as having been hysterical, equally with her analgesia, paraplegia, and maniaco-convulsive seizures.

[The above paper was written in October 1877. Since then, M. N. has again been under my care for about twelve months. During this time she has remained paraplegic; she has recovered the power of moving her legs to a slight extent as she lies in bed, but is still unable to walk, or even stand. She has suffered severely from symptoms like those of ulcer of the stomach: I believe, however, that these, like her other symptoms, have been hysterical. They have included extreme gastrodynia, continual vomiting and loathing of food, together with much emaciation and general weakness and prostration. She has had two or three of these attacks, each lasting for some weeks, separated one from another by intervals of apparently complete absence of stomach derangement, and recovery (excepting as regards her paraplegia) of perfect strength and health.—Feb. 1879.]

HYSTERO-EPILEPSY.

By THOMAS ANDERSON, M.B., Rosewell, Edinburgh.

M. H., AGED 18, had always enjoyed good health, although, a year ago, she broke her arm. She was first taken ill while at her work. She suddenly felt a pain in the left breast, which shot up to her head; then a rushing sound in her ears; everything became dark, and she fell. When she returned to consciousness, she found herself in bed. These attacks recurred regularly every half-hour until I saw her two days afterwards. At the time of my first visit, she lay in bed unconscious, and making regular and rhythmical movements with her arms and legs, and also with the muscles of the face; the eyes were squinting and turned upwards. My first impression was that what I saw was the clonic stage of an ordinary epileptic seizure. The temperature, however, was only 98.2 deg., and, on pressing downwards in the left iliac region, she became sensible immediately, and was smiling as if nothing had happened. On resuming the pressure in the same situation, she screamed and became unconscious again, the same clonic movements having also returned with all their original intensity. The pressure again restored her to sensibility. I instructed her mother how to proceed on the occurrence of another fit, and left. Next morning, I was sent for hurriedly, the report being that, on coming out of a fit, she was unable to speak. On visiting her, I found that this was the case; for, even when severely tested, she could not utter a syllable, although she protruded the tongue, and moved it in every direction in her efforts to articulate. In addition, there were loss of hearing on the left side, achromatopsia, and loss of smell and taste, anæsthesia of the left arm and leg, and contracture of the legs. I need scarcely recapitulate all the details of these symptoms, which were those usually noted in this disease. On applying several metals—zinc, iron, copper, silver, platinum, etc.—there was no effect produced; but, on placing a sovereign to the left temple, she gradually recovered the perception of colour in the reverse order (as I afterwards found) of its loss. The same metals were then applied to the legs, first to the left and then to the right; sensibility and the power of movement returned in twelve minutes. Again, on placing the sovereigns under the tongue, her speech returned in ten minutes; but *gasping* efforts to speak began in five minutes after the application of the gold, and these continued until she took a long inspiration and said, "There it is now". Her speech was lost again in half an hour, and each time the gold was applied it was observed that the time taken to recover the sense or faculty was longer. Chloride of gold and sodium were administered internally, and the fits became gradually less frequent and of shorter duration. Occasionally, after a seizure, there were anæsthesia and analgesia; and again, after the next fit, sensibility sometimes returned.

In two weeks after my first visit, the aphasia was still present; but she stated that she had been able to speak for short intervals, and, on the occurrence of a fit, she had lost the power again. I had the gold applied for two hours; it had no effect, and the patient made fruitless efforts to speak. I removed the coins, and applied the continuous current of a battery. In a few minutes, the aphasia disappeared, but not at once; for she had tried to speak several times for the sake of having the battery removed. After this date, electricity was applied whenever there was any loss of sensibility, and with the invariable result of restoring it in a few minutes. At this period, with the view of ascertaining what part, if any, electricity played in the action of the metal, I made some experiments with a delicate astatic galvanometer and Wheatstone's bridge, indicating 1 Ohm in 50,000, using a chromic acid battery. I found that the current given by the sovereigns was so small as scarcely to deflect the needle of the galvanometer. The "resistance" in this patient was very great, and the least amount measured was

142,000 Ohms, when the electrodes were placed over the radial artery at the wrist. Now, in a number of healthy persons, I have never found this resistance amount to more than 30,000 Ohms, which is very rare, and in most of them it never was more than 7,000 Ohms.

