

Medical notes from the Continent.

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Medical Notes

from the Continent.



By Andrew Merces Adam. D.D.,

Presented by the author to J.W. Bowdler
1863.

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MEDICAL NOTES FROM THE CONTINENT.

INTRODUCTORY REMARKS.

THE series of papers of which the present forms the commencement has been undertaken at the request of the Editor of this Journal, and of several medical friends in Edinburgh, who, knowing that the writer was about to leave Scotland for a tour of a few months among the principal continental seats of learning, honoured him by a request that he would communicate some of his experiences and impressions to the profession at home through the pages of this periodical. In now acceding to this request, he proposes to lay before his readers such information concerning the topics named above as may seem likely to afford them interest and instruction; and he hopes to be able thus to give them some faithful pictures of the present state of medical science in the countries visited. The scenery passed through, *en voyage*, will not be described, as it must be familiar to many of his readers, and has been written about *ad nauseam*. Occasionally, however, it may be necessary, for the illustration of medical facts or the elucidation of scientific theories, to touch lightly upon the life and manners of the people, or the nature of their soil, etc., and in these cases some such slight shading of the "sketch" will be resorted to for the proper fidelity of the picture. The Universities celebrated as Schools of Medicine; the various large hospitals visited *en route*; and several of the chief lunatic asylums, will all receive due attention. Something will also be said of many of those great continental physicians, whose names are so "familiar in our mouths;"—those earnest men and true, who are ever working hardly and untiringly for the discovery of truth, and the advancement of scientific medicine. The Balneology of some of the chief continental watering-

places will receive, as it undoubtedly merits, some notice, inasmuch as an accurate knowledge of this subject is becoming indispensable to British practitioners.

ROTTERDAM.

The first hospital which I visited on my tour was that of Rotterdam; and though I had often heard of its excellence, I was totally unprepared to find in this town an institution so truly magnificent, in every sense of the word. The *Ziekenhuis* or Infirmary of Rotterdam is situated in one of the finest promenades in the town, and is a very extensive building, consisting of a large central block, and two long wings, the whole built very handsomely in a style of architecture somewhat resembling the Venetian. A beautiful garden, with a leafy shrubbery, is situated in front of it, enclosed within handsome railings; and the windows overlook the charming variety presented by a picturesque Dutch street. And in Holland the streets abound in quaint features of interest which never fail to strike the stranger;—the houses and shops so faultlessly clean; the *spions* or angular mirrors placed outside the windows to present the indwellers with a panorama of the life without; the canals, extending along the centre of every street, fringed on both sides by rows of elms, whose foliage casts a grateful shadow in the sweltering heat of summer; the barges moving up and down, all bright and shining as if fresh from the painter's brush; and the comely figures of the buxom little Dutchwoman passing to and fro, in all their elaborate finery of head gear, lace caps and golden ornaments, looking neat and prim, just as if some of the forms with which we had long been familiar in the pictures of Ostade and Jan Steen had come down from the canvas, and stalked in real life before us. And the chemists' shops too! At every druggist's door stands the effigy of a man's head, the mouth gaping to a frightful extent, the eyes protruded, and the whole countenance expressive of agony. These absurd figures have been not inaptly called "gapers." How would our good friends, Messrs Duncan and Flockhart, relish the idea of such an image at their venerable portals, like the figure of a snuffy Highlander at the door of a High Street tobacconist?

On such a scene as this—lively, beautiful, and picturesque—the Rotterdam Hospital looks down, while it stands serenely apart from all the noise and bustle.

This hospital was built eighteen years ago, at the expense of the corporation of the town; and since that period till now additions and improvements have been continually going on. No expense has been spared to render it complete in every respect, and the consequence is that it is now probably the finest hospital, in point of the excellence and beauty of its internal economy, of any in Europe. While all this reflects great honour on the town of Rotterdam, it must also be mentioned that the very highest credit is due to the resident physician and director of the establishment, Dr Molewater,

inasmuch as most of the internal arrangements have been executed under his personal superintendence and at his suggestion. Many a hard battle, I have been told, has Dr Molewater fought with the municipal authorities to get his views carried out (and Town Councils and Burgomeisters are in Holland, as in England, somewhat contumacious bodies to deal with); but his enthusiasm and earnestness have generally prevailed in the end, and he has now the satisfaction of seeing one of the finest of modern hospitals established under his care.

And now for a few details. The staff of the hospital consists of a resident physician and an assistant, and a chief or consulting surgeon, who is non-resident, who attends in dangerous cases, and performs the principal operations. Dr Molewater is the resident medical superintendent, and has also the rank of physician-in-chief; and he has for his assistant an excellent young practitioner, Dr Schmidt. The resident medical officers devote their entire time to the treatment of the cases, and the management of the hospital; and, in return for their services, they are allotted most elegant apartments in the establishment, and receive handsome pay from the civic authorities. There is a small medical school at Rotterdam, chiefly in the form of a clinique for students, who come from Leyden or elsewhere; and Dr Molewater, as one of the professors, teaches the pupils at the bedsides, and lectures to them in the operating-hall on such cases as possess great interest. It may here be questioned whether such a staff as I have mentioned is the best for a public infirmary, but I do not intend to enter upon a topic so vast and difficult as that of the administration of civil hospitals. An hospital staff of this kind may, no doubt, have many disadvantages, inasmuch as, to a certain extent, it debars practitioners in the town from aspiring to hospital appointments, and so, indirectly, may possibly hinder the development of medical knowledge among them. But at Rotterdam and elsewhere the system has been found to work most admirably; and I cannot help thinking, that it would be a wise and proper thing if in all our great medical charities in Britain there were a resident physician of age and experience, whose whole time would be devoted to the sick, and from whom urgent cases of emergency could receive more skilful treatment better than from an advanced student or a newly-fledged graduate, according to the present system.

But to return. The internal appearance of this hospital on entering is most striking. The hall is very spacious and lofty, with a floor of white marble; and fronting you is a magnificent broad staircase, with balustrades of finely carved mahogany. On either side of the entrance-hall are rooms for the use of the *concierge*, for patients waiting admission, for the examination of cases, and for the reception of accidents, etc. In the centre of the building, on the *première étage*, are the apartments of Dr Molewater; and here I was most courteously received by that gentleman, and conducted by him through every department of the establishment. Dr Molewater has

been superintendent of this hospital for the last eight years. He is one of the most ingenious men in Holland, and in this institution there are innumerable clever and original contrivances of his invention, some of which I shall presently describe.

The hospital contains twenty-six wards, which are entered from the corridors, extending along its entire length in each story. In each ward are ten beds, so that there is accommodation for 260 patients. The wards are lofty, well-lighted, and excellently ventilated; the beds are not too closely packed together; and the cleanliness of the floors, and of every article in the rooms, is most striking. Along the wall on each side of the wards, at the height of about ten or eleven feet, there runs a strong iron rod, and above each bed there is firmly attached to this another small rod, two or two and a half feet long, which projects from it at right angles, and serves as a support for the bed-curtains, and also for the rope which is suspended to assist the patients in raising themselves while in bed. Each patient, on admission, receives a bath, and is then served with a suit of clean hospital clothing, which he wears until discharged. Entering from every corridor there are bath-rooms, which are plentifully supplied with hot and cold water, and where there are also facilities provided for vapour or medicated baths. These rooms are also beautifully clean; their walls are made of white glazed Dutch tiles; and the baths and boilers are of highly burnished copper. Attached to every four wards there is a small kitchen, wherein the minor articles of diet, such as arrow-root, gruel, etc., can be conveniently cooked, and in which there is a constant supply of hot water at hand. By the way, all the hot water in the hospital kitchens and bath-rooms is boiled by means of steam from the boiler of the engine below. This steam-engine has plenty of miscellaneous work to do, but one of its chief uses is to enable the "*transport-kamer*," or moveable chamber, to ascend and descend. This is a contrivance similar to that used in many of our English manufactories and warehouses, by means of which the patients are conveyed, without trouble or fatigue, to any story of the building, and which also serves for the transport of food, medicines, clothes, etc., to all parts of the house. The male patients are provided with male attendants, who seem excellent and well-trained young men; while the female nurses attend exclusively to the patients of their own sex. A somewhat novel plan is adopted for keeping the hospital registers. At the head of each patient's bed there hangs a neat wooden frame, with a handle, about twelve or fourteen inches long and four broad, which opens up at the side by means of a hinge. Inside this frame is placed a long schedule, on which all the particulars about the patient's name, age, birth-place, occupation, date of admission, etc., are inscribed for observation; and underneath this sheet lies another paper, in which there are entered daily the history and progress of the case, with the treatment ordered, etc., in Dutch or Latin. These slips are afterwards collected, filed, and carefully preserved for reference in the hospital

archives. I saw no cases of any very great interest in the wards on the day of my visit, with the exception of a girl with diabetes, who was being treated by the administration of plenty of sugar,—viz., about six or eight ounces *per diem*. Dr Molewater said he had never seen any beneficial results from a restriction of the diet to purely nitrogenous aliments; and that he had failed in obtaining any good effects from the exhibition of rennet. In this case, the patient was in receipt of a good mixed diet; and, during the few weeks she had been under treatment, the urine had somewhat diminished in quantity, although its sp. gr. still remained high—viz., about 1·036. I may here mention, parenthetically, that the only treatment which I ever saw productive of good results in this extraordinary disease is that recommended by Mialhe—viz., the administration of the alkaline carbonates. In one case, which was under my care, where the urine was exceedingly copious, and of 1·042 sp. gr., I administered half a drachm of Sodæ Bicarb. thrice a day, and in about three weeks the sp. gr. of the urine fell to 1·028, and its quantity became nearly normal. I then unfortunately lost sight of the patient, and cannot tell whether or not the improvement continued.

