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).

face changed colour, and the head sank backwards. Dr. Jäger at once supported with his left hand the backward-sinking head, and introduced the right index finger into the pharyngeal cavity, in order to remove mucus, or perhaps thrown-off membranes, and to produce irritation and coughing. No cough ensued; by spasmodic closure of the lower jaw, the teeth hurt his index finger. Dr. Jäger now tried at once to induce artificial respiration, when it appeared that the chink of the glottis was suddenly completely obstructed. It was neither possible to express air from the thorax, nor to draw air into it. Death had occurred quite suddenly in the course of a few seconds. At the most, fifteen seconds had elapsed from the beginning of the deep inspiration until complete pulselessness was present. This had happened already before I could be called from another floor of the mansion. It would have been perfectly useless to perform tracheotomy, for which all preparations had been made, on a lifeless body. The symptoms which I have communicated proved that no croupous membrane had been formed within the larynx. The sudden occlusion of the rima glottidis can only have occurred by aspiration of a diphtheritic membrane which had been formed higher up, and which was forcibly driven into the chink of the glottis by a strong inspiration. Such cases of death in diphtheria occurring *so very acutely*, in consequence of similar accidents, are rare. However, a number of quite analogous cases have been recorded in literature. Even in adults, the same accident has happened, in spite of their glottic opening being so much larger than in children.* A *post mortem* examination was not performed, because such might have occasioned a further propagation of the infectious matter.

[In the case of Princess Victoria, the diphtheritic membranes were completely thrown off, not on the 11th, but on the 14th of November.]

THE NEW MEDICAL REFORM BILL.†

By R. H. S. CARPENTER, L.R.C.P.,

President of the Medical Alliance Association.

THOSE who watched the various causes which led to the passing of the Medical Act of 1858 will have little difficulty in recognising, as one of them, an aim on the part of the Scotch Medical Corporations, in aid of their own revenues, to destroy the monopoly of the Society of Apothecaries in granting qualifications, giving their holders an exclusive right to practise medicine in England and Wales. Previously to the passing of this Act, the ordinary qualifications of English general practitioners were those only of the Society of Apothecaries and the London College of Surgeons; and it was then as unusual, as it is now common, to see Scotch graduates and licentiates in medicine practising in England as general practitioners. It can scarcely be doubted—indeed it may be asserted—that this undesirable change is the result of the Scotch Medical corporations having propagated amongst the profession, innocently enough no doubt, the erroneous doctrine that the Act, as was intended by its promoters, conferred equal rights to practise throughout the United Kingdom upon all persons registered under its provisions. The fear of losing these imaginary privileges accounts for the persistent opposition every measure of medical reform has met with from the representatives of the Scotch Medical corporations. Soon after the passing of the Act, its wording, in other ways, was found to be opposed to the intentions of those who draughted it. It will be recollected that, in 1859, only a few months after the Act became law, a strong “Registration Association”, with its head-quarters at Charing Cross, and the late Dr. Ladd as its secretary, prosecuted a person for falsely assuming a medical title; and that, having obtained a conviction against him, the police authorities, under a feeble protest from the Medical Council, pounced upon the penalty, and left the Association to pay the costs of the prosecution. The intended good work of the Association, in compelling registration and suppressing one phase of illegal practice, was thus frustrated; and, from that time to the present day, agitations for the amendment of the Medical Act have been frequent, and sometimes vigorous. Foremost amongst these agitations has been a demand for direct representation of the profession in the Medical Council. This point was taken up with great earnestness by the Medical Reform Union of Birmingham, and, in 1870, was included by them in a memorial to the Medical Council, praying for fresh legislation. Subsequently, it was adopted by the Reform Committee of the British Medical Association, whose movements for obtaining this popular claim, even by sacrificing far more important measures of medical reform, have been

directed, with untiring energy and devotion and singleness of purpose, by Dr. E. Waters of Chester.