During the second month after the first accession of symptoms, the patient had only one fit, the catamenia (which had been absent for three months) returned, the anæsthesia, etc., disappeared altogether. It is now five months since she took any medicine, and during that period has enjoyed very good health.

In the recent number of *Brain*, Dr. Hughes Bennett states, in concluding his article on Metalloscopy and Metallotherapy, that "it must be admitted that the above observations tend to show that the beneficial changes resulting from the application of metals to the skin are due rather to the mental effects they produce than to any special virtues emanating from the metals themselves". Now, in the foregoing case, as in M. Charcot's, when the patient was in an unconscious state, pressure was exercised in the iliac region, what part had "expectant attention" or "mental emotion" in restoring her to consciousness? And how could a comparatively uneducated person knowingly give the colours in strictly mathematical order, when the perception of colour returned? In this, as in Dr. Bennett's and in some of Professor Charcot's cases, as I have stated, the patient did certainly occasionally recover the lost sensation without the application either of the metal or the galvanic current. At first sight, the action of the metal might be put down as an electric one; but, when the "resistance" was so great in this patient, how could such a weak current as that given by the gold affect her, and also, as M. Charcot says, why did the application of the other metals, which also give rise to electric currents, have no effect? I am more inclined to believe in the theory of a specific action of the selected metal, of the nature of which we have no knowledge. Although, in this case, the insertion of the needle into the anæsthetic parts was not followed by bleeding, yet, in the wards of La Salpêtrière, I have frequently seen slight hæmorrhage follow, and that, too, without reproducing sensibility.

In conclusion, I may state that all the symptoms in this case were noted, and the experiments performed, in the presence of competent medical witnesses.

GANGRENOUS CELLULITIS AROUND THE RECTUM.

By VINCENT JACKSON, M.R.C.S. Eng.,
Surgeon to the Wolverhampton and Staffordshire General Hospital.

ISCHIO-RECTAL gangrenous cellulitis is, in our experience, so rare a disease, that, as a contribution to the subject, I am desirous of supplementing the cases of Mr. Furneaux Jordan, by recording the only one I have seen.

On the evening of June 27th, 1878, I was requested to visit a gentleman who had just arrived from Windsor. I learnt that my patient, previously the proprietor of a large hotel, was engaged upon the turf, and regularly attended all the important race meetings throughout the kingdom. He was a large-made, full-blooded, and well-to-do looking man, never intemperate, but living upon the best eating of everything in season, drinking champagne and claret-cup, and now and then enjoying port wine and nuts.

The weather was intensely hot, and he had been much exposed to the sun's rays, which, producing a feeling of fatigue, had induced him to sit down on a very hard-bottomed chair, two days previously. At the time, he felt pain on the left side, between the ischial tuberosity and the anus; hardness soon followed the pain, both being accompanied with a feeling of great *malaise*. Upon examination, I found pyrexial symptoms well marked, a distressing one being intense frontal headache; the local trouble was shown me. I observed that the soft parts between the anus and the left tuber ischii were swollen; to the eye, the skin was shining, red in its centre, and to the feel it was tense and hard. The bowels had been, by medicine, freely relieved; the urine, which was not abundant, was loaded with pinky-brown lithates, but it was free from albumen and sugar. My advice, of having a free incision made into the brawny tissues, was not followed, although I carefully explained the good that it would do, and the dangerous harm that it might possibly prevent.

The next day, everything was worse. The patient had not slept; the pain, before great, was now torture. He said he was sure he was mortifying. The swelling and hardness had much extended; the red spot was now a black one, and its large areola was of a dusky red colour. As soon as it was possible, ether was given, and a large incision exposed a gangrenous mass of cellular tissue, and let loose an ichor of a most putrid but non-feculent odour.

The daily notes of the case it is unnecessary to report. Suffice it to say that he battled bravely for his life; that on five different occasions, for as many relapses, he took ether for the purpose of having incisions, neither short nor superficial, made in the neighbourhood of the first one; and that finally, six months after the commencement of his illness, he was well, the wounds having all healed, no fistula resulting.