An admirable consultation-room, in which there is the nucleus of a good pathological collection, and also of a medical library; and a hall for *post-mortem* examinations, provided with every convenience for careful pathological study, are also to be found in this hospital. Among the many ingenious contrivances of Dr Molewater, to which I formerly alluded, one or two may be mentioned. First, there is an electric telegraph through the whole building, for the use of the doctor, who can send messages along the wires, while he is sitting in his study, by simply pressing with his foot upon a small wooden pedal beneath his table. Again, he has effected great improvements in the construction of water-closets, whereby there is provided not only the ordinary circular stream of water to sweep down the contents of the pan, but also a transverse current of water, which meeting it below, carries away expeditiously the whole of the fetid matters, thus preventing any unpleasant smell or stoppage of the waste-pipe. He has also devised an ingenious bath, called the “universal douche.” The patient stands in a hollow niche in the wall; and parallel with his spine rises a central tube, perforated with many apertures; while this tube is crossed at right angles by upwards of a dozen semicircular tubes, similarly perforated, having their concave surfaces towards the bather. A powerful stream of water is then turned on, and from all these perforated tubes, as well as from others below, the patient is enveloped in a perfect whirlpool of water, which lashes against his body forcibly in every direction. This form of bath is found to possess immense tonic influence in various atonic and hysterical complaints.

In fine, the establishment of Dr Molewater at Rotterdam is quite a model hospital, and is well worthy of a visit from any one who may chance to be in that city.

THE HAGUE AND SCHEVENINGEN.

The Hague is one of the most charming little towns in Europe, but it is not particularly interesting to medical men, except from its connection with the celebrated sea-bathing establishment of Scheveningen. It is the residence of the King of Holland, and also of most of the aristocracy of the Netherlands. It abounds in the most delightful promenades in its immediate vicinity; and the town possesses many features of interest, such as the palaces, picture-galleries, museums, etc. To my professional brethren, or their patients, who may visit it, I would strongly recommend the *Hôtel du Vieux Doelen*, which is one of the best inns on the Continent, and where both English and French are spoken. But it is chiefly of Scheveningen that I mean to speak. Before doing so, however, I may allude to an extraordinary painting in the picture-gallery at the Hague, which possesses some interest for professional men: I refer to Rembrandt's celebrated "Surgeon Dissecting,—attended by his pupils." It represents Professor Tulpius, of Leyden, demonstrating the anatomy of the muscles of the forearm to seven of his students. The delineation of the corpse is a marvel of fine art. As has been well remarked by Sir Joshua Reynolds, "nothing could be more truly the colour of dead flesh." The contrast between the ghastly whiteness of the "subject," and the fresh, ruddy faces of the Professor and his students, is very striking. It is stated in *Murray's Handbook* that "physicians assert they can ascertain that it is the body of a person who died from inflammation of the lungs." This refinement of *post-mortem* diagnosis seems nonsense; and I was told by Professor Van der Hoeven of Leyden, that there is a tradition current in Holland, that the "subject" was the body of a celebrated malefactor who was hung for his crimes, and afterwards given to Tulpius for dissection.

Scheveningen is a pleasant fishing village of about 7000 inhabitants, situated on the sandy beach of the German Ocean, three miles from the Hague. The approach to it is very fine—passing through a long avenue of leafy trees; and the sea is not observed until one is close upon it, on account of the intervening "dunes." These "dunes" are huge sandhills, which are found extending along the whole sea-coast of Holland from the Texel to Dunkirk, and which form the natural dykes or bulwarks of the country against the encroachments of the sea. They have been thrown up by the action of the wind drifting the fine particles of sand; and to insure their greater stability as dykes, the Dutch cultivate a sort of sea-grass upon them, the matted fibres of which prevent the sand from being scattered by the wind, or washed away by the ocean. Behind this ridge of dunes stands the picturesque village of Scheveningen, and to the right of it, about half a mile distant, there is built, in a hollow of the sandhills, the splendid bathing establishment erected by the Dutch Government. This is a very large edifice—of crescentic

shape in the centre, with two large wings—built of light-coloured stone, with a fine terrace in front, and commanding a magnificent sea-view. I was most kindly received by the Government physician, Dr P. M. Mess, who resides here during the season to superintend the medical arrangements, and for consultation by the visitors. Most of the profession in Edinburgh will entertain very pleasing recollections of this gentleman, as he spent a considerable time there two winters ago. I had excellent opportunities of minutely inspecting, along with him, every part of the establishment; and as the nature of its arrangements seems to me of no small importance to the profession at home, I shall enter into some details, inasmuch as Scheveningen is not so well known in Britain as it deserves to be.

The *Maison de Bains* is leased by the Dutch Government to a respectable landlord, who undertakes all the domestic arrangements; but there is a fixed tariff for the rent of every room in the house, as also for the prices of baths, stabling, attendance, etc.; and nothing beyond these rates can be exacted. The under-floor, or *rez de chaussée* of the establishment, consists of a large dining-hall for the *tables d'hôte*, consultation-rooms, etc., in the centre of the building; and chiefly of bath-rooms, with a few bed-rooms, reading-room, billiard-room, and other offices, in the wings on either side. Above, on the first floor, are the bed-rooms and *salons* for the use of visitors. These are very neatly and comfortably fitted up; some consisting of a bed-room and sitting-room *en suite*; most of them of bed-rooms, furnished in the continental fashion, which serve both purposes. The prices of these rooms vary according to size, furnishing, and situation; and also according to the season,—for they are more expensive between the 15th July and the 31st August than before or after these dates. A book can be obtained at the hotel, containing a plan of the house, and the tariff for the whole of the apartments. The charges for the best bed-rooms average from 1s. 8d. sterling to 2s. 6d. a-day; or if taken in conjunction with a separate sitting-room, from 4s. to 6s., for the two apartments. The prices are about one-fifth higher during the height of the season, between the dates named above. These rates are charged for the rooms when they are occupied by one person only; and for every extra individual, 10d. additional is charged per day. Close to the grand establishment a smaller building has recently been erected, which is fitted up as a *Hôtel Garni*, or private hotel, for the use of families, or for invalids, who dislike the bustle of the larger bath-house. The prices for accommodation here are somewhat similar; but there are some charming rooms for single gentlemen in the *troisième étage*, or top story, which are only about 1s. or 1s. 2d. a-day.

The baths here are of various kinds. For the accommodation of those who prefer the open sea, or for whom it has been specially ordered, there are plenty of bathing-machines, for the use of which, with clean towels, swimming-drawers, etc., a small fee is charged.

For others who are ordered special baths in-doors, these are provided in every variety, all the water used being obtained from the sea. The salt water is used hot, cold, and tepid, according to circumstances, and in every form of shower, plunge, and douche-baths. Of the latter variety there is an excellent kind in use, here called the "ascending and descending douche," which has many advantages. Nothing can surpass its utility in such cases as spermatorrhea, incontinentia urinæ nocturna, etc., where a stream of water can be directed against the perinæum, while, at the same time, another douche is applied to the loins, the spine, or any other region which the medical attendant may direct. In cases of female complaints also, as in most cases of leucorrhœa, tumefaction of the cervix uteri, etc.,—the patient can herself, in this bath, apply a stream of water *per vaginam*, while the general system is also under the treatment.

As regards the class of diseases which are most likely to benefit by a residence and treatment at Scheveningen, I may say a few words. In tubercular affections of the lungs, or where the existence of tubercles is suspected from the occurrence of hæmoptysis, Dr Mess considers that residence at this watering-place is entirely counter-indicated. In organic diseases of the heart also, and in cases of illness where plethoric conditions of the system lie at the root of the disorders, he cannot recommend the use of these sea-baths, or a residence on the shores of the North Sea. But, *au contraire*, in scrofulous affections (especially in children), and in diseases of an anæmic origin, the baths of Scheveningen are most valuable. Here dyspeptics speedily recover the tone of their digestion, and nervous and hysterical patients also derive benefit. In cases of complete or partial paralysis, where the loss of motion is not dependent on any apoplectic or congestive lesions, or upon any incurable organic disease, rapid improvement is found to follow a course of treatment here, by means of sea-water douches applied to the affected parts. Similar good results occur in cases of chorea and epilepsy.

I have now said enough to give my readers some idea of Scheveningen,—its appliances, and its medical uses. I might say much more, but it is unnecessary; and I would refer those who feel interested in the subject to a little paper, published by Dr Mess, in this Journal, in April 1856. It must always be recollected that this is no pure hydropathic establishment, nor system of cold water cure quackery, which I have described. It is only a large and magnificent establishment intended for the reception of those who are considered by their medical advisers to stand in need of sea-baths, as therapeutic agents; wherein these indications can be successfully carried out, in a healthy locality, and under the constant observation of a skilful medical man, who has specially devoted his attention to the subject. Other accessories are not forgotten in the system of cure at Scheveningen. Diet and exercise are prescribed and enforced; and medicines, when necessary, are simultaneously

taken. For delicate females, and scrofulous children, the milk of asses and goats is provided, and its administration is found to be very beneficial. In one word, nothing is omitted in carrying out scientifically the use of sea-bathing as a therapeutic agent in disease.

LEYDEN.

“I have sworn to defend this city, and by God’s help I mean to keep that oath. Bread I have none;—but, if my body can afford you relief, and enable you to prolong the defence, take it and tear it to pieces, and let those who are most hungry among you share it.”

So spake the heroic Vandermoes, the Governor of Leyden, during its ever memorable siege in 1573–4, when the inhabitants, driven frantic by the horrors of famine, and depressed by the ravages of pestilence, demanded from him either food or the surrender of the beleaguered city. Before his magnanimous devotion the crowd shrunk back abashed, and the defence was continued as bravely as before. But unexpected help was at hand. A high wind caused the swollen river to burst through the dykes, and inundate the besiegers; the flotilla of the Prince of Orange swept over the flood to the very walls of Leyden; and, after a bloody conflict, the Spaniards were repulsed and the city relieved.

