements, excited smart contractions when the current was slowly interrupted. Excitation of the nerve by the voltaic current had no effect whatever.

The treatment consisted in galvanisation of the muscles, and subsequently in the employment of the induced current. Blancard's pills were also given. Voluntary power gradually returned; first to the side originally affected; afterwards, and more imperfectly, to that which had been last paralysed. Excitability under the induced current did not return till some time after a certain degree of voluntary power had been regained.

REMARKS.—This case seems to raise some questions of considerable importance in relation to the pathology of the facial nerve. The involvement of the palatine muscles is generally held to indicate distinctly that the nerve is affected as high up as its geniculation. Physiologists are pretty well agreed that the connection of the facial with the innervation of the palate is made by some motor fibres which pass from the geniculate ganglion through the great superficial petrosal to the spheno-palatine ganglion, although it seems somewhat doubtful what are the exact muscles which thus receive their motor supply. When the morbid condition of the nerve reaches a point so high as this, it is usually regarded as pretty certain that the sense of taste will be in some degree impaired or rendered less prompt, in consequence of the fibres of the chorda tympani in the facial trunk suffering as regards their power of conduction.

The relations of the chorda tympani to the sense of taste have been somewhat differently explained by physiologists. Claude Bernard supposed that the paralysis of the motor fibres in this nerve led to a deficient erection of the papillæ of the tongue, and so prevented proper contact between them and the sapid substances which might be applied to them. Schiff is of opinion, however, that gustatory fibres pass along the chorda tympani in a centripetal direction, reach the trunk of the facial, and thence pass probably by the great superficial petrosal nerve to the spheno-palatine ganglion, and ultimately to the superior maxillary division of the fifth nerve. So far as this case goes, it indicates that the sense of taste is not dependent in any appreciable degree on the integrity of the chorda tympani.

Next as to the sense of hearing: Roux was the first to direct attention to this, having noticed it in himself when suffering from facial paralysis; and it was afterwards made the subject of an elaborate paper by Landouzy. It has been said that an unusual susceptibility to noises, or an abnormal power of hearing musical notes, is present in a considerable number of cases of facial paralysis. This has been variously explained: by Brown-Séquard, as the result of hyperæsthesia of the auditory nerve from paralysis of its blood-vessels, causing hyperæmia; by Longet, by paralysis of the tensor tympani, which he supposes to be supplied by a branch from the facial, allowing the membrane to enter into undue and excessive vibrations; and, more recently, by Lucae and Hitzig, who refer the phenomenon to paralysis of the stapedius muscle, and resulting overaction of the tensor tympani. Now, not only was this symptom absent as far as regards undue sensibility to loud noises in this case, but it was also absent in every case of facial paralysis that I have seen for many years; and I have carefully examined a number of cases with special reference to this question. The singular kind of suscepti-

bility to electrical excitation by the voltaic current when the induced has no effect was first pointed out by Halli and Baierlacher, and has been called by Erb, rather unhappily, the "reaction of degeneration". It coincides in point of time with, and is probably caused by, incipient changes in the muscle. Neumann has suggested that muscles which have undergone a certain degree of pathological change lose the power of reacting to currents of very short duration, while they react more intensely to currents of longer duration. Even a strong voltaic current will not, he says, cause a reaction if its duration be only momentary. It was very remarkable how, as improvement took place, this exaggerated sensibility to the voltaic current gradually diminished; and how, even after a certain degree of power of voluntary motion had been attained, no contractions could be induced by a pretty strong electro-magnetic machine.

Finally, a point of the highest practical importance, as indicating the line which should be followed in dealing with affections of this nature, is the determination of the nature of the morbid process in such cases. Is it merely functional disturbance, or congestion, or of the nature of inflammation? The way in which the effect of a peripheral morbid impression ascends along the continuity of the nerve would seem to point to something of an inflammatory character; but we have as yet obtained no certain data from *post mortem* examination to enable us to do more than guess at this most important question.

TREATMENT OF PUERPERAL ECLAMPSIA BY CHLORAL.*

By HUGH W. THOMAS, M.R.C.S.Eng., L.S.A., Birmingham.

THE therapeutic value of chloral-hydrate as a hypnotic has long been recognised by numerous authorities both at home and abroad. Its value as an anæsthetic, more especially in puerperal eclampsia, is none the less evident. My experience of the drug, compared with other remedies in the treatment of this disease, has hitherto been very favourable, as will be shown in the brief notes below.