REPORT ON THE ATTACK OF DIPHTHERIA IN THE GRAND DUCAL FAMILY OF HESSE-DARMSTADT.*

BY DR. EIGENBRODT,

Physician-in-Ordinary to the Grand Ducal Family, Darmstadt.

IV.—CLINICAL RECORD (*concluded*).

I HAVE to make some supplementary communications on the administration of benzoate of soda as a prophylactic.

Her Royal Highness, the late Grand Duchess, took this remedy from the 12th of November continuously for some time. She could, however, not bear more than one drachm a day on the average. Thus the drug was taken until November the 28th. From this day, an invincible aversion against the remedy set in, so that I was compelled to give it up, because the very weak appetite would have certainly disappeared altogether, if it had been further administered. Amongst at least fifty different persons to whom I have hitherto given this drug, this is the only case in which it had to be discontinued for this reason. In all other cases, it has always been well tolerated, and no disagreeable effect has ever arisen from the use of the medicine. The infection of the late Grand Duchess took place most likely on November 30th, on which day she communicated to her son Ernest, no witnesses being present, the death of his little sister Mary. The actual illness of the Grand Duchess began on December 7th.

Princess Ella, who alone escaped, of all the members of the Grand Ducal family, the infection, also took benzoate of soda as a prophylactic, from the 12th of November. Two scruples were administered from the 12th to the 15th inclusive; three drachms on the 16th, 18th, 20th, and 22nd; and four scruples on the intermediate days, and the latter dose on the next two days. From the 8th of December, again, the drug was given; three drachms on the 8th and 9th; four scruples from the 9th to the 15th; three drachms from the 16th to the 23rd; and four scruples from the 23rd to the 27th daily. The health was quite undisturbed during this time. I quote these daily details only for the purpose of showing what quantities might be administered continuously without any disadvantage. These experiences might fairly entitle us to prescribe much larger doses. According to Professor Klebs' experiments on animals,† indeed, much larger doses would be necessary, in order to produce a certain and positive effect.

I now pass over to the description of the second case, which began five and a half days after the first.

Princess Alice, aged six, awoke in the night of the 11th to the 12th of November, and complained of pain in her throat. I saw her at 3 a.m. On each of the tonsils, there was a yellowish-white diphtheritic membrane, about one *centimètre* in diameter, to be observed. At 8.30 a.m., the temperature was 102.2 deg.; on the evening of the same day, 103.2 deg.; on the 13th of November, at 6 o'clock a.m., 101 deg.; in the evening, 102.2 deg.; on the 14th of November, at 5.30 a.m., 100 deg.; in the evening, 99 deg.; on the 15th, in the evening, 99 deg.; on the 16th, at 11.30 a.m., 98.5 deg. There was repeating vomiting in the course of the first day of the disease. The membranes were extended, on the morning of the 13th, over the entire surface of both tonsils. Below the angle of the lower jaw, there was, on both sides, a swelling of the lymphatic glands, attaining the size of a walnut. On the 13th, the membranes had not made any progress, and a remarkable diminution was to be observed on the swellings of the lymphatics. Up to the 17th, the membranes were completely thrown off, and the tumefaction of the lymphatic glands had gone so far back that they only could be felt as tumours of the size of beans under the skin. On the 18th of November, the general health was so satisfactory, that, in the official bulletin (in the *Darmstadter Zeitung*), the patient could be reported as restored to health.

Princess Mary, aged four, fell ill on the 12th of November, at 11.30 a.m., with a strong chill and violent fever. The temperature was, at noon, 102.2 deg.; in the evening, 104 deg. On the 13th, vomiting several times ensued, and occurred also on the next day

several times. As, on the morning of the 13th, the temperature did not sink below 102.5 deg., the little patient was put on a water-cushion, which was filled with water of the temperature of 5 deg. This method of treatment was the more indicated because internal antifebrile remedies remained without any effect, owing to the repeating vomiting. At 4 o'clock p.m., the filling of the cushion was renewed. Nevertheless, the temperature, at 6 p.m., had risen to 103 deg., and was found equally high again at 9 o'clock. The filling of the cushion was, therefore, renewed. At midnight, the temperature had fallen to 101 deg., and at 6 o'clock a.m., to 100 deg., after which the water-cushion was removed. At 3 p.m., the temperature showed again 103 deg., which occasioned a renewed application of the water-cushion. Nevertheless, the temperature, on the morning of the 15th, did not sink below 101.8 deg., and reached, at noon, again the height of 102.5 deg., after which the cushion was filled again with water of 5 deg. The temperature, after this, remained at 102.2 deg. up to death, which occurred quite suddenly, at twenty minutes past midnight.