To the bravery of its inhabitants during this siege Leyden owes the existence of its university; for, when the Prince of Orange, as a reward for their endurance and heroism, offered the citizens either an exemption from certain taxes, or the foundation of a seat of learning in their town, they very wisely made choice of the latter gift. Thus, on the soil which they had defended so bravely, arose the walls of a university, which was liberally endowed by the Prince; and so quickly and vigorously did learning strike root therein that the fame of the college spread through all lands, and Leyden even earned the proud title of the “Athens of the West.” Some of the most honoured names in the arts and sciences may be found in the brilliant bead-roll of the Leyden Professors. Here flourished Scaliger, Descartes, Grotius, and Salmasius; here arose the rival systems of Arminius and Gomarus, two of the professors; here Albinus prepared his wonderful anatomical plates; here Camper devised his ingenious theories; here the great physician Boerhaave wrote his “Commentaries,” and, by his labours, gave an impetus to scientific medicine, the importance of which can never be over-estimated. Hither have come students from all lands;—and among those from our own country, have been the refined Evelyn and poor dear Oliver Goldsmith, as well as Cullen and Munro, from Edinburgh. Such is the history of Leyden University, which must ever be interesting to us of the Edinburgh school, when we remember how intimate were once the relations between the two seats of learning, and how we owe not a little of the excellence of our *Alma*

Mater to the knowledge which was imported from this little Dutch town.

The stranger coming here from the Hague, as I did on the 21st June, will certainly be struck by the contrast between the two towns. The bustle of Rotterdam and the gaiety of the Hague are alike unknown in Leyden; and an air of "sober dulness," or rather of academic gravity, pervades the place, which is almost painful at first to a visitor. The inhabitants seem a very phlegmatic race of quiet respectable-looking individuals, who move about slowly, with staid steps and imperturbable faces, as if it were a sad breach of decorum ever to appear excited or in a hurry. In a word, Leyden is a "slow" town, and has no charms for the mere pleasure-seeker. It has very many points of interest, however, for scientific men,—the chief being the University and the various museums.

The University is a plain, unpretending building, situated on the banks of a pleasant canal, in a secluded part of this very quiet town, and possessing no architectural beauty whatever. A profound silence reigned within its courts when I visited it; and I felt convinced that the only profane sound which ever breaks in upon its academic repose must be the sullen splash of the boatman's oar, as he rows his flat-bottomed barge along the canal below its walls. There are three universities in Holland,—Utrecht, Groningen, and Leyden,—and the Dutch students are pretty equally divided among them. It is generally considered that, in Utrecht, more of the students belong to the upper classes of society than in either of the sister universities. At Leyden, during the past session, about 400 students matriculated in all the different faculties, about 100 of these being medical. The only feature of interest about the University building is its Academical Senate Hall, a very large and handsome room, the walls of which are completely covered, from top to bottom, with portraits of all the deceased professors, from Scaliger down to one who died last winter, but whose name I regret to say I have forgotten. It is a rule that, whenever a professor dies, his family shall present his portrait to the University; and accordingly no professor neglects getting his likeness well taken in oil-colours by some good artist, so that, when at length his chair becomes vacant, the picture may be transferred from the wall of his dining-room to take its honourable place on that of the Senate Hall, side by side with the effigies of all the brave spirits of the past. In the court-yard of the College, beside other academic affichés, I noticed the "Series Sectionum," or list of the lectures for the past session; and this learned programme was concluded by the somewhat ominous announcement, that Mr Lokkers, Fencing Master to the University, would instruct the students in the elegant and dexterous use of the sword!

As a medical school, Leyden is still deservedly renowned, and possesses several excellent professors. The Anatomy and Physiology classes here are taught by Professor Halbertsma, a very ac-

complished anatomist; Pathology and Practice of Physic, by Dr Pruys van der Hoeven; Therapeutics and Clinical Medicine, by Professor Suringar; Surgery and Forensic Medicine, by Professor Krieger; and Obstetrics, by Professor Simon Thomas. In the physical sciences collateral to medicine, there may also be mentioned Dr G. Van der Hoeven, Professor of Natural History, and Dr Van der Boon Mesch, Professor of Chemistry.

Professor Halbertsma is as yet quite a young man, full of energy, and exceedingly enthusiastic. He accompanied me to the anatomical museum, which is situated in a good building near the College. This collection was admirably arranged by the eminent Professor Sandifort, who prepared very elaborate catalogues of the specimens, in which he entered the history of each preparation. It contains the united cabinets of Rau, Albinus, van Doeveren, Bonn, and Brugmans, and it has been considerably enlarged by the present keeper, Professor Halbertsma. It is very rich in the osteological department. There is here a very perfect specimen of a microcephalus skull, and there is also a hydrocephalic cranium of enormous size, in which, singular to say, the bones are also of wonderful thickness and weight. It contains some capital illustrations of the various fractures and anchyloses; and among them is one showing very complete osseous union in a case of intra-capsular fracture of the head of the femur. Professor Halbertsma, aware that I had devoted some attention to congenital malformations, explained the peculiarities of the teratological specimens in this collection, some of which are very rare and unique, especially some acephalous fœtuses, one or two of which have been figured and described by Sandifort. In the pathological department there is an interesting preparation of fungous degeneration of the semi-lunar valves of the pulmonary artery,—a morbid condition which is very seldom seen affecting the valves of this vessel, although it is common enough in those of the aorta. I believe that there is a similar preparation in Vienna.

The Professor of Natural History, Dr J. Van der Hoeven, possesses a very excellent craniological cabinet, in which he has the skulls of almost every race. He expressed to me his great desire to obtain the skull of a Scotch Highlander, which he says would be quite unique on the Continent.

More widely known in the medical world is Dr Simon Thomas, the Professor of Midwifery, the most distinguished of the Dutch obstetricians. I spent a good deal of time with him, and was shown his pathological specimens, and also his collection of instruments. Among the latter, I was much pleased with a repositorium invented by himself, somewhat resembling Braun's, for replacing the funis in cases of its prolapse, which for efficiency and simplicity surpasses any of the similar instruments with which I am acquainted. As I intend ere long to lay a description of it before the readers of this *Journal*, I shall at present forbear from entering into further details.

Professor Thomas' museum also contains some very interesting deformed pelves. One of them, an oblique contraction, has recently been described by him. There is a Polyclinic, for Midwifery, etc., in connection with the University, but the hospital is exceedingly bad,—the rooms being small, with low ceilings,—very ill ventilated, and of gloomy appearance. He informed me that the authorities of the town are about to erect a new hospital, which will be devoted to clinical instruction, and will be provided with every modern improvement. Despite the badness of the Nosocomium, the Clinique, under Dr Thomas' superintendence, is excellently managed. Pregnant women, who wish to be confined here, are required to make application at the hospital some weeks prior to the date of their expected accouchement, at which time their names are registered, and a careful preliminary examination of each case is made, the particulars being carefully registered. The age; whether primiparous, or, if not, the number of the pregnancy; the general state of health; the measurements of the pelvis (ascertained by the use of the callipers of Baudeloque, as well as by digital examination); any abnormalities in structure, etc.;—all these details are carefully ascertained and noted, as data for future treatment. Every two or three weeks the patient must report herself at the institution, where she is seen by the professor or one of his assistants, and a more cursory examination is again made, to ascertain the condition of the os and cervix uteri, etc. A few days before the expected date of labour, the patient comes into the house, where she remains until after her confinement.

Accompanied by Professor Thomas, I saw all the hospital, and also the patients who were then in the institution; and we had much interesting conversation on several matters connected with obstetric medicine. His own modes of treatment assimilate very closely to our own in England. He does not approve of Simpson's mode of treating in placenta prævia by removal of the placenta,—and, in fact, most of the continental physicians seem rather shy about it. Dr Thomas showed me a very simple instrument, which he uses with unvaried success in cases of uterine hemorrhage, which consists merely of a bladder, having attached to it a pipe provided with a stop-cock. The empty bladder having been introduced into the vagina, is then filled with cold water, injected into it by the pipe, and the plug thus formed, says Dr Thomas, is invaluable. The idea of this plug, however, is no great novelty; but Thomas' instrument is so simple in its construction, and so efficacious in its application, that it is deservedly much used by Dutch accoucheurs.

HAARLEM—THE MEERENBERG LUNATIC ASYLUM.

From Leyden I passed on to Haarlem, in order to visit the celebrated Lunatic Asylum near it, at Meerenberg,—the largest and best institution in Holland for the treatment of the insane.

Haarlem is a picturesque old town, which used formerly to attract shoals of tourists to hear the celebrated organ of Saint Bavon's Church, which was once the best in the world. As this instrument has long ceased to be a wonder, having been surpassed by the organs at Fribourg, at York, and elsewhere, Haarlem is no longer so much visited by strangers. In Haarlem I observed, in one or two streets, a curious Dutch custom, peculiár to the town, which may be interesting to accoucheurs. When a birth takes place here, a handsome pin-cushion, profusely ornamented with lace, is affixed to the outside of the street-door of the house, to notify the occurrence of the event to the public. If a boy has been born, the pin-cushion is of a red, and if a girl, it is of a white colour. A flag of truce is not more respected than this little ensign of millinery-work, for so long as it hangs on the door the house is held sacred, and is protected from the approach of duns, bailiffs, or tiresome acquaintances; and even troops, in marching past, must cease beating their drums or blowing their bugles, lest "mother and child" should be hindered from "doing well." It is also a common custom throughout Holland, in cases of sickness, to append a daily bulletin of the patient's progress, signed by the doctor, to the outside of the street-door, so that inquiring friends may read the intelligence without occasioning annoyance to the patient by knocking or ringing. This is a very sensible custom, but I fear that, in England, we should shrink from giving any such publicity to our domestic afflictions.