CASE I.—The patient was an anæmic multipara, aged 28, in her eighth month of pregnancy. She seemed to have enjoyed excellent health up to seven days preceding her confinement. Then the extremities became oedematous, and her urine diminished in quantity. When attacked, she was suddenly seized with a convulsion lasting about three minutes, followed by others of increased intensity at short intervals. Her medical attendant gave half-drachm doses of bromide of potassium every two hours without the least effect. When I first saw the patient (about seven hours from the commencement of attack), she was writhing under an intense paroxysm accompanied with all the other phenomena peculiar to the disorder. In fact, she was hardly free from a convulsion. Owing to the injured and swollen state of the tongue, it was impossible to give anything by the mouth. Thereupon, a dose of forty grains of chloral-hydrate was administered *per rectum* in thin gruel made with milk and the yolk of an egg. In less than five minutes, she became perfectly quiet. This was repeated at intervals of half-an-hour, and thus she was kept under perfect control until her delivery two hours later.

On examination, the os and cervix uteri were found to be two-thirds dilated and dilatable, the membranes were entire, and a vertex presenting. After gradual dilatation, the membranes were ruptured, Simpson's long forceps was applied, and the child (still-born) delivered without difficulty. The placenta gave no trouble, nor was there any *post partum* hæmorrhage. There being no return of the symptoms, the injections were now discontinued, when she fell into a sound sleep. About forty-eight hours after delivery, consciousness returned, the faculties being unimpaired, although the interim was a perfect blank. The uterine contractions were not in the least interfered with by the use of the remedy. Some catheterised urine was examined, and found to contain one-third of albumen. On the fourteenth day, the patient was out of bed, and in a month went into the country as well as usual.

CASE II.—The next case was one in which eclampsia occurred, on the third day following parturition, in a plethoric multiparous patient. Here the attacks came on at intervals of one and two hours. The dose of chloral ordered was half a drachm every three hours. Suffice it to say, there was no return of the symptoms after the first dose of medicine. She was up and about on the twelfth day.

In conclusion, I would offer a few remarks on the claims which chloral has upon us for its advantages over other remedies in the treatment of the disease under consideration. According to Professor Liebreich, it is a quick anæsthetic, non-excitant, leaves no bad after-

* Abstract from a paper read before the Midland Medical Society.

effects, and interferes but slightly with the cardiac nervous power. Its advantage over chloroform must, therefore, be at once apparent; for, not only is it a quick anæsthetic, and is followed by no bad effects, but it is easily administered. By repeated doses at regular intervals, my patients were kept perfectly under control. Again, its superiority over chloroform is evident when the practitioner happens to be single-handed, instances of which are of every-day occurrence in country practices, where surgeons are few and far between. The medical attendant would find it no easy task both to give chloroform and deliver his patient under such circumstances. Chloroform is also often followed by sickness, and, with the tongue in the condition which it usually is in eclampsia, would prevent anything that might come up into the throat from being got rid of, thereby favouring asphyxia. Not only can chloral be administered singly *per rectum*, but also in combination with nourishments, such as milk, eggs, etc.; thus saving the disturbance of the patient, as well as keeping up her vitality.

In the first case, bromide of potassium was administered, but with no good result, its action, in my opinion, being too slow in this formidable disease. Opium and its alkaloids have been advocated; but, where there is renal complication, they are injurious, and of necessity contraindicated. My first patient being anæmic, bloodletting would not have been admissible; whilst in the second case it was not required; though chloral was given in both with the happiest results.

RASHES ON THE TONGUE.

By PROSSER JAMES, M.D.,

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THE remarks made at the Pathological Society on a case of "Peculiar Circular Wandering Rash on the Tongue", as reported in the JOURNAL, deserve to be supplemented, inasmuch as no one of the speakers claims more than a casual acquaintance with the subject. Perhaps, in the individual case, its erratic course and rapidity of disappearance were more important diagnostic points than the uncertain result of the search for a fungus. I should not, however, think the case of much importance (it does not seem to me so rare or peculiar) but for the fact that few seem to have been familiar with such appearances. I do not regard them as rare on any portion of the mucous membrane of the mouth. Further, not only such cases, but a number of others, will only be understood by comparing them with similar pathological processes on the skin. In fact, as I have elsewhere pointed out, the connection between the diseases of the skin and mucous membranes is fully illustrated in the mouth and throat; and, although the tongue is perhaps less apt to take on certain forms of disease than the rest of the buccal surface, it is prone to be affected by other circumstances. Slight forms of catarrhal inflammation are common enough, but do not often necessitate medical advice, and hence they are scarcely studied. But ulceration of the tongue, lips, cheeks, pharynx, and nasal passages is more troublesome, and proceeds from various causes. The irritation of teething is credited by almost all practitioners with numerous infantile mouth-troubles. But the forms of stomatitis arising from this, and the direct influence of mechanical or chemical injury, are less likely to be misunderstood than those associated with similar processes on the skin. Thus, in the exanthemata, we may watch exactly similar processes going on simultaneously on the skin and mucous membrane; or, as in other cutaneous affections, we may see them spread from the outer surface to the mouth. The pustules of small-pox are sufficiently significant. The rash of measles spreads from one structure to the other. On the mucous membrane, the course of these eruptions is more rapid than on the skin. Erysipelas is another example. Herpes and pemphigus strikingly illustrate the same facts. In scarlatina, the condition of the tongue at an early stage is proverbial, and much relied on in diagnosis; but the disease of the throat is too deep to compare with more superficial affections. Besides these examples, scurvy, purpura, and other diseases may, as I have long taught,* be advantageously studied on both the cutaneous and mucous surfaces.