Already, on the morning of the 12th, at 9 o'clock, I had examined Princess Mary's pharynx, and had administered a carbolic spray as a prophylactic remedy. I then observed a spot on each of the tonsils, of the size of about half a *centimètre* in diameter, on which the mucous membrane was loosened. Besides these symmetrical spots, there was no change. At the time of the beginning of the first morbid symptoms, at 11.30 a.m. of the same day, both tonsils were already remarkably swollen and much congested. Soon, a strong cedematous swelling of the uvula was conjoined to these symptoms. Only two hours later, the first beginnings of the membranes showed themselves; at first, as yellowish transparent spots on the much tumefied parts. On the 13th, the membranes showed a discoloured ecchymotic appearance, and were extended over both tonsils and the uvula. On the 14th, also, the entire posterior wall of the pharynx was covered by them. On the 15th, the swelling was so considerable, that the uvula and tonsils touched each other directly, and the membranes had extended forwards over the soft palate. They had, on these parts, a yellowish lardaceous appearance, and were elevated a few *millimètres* above the level of the mucous membrane. On the tonsils, where the membranes had been first formed, they had become white, and had gained that appearance which usually precedes an imminent resolution. Swellings of the lymphatic glands on both sides of the neck had shown themselves already on the first day, and had attained such an extent on the 15th, that, in consequence of the simultaneous swelling of the periglandular and subcutaneous connective tissue, the skin of the neck was at the same level with that of the cheeks. In consequence of the expansion connected with this tumefaction, the skin of the neck appeared smooth and shining.

Against the local affections, I administered the above-named remedies, especially the application of hot-water steam and the use of disinfectant solutions. The latter were brought into contact with all parts of the oral and pharyngeal cavities by spraying them with a syringe, of which the top had perforations on all sides.

The tender age of the patient, and the malignant form in which the disease showed itself from its very beginning, of course very soon rendered the hope of restoration to health nearly inadmissible. In this case, a progress of the morbid process to the larynx was to be feared, followed by all those symptoms which are known under the name of diphtheritic croup. This induced me already, on November 13th, to propose that my colleague, the senior surgeon of the Town Hospital, Dr. Jäger, should be called into consultation, this excellent surgeon having already a great number of tracheotomies with good results. My proposal received the sanction of His Royal Highness the Grand Duke; and, from November 14th, I saw not only Princess Mary, but also the other august patients, together with Dr. Jäger. From the afternoon of the 15th, we made the arrangement that one of us should be constantly present at the bedside of the patient. Although on this day no symptom of laryngeal stenosis was yet to be observed, Dr. Jäger had prepared all the instruments necessary for tracheotomy in case this operation should soon become necessary. On the evening of the 15th, at 10 o'clock, we examined the patient in consultation. Her voice was as completely clear and loud as it had been in days of health. The respiration was free and noiseless. Above the sternum and in the scrobiculus cordis, there was no trace of recession to be observed. The pulse was frequent, according to the height of the fever, but was comparatively strong. Dr. Jäger then undertook the observation of the little patient, and remained close to her bedside. He remarked that about twenty minutes past midnight the patient's state was still exactly the same as we had observed it together at 10 p.m. The child lay awake on her bed, and my colleague had the opportunity of convincing himself of the perfectly unchanged pure sound of her voice. Suddenly the little one sat up; a deep inspiration ensued; at the same moment, the

* Continued from page 148.

† "On the Treatment of Diphtheria": an experimental investigation by Graham Brown, from the pathological-anatomical laboratory of Professor Klebs at Prague *Archiv der experimentellen Pathologie und Therapie*, vol. viii, p. 140; 1877).