The drive from Haarlem to Meerenberg, of about four miles, is exceedingly beautiful. The road runs through a sheltered valley of the utmost fertility, and passes on every side the smoothly-cut lawns, the trim gardens, and the pleasant villas of the local aristocracy. At the outside of this pleasant valley, lies the Asylum,—in a snug little nook, protected from inclement winds by the long range of "Dunes," or artificial sandhills, which intervene between it and the sea, and from which it derives its name of Meerenberg, or Sea-Hill. Here the climate is always warm and mild; so much so, that I noticed vines growing luxuriantly in the neighbourhood. Here I was very courteously received by Dr Evert, the Physician-Superintendent, who accompanied me over the whole establishment, and afforded me every information regarding the institution and the patients. The asylum is a very handsome new building, which was erected a few years ago by the State, for the reception and care of the insane of the province. It consists of one large central block, with two side-wings, and its arrangement is somewhat as follows:—Imagine the centre parallelogram to be intersected by two lines drawn at a right angle through its centre, one in a longitudinal, and the other in a transverse direction. The right half of the intersected block and its corresponding wing are devoted to male patients; the analogous parts of the building on the left side to females. Of the halves obtained by the longitudinal line, the posterior is devoted to

patients who are paupers, and the anterior by those who pay for their board. The building is only one story high; its under part is principally occupied by the saloons, etc., of the better-class patients, while the upper story consists of the dormitories and bath-rooms. The number of patients at the time of my visit was 502, of whom 221 were men, and 281 women. These were of four classes:—By the first class patients, a board of 1000 florins a year (L.83 sterling) is paid; by the second class, 750 florins (L.62 sterling); and by the third class, 500 florins, about L.41 sterling. For the fourth class patients and the paupers, still more moderate rates of payment are required.

Internally, the establishment possesses all the modern improvements, and is fitted up in a style which is at once substantial and elegant. Everywhere the characteristic Dutch cleanliness was observable;—every floor being spotless, every window bright, and every article of furniture brightly polished. Simple wooden frames were used for the frames of the windows,—indeed they seemed to me *too* simple for perfect security; but I learned that no escapes or misfortunes had ever occurred from this cause. As regards the treatment of the patients, everything is done for their comfort and happiness. The non-restraint system of moral treatment is used in the fullest extent, and Dr Evert informed me that it is now all but general in the asylums of Holland. All the usual kinds of recreation are provided for the inmates, such as concerts, literary conversaziones, reading and billiard rooms, etc., and excellent pleasure gardens, in the cultivation of which the Dutch take great delight. Two handsome chapels (chiefly the workmanship of the patients, who have fitted up many parts of the building with great skill and neatness) are provided within the walls, the one for the Roman Catholics, the other for the Protestant portion of the community. Among the patients there are a great many epileptics; and as the greatest care is taken in recording the time and circumstances of the attacks, the statistics and results of Dr Evert on this subject are very valuable. He informed me that he finds more males come under his treatment for epilepsy than females; that the latter have more numerous attacks than the former; and that the attacks in men occur usually during the day, and among women during the night. Thus, in one of his reports there are some interesting statistics, which show that during the past year twenty-five male epileptics had had 2972 attacks, 1600 of which had taken place by day (*i.e.*, from 9 A.M. till 9 P.M.), and 1372 during the night (*i.e.*, from 9 P.M. till 9 A.M.); and that during the same period, eighteen female epileptics had had 5850 seizures, 2415 of which occurred by day, and 3435 by night. We had a good deal of conversation about the views recently propounded by Professor Schroeder van der Kolk of Utrecht in regard to the pathology of epilepsy, to which I shall presently allude in speaking of this eminent man; and Dr Evert seemed very much impressed with the idea that Van

der Kolk's theories, if not thoroughly tenable, were certainly a step in the right direction. Many of the professor's observations on epilepsy were made at Meerenberg, so that Dr Evert was well qualified to judge of the scientific carefulness and accuracy of the researches.

I left Meerenberg to proceed next to Amsterdam, highly delighted with all that I had seen there, as well as with the extreme courtesy of all its officials.

AMSTERDAM.

Erasmus spoke the literal truth when he said that this was a city whose inhabitants, like crows, lived on the tops of trees; for the whole place is built upon piles of wood, driven into the swampy bog which lies beneath. The canals which intersect it are very shallow, and exceedingly stagnant, in spite of all the artificial means, such as mills, which are used to attempt to create a feeble circulation of the water. The consequence of all this stagnation is, that when the mud is disturbed in summer by the traffic, the stench of the filthy water thus stirred, in the heat, is something unbearable. Sitting in my room in Brock's excellent Doelen Hôtel, on the 23d of June, I was completely overpowered by the noisomeness of the waters below my window, so that I could well sympathise with the similarly afflicted senators at Westminster. All over the town the foul smells seemed to permeate into every place, so that I was little surprised when I learned that the town was very unhealthy, and that typhoid and intermittent fevers were exceedingly prevalent, especially in summer. It is not therefore to be wondered at that my stay here was short; but during my brief visit I saw something of the medical features of the place, concerning which I shall offer a few remarks.

In Amsterdam there are two hospitals,—the Inner or *Binnenhuis*, within the bounds of the city, and the Outer, or *Buitenhuis*, situated just outside of it. The former is of modern date, and is not so large as the external establishment, but it accommodates a better class of patients,—most of the syphilitic, and many of the more disagreeable surgical cases, being sent to the *Buitenhuis*. I only visited this external hospital, from a desire to see Professor Schneevogt, its chief physician. In this, however, I was disappointed; for on my arrival I found that he had gone to Rotterdam to attend some scientific meeting, and would not return till the following day. By the kindness of Dr Kroon, one of the resident assistant physicians, I was shown the hospital in all its details. It is a large old-fashioned building, built in the form of a square, having in the centre a large quadrangle, and containing accommodation for 600 patients. The expenses of the hospital are defrayed by the town of Amsterdam, which is one of the most charitable cities in the world,—so much so, that King Charles II. of England is reputed to have said, when it

was threatened by the armies of Louis XIV.:—"I am of opinion that Providence will preserve Amsterdam, if it were only for the great charity they have for their poor." The patients in this hospital are chiefly recommended for admission by the medical men who have charge of the town districts (officers somewhat analogous to our parish surgeons), and the beds are nearly always full. The wards are very bad, being low-roofed, ill-ventilated, and greatly overcrowded. They have all a peculiar quaint appearance;—some have long galleries running round them, along which one must walk above the patients' heads in going through the house; and there are others in the upper stories, the huge black rafters and beams of whose roofs overhead remind one forcibly of being in the hold of a ship. The patients are placed in wards, classified according to the nature of the diseases. Thus several wards are exclusively devoted to the reception of epileptics, others are filled with cases of ulcers, and others with syphilitic affections, etc. With characteristic charity, there are here also one or two wards for poor men and women, whose only complaints are poverty and the infirmities of old age. Here they are lodged and well cared for till they die; and some live here for long periods;—thus one bedridden old woman had been there, so far as I can recollect, for the last thirty years, and was, consequently, the matriarch of the whole establishment. I saw no cases here possessing any particular features of interest, nor did I hear of any novelty in treatment. The wards for the epileptics seem very well managed; and the attendants are obliged to record, in a large book, ruled for the purpose, the time and number, etc., of each patient's attacks, just as it is done at Meerenberg. A favourite medicine here, in the treatment of epilepsy, is the Valerianus Atropinus, in doses of 1–60th of a grain,—the administration of which is said to produce very beneficial results. The resident staff of the hospital consists of one chief physician, Professor Schneevogt, and two assistants; and there are also two non-resident doctors, who visit the house daily.

This hospital is only interesting from its size and its antiquity, but the contrast between it and that of the sister city, Rotterdam, is very great.

The medical "lion" of Amsterdam is undoubtedly Professor Vrolik, the celebrated anatomist and physiologist. Of course I speak of Vrolik the younger; for, though his father still lives, and is in vigorous health, he may now be said rather to belong to history than to be one of the "Men of the Time." Accordingly, I went to present my letters of introduction to this gentleman, who received me with that frank courtesy, of which many of my professional brethren in England must entertain pleasing recollections. Vrolik is a tall, heavily built man, with an open expression of countenance, and very fine dark eyes,—possessed of more vivacity than is usual among the Dutch. I spent a very pleasant afternoon in his society, and inspected, along with him, all the valuable private collection of ana-

tomical and zoological specimens which has been accumulated during the joint life-times of his father and himself. This museum is very rich in osteology. The collection of skulls is larger than that of Professor Van der Hoeven of Leyden, and contains magnificent specimens of all the ethnological varieties. Among them is a curious microcephalous skull, which, in several places, is atrophied by the pressure of the cerebrum. A large cabinet is completely filled with illustrations of anchylosis of every joint in the body; and among them there are two interesting preparations of perfect osseous union of the symphysis pubis, one of which occurred in a healthy elderly woman, while the other was the result of traumatic inflammation of that part. Another cabinet, equally large and complete, is devoted to specimens of dislocations; among which are some curious preparations of congenital luxation of the femur, showing the increased transverse diameter of the pelvis, resulting chiefly from the strong action of the iliacus internus muscle in this affection. His collection of pelvises is extensive and well-selected, containing some interesting preparations showing the various abnormalities and deformities. Among them is a pelvis of enormous size and weight,—the largest and heaviest I ever saw,—which belonged to an Ethiopian female. But it is especially in preparations illustrative of Teratology that Professor Vrolik's museum excels all others that I am acquainted with; for, having devoted a life-time of careful attention to the study of malformations, he has accumulated a good collection, and he is at present the highest living authority on the subject. Such men as he and our countryman Professor Allen Thomson of Glasgow, have followed well in the footsteps of Geoffroy Saint Hilaire, and have elevated to the dignity of a science what was formerly a mass of superstitious uncertainty and absurd speculation. A very interesting malformation has just recently been added by Vrolik to his collection, viz.—of the variety *Pyrocephalus Syreniformis*, which Vrolik considers quite unique. This seems externally merely a dolphin-like mass of flesh, or rudimentary foetus with undeveloped fin-like extremities, yet, upon dissection, Vrolik found that it contained a perfectly organised skeleton and viscera. The brain was found to be very large; it was proportionally more developed than any other part, and the larynx ended curiously in a *cul-de-sac*. Another new preparation of great interest is a foetus, which was born with congenital umbilical hernia, and also a preternatural anus. Instead of being in the usual place, the rectum terminated anteriorly, at the site of the rupture, in two mouths, thus forming a double anus. The collection of double monstrosities is very complete, and the dissections of the xyphophage variety (where the foetuses are united at the sternum) show that successful disunion by operation is rendered impossible by the fact of their livers being united. In physiology there are also many interesting preparations, especially those which illustrate the recent discovery, made conjointly by Van der Kolk and Vrolik, of the existence of

reticulated venous plexuses surrounding the arteries in the wings of fowls,—especially in those which possess great strength of pinion—a provision doubtless designed to facilitate the circulation of the venous blood at times when the veins become forcibly compressed by the strong action of the surrounding muscles. The preparations showing these venous plexuses in the wings of swans and eagles, are very successful and beautiful injections.