It is a remarkable fact, which ought not to be lost sight of by the profession generally during the approaching Parliamentary efforts for medical reform, that the respective Bills of two Governments of opposing political principles, and the two Bills of the British Medical Association, have, with the passive sanction of the Medical Council, proposed to make the practice of the profession absolutely free to any persons whomsoever; whilst, at the same time, they would have permitted these persons to assume unregistrable medical titles, undistinguishable by the public from the best titles in the profession. The Bill of the Medical Alliance Association guards against the adoption of these dangerous free-trade principles in the practice of medicine; whilst it is believed that, at the same time, it embodies and carries out in a comprehensive and liberal spirit all the chief points of medical reform which have been demanded by the profession since the passing of the first Act in 1858. These points are, *principally*: An alteration in the constitution of the Medical Council; direct representation of the profession in the Medical Council; conjoint examining boards; the amendment of the penal clauses; the registration of reputable foreign qualifications; the registration of colonial qualifications; the registration of the qualifications of medical women.

The scheme in the Bill for the reconstruction of the Medical Council proposes that there shall be but nineteen members, instead of twenty-four as now; that these nineteen members shall include four representatives of the profession, three Crown nominees, one of whom shall be president, and twelve members chosen in the following way: one each by the Royal College of Physicians, the Royal College of Surgeons, the University of London, the Society of Apothecaries, the College of Physicians of Edinburgh, the College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, the College of Surgeons of Ireland; one for the Universities of Oxford, Cambridge, and Durham, collectively; one for the Universities of Edinburgh, Aberdeen, and St. Andrew's, collectively; one for the Queen's University and the University of Dublin, collectively; one for the King and Queen's College of Physicians and the Irish Apothecaries' Hall, collectively. The representatives of the profession are to be elected: two for England, one for Scotland, and one for Ireland. The examining boards are to be formed: one for England, one for Scotland, and one for Ireland. The certificates of these boards will not be registrable until after their holders possess themselves of a registration diploma, obtained from one or more of the now existing medical authorities; but, in the case of *women*, if these authorities, where they have the power to do so, refuse to grant a diploma, then the certificates of the examining boards will become registrable, but only as certificates of competency. The penal clauses are those of the former Bills of the Alliance Association. They were amplified and weakened by the Government, but are now strengthened, so as to carry out the intentions for which they were originally constructed. The registration of foreigners' qualifications is provided for in such a way as to prevent their being mistaken for English qualifications, and they will, accordingly, have a separate column in the *Register all to themselves*. Colonial diplomas will likewise be distinguishable from other diplomas, and they, too, will have a column in the *Register all to themselves*.

The Bill contains about thirty-six sections, and perhaps as many subsections. It is made up from the Medical Act of 1858, the Government Bill of last year, the Bills of the Alliance Association, and two sections of the Bill of the British Medical Association. It includes as well the amendments of the Government Bill as proposed by the Government and the amendments proposed by the Medical Council; yet, although it is made up from these Bills, it differs from them in many ways. It differs from the Government Bill, as it proposes to alter the constitution of the Medical Council, to provide for the representation of the profession in the Medical Council, to restrain persons from assuming unregistrable medical titles, and to compel the personal attendance of medical men who fill up death-certificates. It omits the Government scheme for licensing midwives. It does not deprive the Society of Apothecaries of the power they now have as an examining body and as a prosecuting body. It differs, too, from the Bills of the British Medical Association in the same way upon all the above-named points and other points as well. Thus the members of the Medical Council being already too numerous, the Bills of the Association propose that they shall be increased from twenty-four to thirty members. They propose also that members elected by the profession shall be life members in the Medical Council; whereas the Bill of the Alliance limits their time of service to five years, at the expiration of which term they may be re-elected. The outline now given of the Bill is intentionally brief; but it is hoped it is sufficiently explicit to show its nature and its scope. We do not say it is a perfect Bill, because the conflicting interests which

* See a case described by Löwenhardt in Oertel's "Epidemic Diphtheria" in v. Ziemssen's *Cyclopadia*, German edition, vol. ii, p. 603.

† Read at the South London District Meeting of the Metropolitan Counties Branch.