While writing on affections of the tongue, I may be allowed to add that I have met with a couple of cases of the black tongue described in the JOURNAL a few weeks since. Anyone on the look out for this affection should be particularly on his guard against the possibility of being deceived by stains caused by food, medicines, and other articles. Several cases have come before me in which stains from unexpected sources were only proved to be of this nature by the most patient and exhaustive investigation.

* *Sore-Throat: its Nature, Varieties, and Treatment; including the connection between Affections of the Throat and other Diseases.*

PRIMARY ETHER ANÆSTHESIA.

By CHARLES COPPINGER, L.R.C.S.I.,

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A REPORT was published in the American journals some months ago, by Dr. J. F. Weir, on the first insensibility produced by the inhalation of ether, in which he stated that primary anæsthesia, as it is commonly called in New York, had now become fully recognised in the practice of the hospitals in that city. I am not aware that this system of employing ether has received any trial in this country, and report the following case in order to call the attention of the readers of the BRITISH MEDICAL JOURNAL to what would seem to be an important addition to our methods of producing anæsthesia during operations of short duration, such as tooth-extraction, cauterisation of lupus, etc.

R. M., aged 44, an army pensioner suffering from urethral stricture and urinary fistulæ, was admitted to the hospital March 5th, 1879. Treatment of the stricture was commenced by the usual combination of the gradual and rapid system of dilatation, and continued until a No. 7 catheter could be passed into the bladder, and until one of the perineal fistulæ had closed. Some difficulty was now experienced in further dilating the stricture; which, as it was situated in front of the triangular ligament, did not include a large portion of the canal, and had been originally produced in a healthy man by an injury from the pommel of a saddle, we thought it a suitable case for a more active method of treatment.

The patient, who was a pallid nervous man, objected to anything in the shape of an operation without an anæsthetic. It was found that he suffered from a weak heart and a basic cardiac murmur, apparently due to his anæmia; and it was therefore decided to give a trial to the above-mentioned system of rendering the necessary procedure painless. He was accordingly placed in the recumbent position on the operating table, and Sir Henry Thompson's instrument for forcible dilatation passed into the urethra, until that portion of the apparatus, which includes the lever by which the dilating blades are separated, was situated opposite the stricture. Ether was now administered in the usual way, the patient having been first directed to hold his right hand upright in the air, while the elbow rested on the operation-table. After one minute had elapsed, the arm dropped; the ether-inhaler was at once removed, and the dilator quickly screwed out, until the strictured portion of the canal was larger than a No. 12 bougie. The instrument was then unscrewed and withdrawn, and a full-sized flexible catheter passed into the bladder. As might be expected, no after-sickness or other bad effect of the anæsthesia was complained of, but the patient assured us that he had been asleep, and had not suffered pain, adding that "he was surprised at having gone off so easily, as it took three-quarters of an hour on a former occasion to render him insensible". He was soon taught to use a catheter for himself, and in ten days left the hospital, the remaining fistula having closed.

About a fortnight after this patient's departure to the country, I was surprised to hear that he had died quite suddenly; and, from the circumstances of his death and the existence of the cardiac murmur noticed by us, we concluded that he had in all probability died of heart-disease. The case was one, therefore, as the sequel proved, in which the full administration of an anæsthetic would have been attended with special danger, and in which the use of ether or chloroform, after the ordinary method, might have added one to the sad list of fatal accidents occurring during the performance of comparatively trivial operations.

POISONING BY LINIMENTUM ACONITI: RECOVERY.

By CHARLES H. HILL, M.R.C.S.Eng., Barnsbury.

AT 11 o'clock P.M. on November 24th, I was hastily summoned to see a gentleman to whom a teaspoonful of linimentum aconiti (*B. P.*), diluted with nearly two ounces of water, had been administered by misadventure, in mistake for ordinary paregoric. The patient had some time previously been applying the liniment for torticollis, and had incautiously left the phial near a similar bottle of paregoric.

Upon my arrival, he was sitting up in bed calmly and in full possession of all his faculties, and told me the dose had been taken only about five minutes previously. He suffered no pain, and only experienced a tingling and burning in the mouth and fauces from the passage of the fluid. There was no gastric discomfort. His respiration was tranquil, but the lips and countenance appeared dusky. Pulse 96 and of good volume. There was no chilling of the surface. I immediately administered thirty grains of sulphate of zinc in half a pint of warm