I did not see the elder Vrolik, as he was from home, nor had I sufficient time to see any of the other medical men of the city, as I was anxious to pass on without delay to the more important medical school of Utrecht.

UTRECHT.

Leaving behind the indescribable smells of Amsterdam, I steamed on again by rail, through flat watery meadows,—studded with sleek kine, such as one sees in the pictures of Cuyp or Ruysdael, and fenced with broad ditches in lieu of hedges,—and past pleasant Dutch homesteads, which are dotted over the landscape,—until the train reached the fine old town of Utrecht.

As a school of medicine, Utrecht unquestionably stands highest among the Dutch Universities, and the celebrity of several of its living professors has attracted to it much of the attention of the scientific world. The names of Schroeder Van der Kolk, Donders, Harting, and Mulder, are very familiar to every student of modern medicine, and the influence of their views has extended into all lands.

The University of Utrecht is a plain building, which was founded in 1636. It contains a fine hall, which, at the time of my visit, was in daily use for medical and other graduations. At one end of it is a high gallery, wherein musicians perform during the ceremonies of the graduations, which is gaily bedecked with flags, swords, spears, and drums,—trophies of the gallant part which was played by the alumni of this college, during the struggle for independence, at the time when Holland was separated from Belgium in 1830, when the students of Utrecht, and of the other Dutch universities, patriotically enrolled themselves in corps, and fought most valiantly for the defence of their country. Other banners, bearing the arms of Dutch cities, etc., adorn the walls; and high above them all flames the emblem of the University itself,—a burning sun, with the motto, “*Sol Justitiæ illustra nos.*” There are about 400 students, of whom about 70 are medical. Each medical class costs about L.2, 10s. for the session, and the professors, in addition to these fees, receive about L.250 each per annum from the Dutch government. In connection with the university, there is a very good anatomical museum, chiefly remarkable for possessing a large collection of well executed wax-models. The physiological laboratory of Professor Donders is also in the university. It is fitted up with microscopes and other scientific apparatus; among these I observed the

most interesting instrument called the Ophthalmotrope of Ruete, which attracted very much notice when it was exhibited last year at the Ophthalmic Congress at Bonn. It consists of a model of the eye, capable of moving exactly as the natural organ, and having delicately arranged silken cords attached to it behind, which act as the muscles of the ball. By means of a graduated scale, and some highly ingenious mechanism, one can see at once, by the lengthening or shortening of each cord, what muscles act in producing every movement of the eye, and to what extent comparatively each of them operates in these processes. The saloons containing Professor Harting's admirable microscopical collection, immediately adjoin Donders' laboratory. In another part of the town, Mulder, the Professor of Chemistry, has a splendid laboratory, which was expressly built for him.

Few living physiologists have a wider spread reputation than Schroeder Van der Kolk, the Professor of Anatomy in Utrecht. Though now an elderly man, he still retains all the enthusiasm of youth for the prosecution of physiological science; and when he is talking of his experiments or speculations, he warms with the subject, his manner becomes very energetic, and his face brightens up into a pleasant smile. In appearance, he is a man of about 60 or 65 years,—of middle size, with iron-gray hair, and a slight stoop, from long study and bending over microscopes. I spent a very pleasant forenoon with him, seeing all his pathological and physiological preparations, about which he discoursed to me most enthusiastically in German. He showed me some finely injected preparations, to illustrate his theory of the non-existence of veins and nerves in the centre of carcinomatous growths,—the injection being seen to traverse only the arterial vessels in a section of such a tumour. The pain attending the disease is attributable, he thinks, to the cancer cells entering and destroying the substance of the nerves in the surrounding tissues. We talked a good deal of the celebrated discussion about cancer, which occurred two years ago in the *Académie de Médecine* of Paris (a full translation of which I had the honour to lay before the readers of this *Journal* at the time), and he remarked that, whatever may be said to the contrary, the microscopical diagnosis of cancer is not to be sneered at as an impossibility. He thinks, however, that in making a histological diagnosis of carcinoma, we should look for the cancer cells in the tissues immediately adjoining as well as in the suspected growth itself. Of Professor Hughes Bennett's *Researches into Cancer* he spoke in terms of unqualified commendation; and, in common with all the continental physicians with whom I have conversed, he entertains the highest admiration of the efforts which have been made by Dr Bennett to establish in England an improved system of medicine,—founded on a scientific rational basis, and in which it is sought to reconcile correct diagnosis and successful treatment with the most advanced views of modern physiology and pathology.

And all honour, say I, to such men as Van der Kolk, Donders, Kölliker, Virchow, Claud Bernard, Hughes Bennett, and others, for the impetus they have given to the culture of rational medicine. Although we may be unable, as yet, to deduce from *all* their investigations, theories of disease or modes of treatment superior to those which we at present possess, still there cannot exist a doubt that, *eventually*, all scientific medicine must be established on a rational basis of improved systems of physiology and pathology. "Without a rational basis," says an eminent writer, "the physician is only a bungler; and without a thorough knowledge of the empirical part of science, he deprives himself of many useful weapons for combating disease."¹ The wise physician will always try to adopt for his practice methods which are at once scientific and successful, basing all his treatment upon the sound foundation of rational medicine; he will ever eagerly hail all that is *true*, even though it may wear the dress of novelty, and may on that account be condemned by professional conservatism as unworthy of acceptance; but, at the same time, he will never lose sight of the "good old paths," or forget that practical knowledge, which has been gained by the accumulated experience of the wise and good men of the past. And thus will the scientific physician try to combine, in his treatment, all that is trustworthy and valuable in rational medicine and in empiricism; while he who neglects to do so, reduces medicine to the level of a trade, and fails in discharging that duty, which Bacon has well observed "every man owes to his profession." For truly, in the words of the German poet:—

"Das sind die Weisen
Die durch Irrthum zu Wahrheit reisen;
Die bei dem Irrthum verharren,
Das sind die Narren."²—*Rückert*.

The influence which the nerves exercise on the inflammation process has long attracted the attention of physiologists. Some years ago Van der Kolk divided the nerves in the limb of a rabbit on one side, and afterwards fractured the bones of this, and also those of the sound limb. He found that osseous union occurred normally at the site of the fracture in the sound limb, but that in the one whose nerves were divided, fungous degeneration of the bone occurred at the spot of the lesion. The preparations of this experiment he showed to me. Later researches have been directed to the same subject; and ever since Ludwig pointed out the influence which excitation of the nerves exercises upon glandular secretions, physiologists have been trying to discover whether inflammatory exudations might not also be dependent upon the influence of the

¹ "Ohne rationelle Basis ist der Arzt ein Pfuscher. Aber ohne durchgreifende Kenntniss des empirischen Theils der Wissenschaft beraubt er sich selbst mancher nützlichen Waffe gegen die Krankheit."—*Canstatt*.

² They are Wise, who travel through Error to Truth,—but they are Fools, who ever cling to Error.

nerve fibres in other tissues. Thus Spiess (*Zur Lehre der Entzündung*, 1854) conjectures that by the influence of the nerves in the walls of the blood-vessels, the exudation of serum is occasioned in inflammation. And ever since Bernard made the important discovery, that division of the sympathetic nerve in the neck is followed by paralysis of the vessels of the head, numerous investigators, such as Brown-Sequard, Budge, Donders, Kussmaul, etc., have been engaged in ascertaining the influence which the nerves exercise over the circulation. Some very important experiments, to determine the influence of the nerves on inflammation, have recently been made in Utrecht, by Dr Snellen, the assistant of Professor Donders, who informed me of all his results, some of which I may mention. After numerous carefully performed experiments on the ears and limbs of rabbits, he found that irritation of the sensory nerves of a part is followed by increased reflex action of the nerves supplying the vessels of that region, occasioning spastic contractions of the walls of the vessels. This condition of spastic contraction is afterwards succeeded by one of dilatation, caused by paralysis of the walls of the vessels. He looks upon the nerves supplying the vessels as only governing the contractions of their walls, and as only influencing the processes of absorption and exudation, by diminishing or enlarging the calibre of the tubes. He found that division of the sensory nerves of a part did not perceptibly influence the course of an inflammatory process established there artificially; but that division of the fibres of the vaso-motory or sympathetic nerves of the part, although it did not materially alter the course of the inflammation, greatly promoted the absorption of exudation, and consequently shortened its duration. He looks upon this increased facility of absorption as owing to the expansion and consequent thinning of the walls of the vessels, occurring during the state of congestion which follows the paralysis of the walls, consequent on the division of the nerves. Another important result of Dr Snellen's researches, is more accurate information as to the influence of the trigeminus nerve on the eye. It is well known, that when this nerve is diseased, or artificially divided, we have opacity of the cornea, which in most cases goes on to keratitis, with perforations or atrophy of the eye. Valentin, Longet, Budge, Schiff, Graefe, and others, have experimented concerning this, and they have all been of opinion that the inflammation was due to the trophic influence of the Gasserian ganglion; while Axmann has pointed to this condition as a proof of the truth of his theory, that the nourishment of the tissues is dependent on the ganglio-spinal nerves. But Snellen has successfully demonstrated, that if the eye, deprived of feeling by section of the trigeminus, be very carefully preserved from all *external* sources of irritation which might excite inflammation, no keratitis will occur; hence he argues, that the keratitis following section of this nerve is always traumatic, and dependent on inflammation excited by external injuries received by the insensible

cornea, rather than on any trophic influence of the Gasserian ganglion.

I have already alluded to Schroeder Van der Kolk's new views concerning the pathology of epilepsy. He considers that epileptics are divisible into two classes, viz. (a.) those who bite the tongue during the attack, and (b.) those who seldom or never do this. Now, he has found that, in the first class, the capillary vessels of the corpus olivarium are widened in the course of the hypoglossal nerve; and that, in the second, they are enlarged in the tract of the vagus, which may account for more laboured respiration in those who do not bite the tongue. The walls of the enlarged vessels become thickened, exudation occurs, together with softening of the substance of the olivary body, so that he regards epilepsy as a reflex action from the ganglionic cells of the medulla oblongata. To illustrate this I give the measurements of the capillaries which the Professor told me he had found in (A), those cases where the tongue is bitten, and in the others (B), where this does not take place.

AVERAGE WIDTH OF CAPILLARIES.

	In track of Hypoglossus.	In Corpora Olivaria.	In Raphé.	In Vagus Track.
A.—In tongue biters.	0.306 m.m.	0.315 m.m.	0.355 m.m.	0.237 m.m.
B.—In non-biters.	0.210 „	0.217 „	0.300 „	0.348 „
Difference.	+0. 96 A.	+0.098 A.	+0.055 A.	+0.111 B.

Such are Professor Van der Kolk's views of the pathology of epilepsy; but he does not offer them dogmatically, and himself admits that the question needs much patient inquiry to enable us to decide with certainty on the point. Meanwhile let me take this opportunity of directing the attention of English physicians to the subject, in order that they may repeat the investigation of this eminent Dutch physiologist.

I have said that Van der Kolk, in his mellow age, has the pleasure of knowing that ere he dies his merits are acknowledged, and his fame European. It is Professor Donders, however, who is now the man of most hope and promise in Utrecht; and to whom, consequently, most of public attention is directed. Like Simpson, Scanzoni, and many other eminent men, he has earned a wide reputation while yet comparatively young; and his skill as an oculist attracts thousands of patients yearly to Utrecht, to be under his care. Professor Donders is about forty years old,—rather tall, well-built, and of very dark complexion; he has a quick piercing black eye, which seems at once to get at the root of a matter, and he has a frank manner, and a winning smile, which irresistibly inspire complete

confidence in his skill. He has given an immense stimulus to physiology, by his unwearied labours; and his great enthusiasm, and his invariable courtesy, have rendered him a great favourite with the Utrecht students. The medical literature of Holland is under deep obligations to him; for he was not only one of the principal supports of the *Nederlandsch Lancet*, during the existence of that periodical, but since its decease, he and an Amsterdam physician have commenced a new medical periodical, in which henceforth the contributions of the Dutch medical men will be published in German instead of Dutch, as being a more generally understood language. I subjoin its title in a foot note, for the benefit of those who may feel interested in the matter.¹

I remained in Utrecht for some time, to see as much as possible of Donders' practice in diseases of the eyes; and I was shown every kindness by him, being taken to see operations, etc., among his private patients, and being admitted at all times to his ophthalmic hospital. I have never seen a better operator than Donders in cases of cataract and artificial pupil, and his diagnosis in eye affections is peculiarly rapid and correct. In most cases of interest, as in glaucoma, etc., he uses Helmholtz's eye speculum in making a diagnosis.

But of his style of practice I must speak more at length hereafter, when describing the oculists of Vienna and Berlin,—this article having already far exceeded its intended limits.

GHENT.

The traveller passing from Holland into Belgium observes a very marked change in the aspect of the country, the towns, and the domestic peculiarities of the people; which contrast is, upon the whole, not very favourable to the Dutch. He sees the ubiquitous canals, the bowling-greenlike flatness, and the swampy meadows of the former, give place to neatly trimmed hedge-rows, wooded slopes, and well-tilled fields, covered with luxuriant crops, which have been cultivated with all the laborious attention usually bestowed on gardens. He exchanges clumsy Dutch churches for splendid cathedrals, which are the noblest monuments extant of mediæval Gothic architecture; whose exteriors exhibit, on window, tower, and portal, the most delicately executed devices of mason-craft; whose interiors are adorned by the altar-pieces of Rubens and Vandyke, and by the carvings in wood and marble of Verbruggen and Geerts. In domestic architecture also, instead of the neat but formal dwellings of Holland, he finds in every street houses as picturesque as those which we see in the paintings of the old Flemish schools,—with quaint projecting gables, high-peaked roofs, and richly sculptured windows,—and in every town, municipal edifices and princely palaces of the most imposing and venerable appearance.

¹ Archiv. für die Holländischen Beiträge zur Natur und Heilkunde, herausgegeben von Donders in Utrecht und Berlin im Amsterdam.

This is peculiarly true of the delightful old city of Ghent, whither I went, by way of Antwerp, after leaving Utrecht. My principal object in halting here was to visit the eminent psychologist, Professor Guislain, and to see the lunatic asylum under his charge. There is a small university here, founded by William I., King of Holland, in 1826; but it need not detain us, as it is not of any very great repute as a medical school,—in fact, the most celebrated of its teachers is Dr Guislain. This physician is acknowledged to be one of the best modern authorities on insanity;—his highly esteemed works are now regarded as standard treatises on this particular branch of medicine, possessing, as they do, three most important essentials for every medical author,—acute observation, vigorous and logical thinking, and a clear, graphic style. His "*Leçons Orales*," in particular, are distinguished by their breadth of general conception, and their pleasant colloquial style,—so that, in psychological literature, they hold a place somewhat analogous to that occupied by Graves' *Clinical Lectures* in general medicine. To my great disappointment, I did not see Professor Guislain, as he had been obliged at that time to leave Ghent for a few months, in order to recruit his health by a change of air and scene. His assistant, Dr Ingels, who is the resident physician of the asylum, received me most courteously, and showed me the establishment in all its details.

The *Maison des Aliénés* stands in a pleasant open situation, a little way outside of the town, in the midst of waving corn-fields, and flanked by a long array of busy wind-mills. It is a large edifice, built of red and white bricks, after an elegant castellated design, only one story in height, and enclosing within its walls numerous courts and airing grounds. This institution is exclusively devoted to the treatment of male patients, of whom there were 292 at the time of my visit; but there is another asylum in the town, which is not so large or so handsome, but which is also under the direction of Professor Guislain, where the inmates are solely females. The internal arrangements of this asylum are excellent; its corridors are lofty and clean; the dormitories are well lighted, cheerful apartments, which are kept fresh and healthy by an ingenious system of ventilation connected with the stove, by which a supply of fresh air is being constantly conveyed into the chamber, while, at the same time, the foul atmosphere is completely removed. The patients are arranged in the building according to their mental condition, being classified as (a) tranquil, (b) excited, and (c) more excited. The system of treatment adopted is that of rational kindness, with suitable mental occupation; and partial restraint, by means of camisoles and bandages, is occasionally resorted to in cases where it seems indispensably necessary. In this respect, the mode of treatment at Ghent is much superior to that which I afterwards saw in some of the asylums of Germany. Amusements of several kinds are provided for the patients, such as music, theatricals, etc.; but dancing is not allowed, as Guislain considers that it is invariably followed

by increased sexual excitation, which aggravates the mental condition of the sick.

The patients here are all *pauvres*, with the exception of about a dozen, who pay 500 francs (L.20 sterling) annually, and have better accommodation. The chief causes of insanity among the inmates are drunkenness and misery; but hereditary predisposition can be traced in 37 per cent. of all the admissions. Guislain has observed that in men the hereditary predisposition is more frequently derived from the male parent, while in women it comes from the maternal side. Some curious statistics of this asylum show that the greatest proportion of cures occur at the beginning of summer and the end of autumn. Thus 3 per cent. of all the cures are effected in April, 1 per cent. in May and June, and 2 per cent. in October. Melancholia and mania are the forms of insanity which are most frequently found to be most amenable to treatment here, especially when the patients are between the ages of thirty and forty.

The staff of the asylum consists of a resident physician, Dr Ingels, and Professor Guislain, the superintendent, who comes from Ghent every forenoon to make his visit. The attendants are chiefly *Frères de charité*,—a religious order which exists in Belgium in great numbers. They are clothed in a long, black, monkish garb, and devote themselves entirely to works of mercy, such as attendance on the sick, etc. An analogous order of females, called the *Béguines*, numbers fully 6000 sisters in Belgium. Dr Ingels informed me that these *Frères* were found to be quite as efficient as the paid attendants; but such is not the opinion which hospital physicians generally entertain of the value of the services of these brothers and sisters of charity. At all the hospitals, such as those of Munich, Prague, etc., where they are in attendance upon the sick, the medical men consider them far inferior to the ordinary paid servants for general intelligence, and would very gladly be without them.

BONN.

I know no pleasanter town in Germany than Bonn on the Rhine. At the very portals of the magnificent scenery which opens out as we pass the *Siebengebirge*, the "castled crag of Drachenfels," and the romantic ruins of Rolandseck, it lies in a pleasant fertile valley, surrounded by

"Hills all rich with blossomed trees,
And fields which promise corn and wine."

It is well built, with wide streets and open squares, which are quite devoid of the close indescribable smells so common in many German towns, and through which the fresh pure air circulates so freely, that one always feels in good health and spirits during a residence here. Its university ranks as the second in eminence in Prussia; and the names of its late Professors Niebuhr and Schlegel, as well as of such living teachers as Jahn, the philologist; Bischof, the chemist; Helmholtz, the physiologist; Wutzer and Busch,

the surgeons; Kilian, the obstetrician; and Böcker, the pharmacologist,—have given it a very widely spread reputation throughout Europe. It was founded in 1818 by the King of Prussia, and owes its celebrity in no small degree to the great discrimination which the government has always shown in the selection of its professors, and in the maintenance of a high standard of discipline among its students. Most of the Prussian nobility send their sons to Bonn for their education; and, as is well known, the Prince Consort of England studied here when a young man, and it is said that one of our young English Princes is shortly about to follow his father's example. The university occupies a splendid range of buildings, which was built as the palace of the Electors of Cologne in 1730, and was formerly occupied by them as a court residence. It contains spacious lecture-rooms, a library of about 150,000 volumes, and a fine academical hall which is decorated with frescoes. Behind the university, in the *Hof-Garten*, stands the handsome anatomical building, which contains the dissecting-rooms, the anatomical museum and lecture-room. Professor Helmholtz has also a lecture-room in it, in which there is a solar microscope by Chevalier, and in which the windows and doors are arranged so as to enable the observer working at the instrument to regulate the amount of light admitted into the chamber. There is also a room here full of very curious skulls, exhumed from the old Roman camps in the vicinity of Bonn,—the so-called "*Castra Bonnensia*."

One of the most interesting men in Bonn is unquestionably Professor Helmholtz, the inventor of the Eye-Speculum,—an instrument which has opened a new era in scientific ophthalmology.¹ When this little instrument was first invented, many looked upon it merely as an ingenious continental toy, which was destined to play no important part in the practical treatment of disease; but, on the contrary, in the hands of every truly scientific oculist, it has now become absolutely indispensable for the correct diagnosis of affections of the eye. Thus Arlt at Vienna, Græfe of Berlin, and Donders of Utrecht, use it constantly in their examinations of patients, and look upon those who pretend that they can treat ophthalmic affections without its aid as little better than charlatans.

Helmholtz has for some years been Professor of Physiology in Bonn, but he has recently been elected to a chair in the University of Heidelberg, and probably ere this he has left Bonn to make arrangements for commencing his lectures during the ensuing winter. In appearance, he is one of the most striking men that I have met

¹ My friend, Dr William R. Sanders of Edinburgh, was the first who introduced this instrument to the British public, at a meeting of the Edinburgh Physiological Society. See his paper published in *Edinburgh Monthly Journal*, July 1852. For an able description of its structure and use, I may also mention, that Professor Jäger of Vienna has recently published an atlas of beautifully coloured plates, which show the appearance of the eye in health as well as in all its various diseases, as revealed to us by the Eye-Speculum.

on the Continent. He is still quite young, probably between thirty and forty, with a very intellectual countenance, a lofty brow, thin lips, and deep, restless, black eyes. He is very dark, and resembles an Italian more than a German in his general *physique*. He is a very accomplished man in every respect, and is said to be one of the best mathematicians, as well as one of the best physiologists, in Germany. He treats every subject with which he is engaged in a most masterly and philosophical spirit, and investigates all things independently for himself, never resting content with the traditions of the elder physiologists. In the course of conversation with him, I found that he was particularly interested in the able researches of Professor George Wilson of Edinburgh on the subject of Colour-Blindness. He said that he had repeated many of Professor Wilson's experiments, but had experienced great difficulty in doing so, on account of the rarity of colour-blind people in Germany. He told me of one very curious case of colour-blindness which had come under his observation, in which the person recognised a greater difference of colour between two shades of green,—produced by Scheele's green (arsenite of copper) and sap-green, which seemed very slightly dissimilar to ordinary eyes,—than between the two colours of green and red. Helmholtz also suggests the propriety of further investigations being made by means of spectral colours; a hint which I would commend to the attention of the talented Professor of Technology.

Another scientific physician in Bonn, whose works have of late years attracted much attention, is Dr Böcker, *Kreis-Physikus*, and lecturer on Pharmacology and on Medical Jurisprudence. This gentleman is distinguished for the numerous series of elaborate experiments which he has performed, chiefly on his own person, to show the effects of water, tea, coffee, wine, and also of various drugs, on the animal economy. The results which he thus obtained form a very important contribution to our scientific knowledge of dietetics and pharmaceutics. Thus he has shown that tea and coffee are by no means unimportant dietetic agents, inasmuch as, by their influence, destructive metamorphosis of tissue is temporarily arrested, and so there is positive gain to the economy, as well as actual saving of more expensive articles of food, by their use. So also with wine and beer,—he has shown by these experiments that the arguments of the teetotallers, against the moderate use of such stimulants, are incorrect; and that, instead of every glass of wine or tumbler of beer being so much poison imbibed, they are in reality life-sustaining agents of high therapeutic value, when thus taken at the proper time, and in moderate quantities, by a man exhausted in mind or body.¹

¹ For very interesting and able analyses of some of Böcker's experiments, I would refer the reader to the volumes of the *Brit. and For. Med. Chir. Review* for the last two or three years; also, to the excellent article on "Wines" in that Journal for April 1858.

His most recent pharmaco-dynamic experiments, which, I believe, are as yet unpublished, have been made with sarsaparilla. He informed me that, after carefully performing ninety-eight experiments with this drug on healthy people, he found that, contrary to all our usually received opinions on the subject, it possesses neither diuretic nor diaphoretic properties. Another series of twenty-six experiments, on the persons of uncured syphilitic patients, gave exactly the same results. Böcker also satisfied himself that sarza does not increase the efficacy of the agents, such as iod., potass., etc., which are usually given along with it; and that the good results obtained by the administration of this salt, dissolved in decoction of sarza, are in no degree attributable to any virtue in the solvent fluid. I told Dr Böcker that I remembered hearing Professor Syme, many years ago, express his opinion on the utter uselessness of so expensive a drug as sarza,—remarking, in his own quaint forcible style, that he believed an “infusion of hay” would be just as good, and a vast deal cheaper. He seemed amused, and said that he entirely agreed with Syme;—that infusion of sarza had no greater effect on the system than so much common tea; and that we must regard it merely as a pleasant but very expensive vehicle for the administration of other medicines. If this be so, why should the expenditure for this costly drug form so large an item in the accounts of our public hospitals?

In practical surgery, there are two excellent professors in Bonn,—the one is Busch, the teacher of systematic and clinical surgery; the other is the veteran Wutzer, the inventor of the operation which bears his name, who lectures on wounds and herniæ.

The Clinical Hospital immediately adjoins the University, but it is not of any size, possessing only about ninety beds. About forty beds are devoted to the reception of the surgical and ophthalmic patients under the care of Professor Busch, who is a pupil and follower of the eminent Langenbeck of Berlin. He has attained considerable celebrity by his successful treatment of ankylosed joints by means of Langenbeck's method of forcible extension,—the limb being thereafter put up in a plaster of Paris bandage—(*Gypsum verband*). I saw many interesting cases in his wards, in which very successful results had followed this operative proceeding,—the deformity being in great measure removed, and a wonderful degree of mobility restored. The professor particularly directed my attention to the case of a boy whose history was this:—He had met with an accident which had occasioned dislocation of the radius, and fracture of the ulna. The dislocation had never been properly reduced, so that the projecting head of the radius was always breaking through the skin; and the union which took place at the site of the fracture had caused great curvature of the ulna, and consequent deformity. To remedy this state of matters, Professor Busch performed resection of the joint,—cutting off the projecting head of the radius; and having tried ineffectually to fracture again the ill-

united ulna, he divided it subcutaneously by means of a saw. He afterwards put up the arm in the plaster bandage, and in this state I saw the little patient, doing very well. Prof. B. informed me that he intended by and by to bend the joint, so as to give it a certain degree of useful mobility. I saw two patients in whom amputation at the ankle-joint had been performed, by Pirogoff's modification of Syme's operation, which many of the German surgeons prefer to Syme's original mode, thinking that it affords a better stump. I have never seen any stumps, however, by this operation, which were neater or better than those made by Mr Syme. And here I may observe, that by surgeons, everywhere throughout Germany, the name of Syme is held in the highest honour, and his operations are regarded as among the greatest advances of modern surgery.

Professor Kilian, the eminent teacher of obstetrics, is probably better known in England, among practical physicians, than any of the professors I have mentioned. He not only ranks as one of our best authorities in general midwifery, but he enjoys special celebrity from the fact of his having performed the Cæsarian section probably oftener, and certainly more successfully, than any man living. He strongly advocates the performance of this operation in those cases of extreme contraction of the pelvis in which delivery by art is impossible, and in which English accoucheurs would resort to embryotomy. And he firmly maintains that, if we will compare together a parallel set of extreme cases, in which the crotchet and Cæsarian section have both been employed, we will find the latter the less dangerous operation of the two to the mother, while by means of it the life of the child is invariably preserved. It may be so with Kilian, but our experiences of the Cæsarian section in England are far from favourable. Kilian has operated, I believe, in thirty cases, and in eighteen of these with complete success. He could not inform me to what circumstance in particular he attributed success, but one or two points are worthy of note. In the first place, he always operates in good time,—not when the case has become extreme and the patient's strength exhausted. Again, he anticipates the event, by giving the poor woman good diet, etc., for many days before its occurrence. And, what seems more important than all, is the excellent ventilation, and the unlimited supply of fresh pure air which the patient enjoys in his delightfully situated hospital. Perform this operation in a close chamber or an ill-ventilated ward, and the patient will assuredly die,—if we value success, there must be plenty of free air to breathe, and an absence of all the unpleasant odours of the puerperal sick-room.

Professor Kilian's collection of pelvises is not very large, but is peculiarly interesting from its selectness, and from the fact that, in every case, the patient from whom the preparation was taken was seen by him in labour. It is very rich in specimens of rachitis and malacosteon; and, of the latter variety, there is the pelvis of a woman

in whom the Cæsarian section was performed successfully three times, and who died nine years after the last operation from a perforating ulcer of the stomach. There is a very interesting rachitic skeleton, which was described by Professor Kilian's son in his inaugural dissertation. I was also shown five very curious "spinous" pelvises (*Stachelbecken*), in which there is a sharp, thorn-like protuberance of bone, about an inch long, growing on the inside of the ileum, having its point turned inwards. This anomalous bony growth has been supposed by Dr Lambl, of Prague, to consist of a supernatural development of the ileo-pubic tubercle, occurring quite independently of disease. A somewhat analogous condition exists normally in some of the mammalia.¹ In every one of Kilian's cases this thorny spine had occasioned rupture of the uterus. I also saw some one or two exceedingly interesting specimens of oblique pelvic contraction, and also three or four of the somewhat rare *pelvis justo minor*.

Professor Kilian is a Russian by birth; he is about fifty years of age; tall and strongly built; and the general conformation of his face is not unlike the Scotch type of physiognomy. I believe that he is popular as a lecturer, and that he is very lucid and practical in all his expositions. But, nevertheless, it must be candidly admitted that, as a school of practical midwifery, Bonn is far inferior to either Vienna or Prague, where, as we shall hereafter have occasion to mention, the opportunities for clinical obstetrics are infinitely better in all respects.

At the charming little village of Rolandseck, on the banks of the Rhine, a few miles above Bonn, where the green waters of the noble river swell out into a broad expanse, resembling a lake, in the centre of which lies the romantic island of Nonnenwerth,—I inspected with much pleasure an excellent establishment of baths, etc., of which Dr Böcker, of Bonn, is the visiting physician. It was here that he performed most of his curious experiments on the influence of water on the excretions.

I then passed up the Rhine to Biberich, where I made a *detour* into the Duchy of Nassau, in order to visit some of the celebrated watering-places which lie among its valleys. As these "*Brunnen*" deserve more than a mere passing notice, I reserve my "Notes" concerning them for a separate paper, in which I propose to allude to several points connected with Continental balneology. From Nassau I went on to Frankfort-am-Maine, and thence passed on to Heidelberg, through the lovely district of the Odenwald, along the Bergstrasse, where the railway winds through clustering orchards, past sunny vineyard-slopes, and under the shadows of overhanging mountains, with the ruins of feudal towers peeping out from their wooded summits.

¹ Vide Lambl's paper, *Prag. Vierteljahrsch.*, 1855, Band I.

HEIDELBERG.

The University of Heidelberg, during the last twenty years, has deservedly been much in repute as a school of medicine, and it has counted among its professors some of the ablest scientific men of the period, such as Tiedemann, the anatomist; Gmelin, the chemist; Naegele, the obstetrician; and Chelius, the author of the large work on surgery. But, of late years, its consequence in this respect has been greatly on the decline; there has been a gradual diminution in the number of its students; and, despite the prestige of the college, and the undoubted ability and zeal of many of its teachers, it has been eclipsed in popularity by the sister Universities of Würzburg, Prague, Berlin, and Vienna. This change in the tide of its fortunes cannot be attributed to any deterioration in the qualifications of its professors, nor to any abridgment of the facilities for study afforded to the students. For an explanation of the fact we must look to other causes; and, among these, it is generally believed that the reputation of Heidelberg has been injured by the lax discipline maintained in the college, and by the absurd extravagancies of its students. The more thoughtful young Germans,—hard-working “men,” who will talk to you by the hour about all the subtleties of transcendental medicine, and the newest chemical, psychical, or physiological theories of Virchow, Vogel, and Lehmann,—have no sympathy with the long-haired, cap and band wearing, duel-fighting, “*Kneipe*”¹ loving students of Heidelberg, and prefer associating with a “slower,” but more earnest set, at a university where there are fewer distractions. No doubt, there are some as good and as diligent students at Heidelberg as at any university in Germany; but, taken as a class, the *Burschen* here are little addicted to hard work, at least during the first two or three of their college years.

But now for a few remarks on the Professors of Medicine.

The Chair of Anatomy is ably filled by Professor Arnold,—of “otic ganglion” renown,—who holds a high place among modern anatomists. The venerable Tiedemann is still alive, but he teaches no longer. I have already stated that the course of physiology will be conducted during next session by Professor Helmholtz, of Bonn. Geheim-rath Chelius,² though a very old man, still delivers lectures

¹ *Kneipe*,—a students’ beer-drinking party. Meetings of this kind are generally held in the parlour of a *Wirthschaft*, kept specially for this purpose, and appropriately decorated with the flags of the nationality, portraits of its past and present members, hunting trophies, etc. In Heidelberg, each corps has a *kneipe* three nights a-week. On these occasions, they sit for two or three hours drinking beer,—but seldom or never to any excess,—and smoking, while at frequent intervals, led by their preses, their voices burst into song, blending together in tones of the richest harmony.

² Chelius the elder is so called, to distinguish him from his son, who is an Ext. Professor. Moreover, this title takes precedence of “Professor.” The national fondness for titles among the Germans seems very ridiculous to our English ideas, and in consequence of it a stranger is often puzzled to know how

on clinical and ophthalmic surgery. Midwifery is taught by Professor Lange, who was formerly the professor of this art at Prague, for the instruction of midwives. Clinical medicine, and specially pathology and therapeutics, are taught by Professor Friedreich, formerly of Würzburg; a young man of great ability and of the highest promise, who was the favourite pupil of Virchow. Besides these ordinary professors, whom I have enumerated, there are several who hold brevet rank as "extraordinary professors," as well as several *privat-docenten*, or extra-academical teachers, of considerable note, who are attached to the Heidelberg medical school. Among the former is Professor Chelius the younger, who lectures on surgery, and teaches the operations. Lectures on comparative anatomy and microscopy are delivered by Professor Nuhn; on pathology and morbid histology, by Professor von Dusch, at the Polyclinic; and on medical jurisprudence, by Professor Küssmaul.

Of the younger professors in Heidelberg, the two who are in most repute in Germany as rising scientific men are Friedreich and Küssmaul. The former is a very superior physician, who is extremely scientific in all his views, while, at the same time, he is very practical in his treatment of diseases. I was much pleased with what I saw of his painstaking method of imparting clinical instruction to the students, in a case about which I heard him lecture, after he had shown his pupils the methods for its correct physical diagnosis. The patient had chronic capillary bronchitis, with tuberculous infiltration, complicated with considerable emphysema; and on the pathology of this latter morbid condition he dwelt at length, giving a most masterly resumé of all the existing theories. He laid particular stress upon the discoveries of Dr W. T. Gairdner, of Edinburgh, and expressed his coincidence with the views which Dr G. has propounded concerning the pathology of this affection. It must be gratifying to Dr Gairdner to know, that by the leading clinical physicians of Germany,—such as Oppolzer of Vienna, Bamberger of Würzburg, etc.,—his views are now accepted as correct, and are regarded by them as among the most important of recent contributions to the pathology of the respiratory organs.

Professor Küssmaul is distinguished as a pathologist and physiologist; and the originality of many of his researches has gained for him no inconsiderable reputation in Germany. Among the most important of his researches are those on dilatation of the cerebral capillaries in disease, and those contained in his paper on "Rigor

to address people aright. Thus, if he is conversing with a professor who happens also to possess the honorary distinction of *Geheim-rath*, or Privy Councillor, he must address the learned gentleman under this designation, and on no account simply as "Professor." Fancy two English professors, called Smith and Jones, insisting on being invariably addressed as "Magistrate Smith," or "Justice of Peace Jones!" Even the ladies in Germany share this liking for titular distinction, and the wives of medical men must be addressed as Madame Professor-ess (*Professorin*), or Madame Doctor-ess (*Doctorin*), as the case may be.

Mortis, and the Conditions of Muscular Rigidity which are closely allied to it, considered with special reference to Medical Jurisprudence."¹ His most recent investigations are on the interesting subject of the muscular rigidity produced by injecting chloroform into the arteries, and the consequent mortification of the extremities supplied by the injected vessels.² Many of my readers are probably aware that if chloroform, in extremely small quantities, be injected into the arteries of the limb of an animal, it has the curious effect of instantly producing the most remarkable tetanoid muscular rigidity in that extremity. Some other agents, such as etherial oils, alkalies, and acids, have been shown to act similarly when injected; but none possess this property in so remarkable a degree as chloroform. A very few drops of this anæsthetic are sufficient to throw the whole hinder extremity of a rabbit into violent spastic contraction, if injected into the femoral artery. This curious effect of chloroform appears to have been first described by Coze, who speaks of its injection into the femoral artery of a rabbit as being immediately followed by "une contraction musculaire tellement prononcée dans le membre inférieur, que les chairs semblent avoir acquis la dureté du bois."³ This condition is not occasioned by any coagulation either of the blood in the capillary vessels, or of the other fluids of the tissues, as has been supposed; and Küssmaul believes that it depends upon a peculiar hardening of the elastic substance of the muscular fibres. The rigidity is also not tetanic, but is allied in its nature to the true rigor mortis. Now, it has been observed both by Coze and Küssmaul, that, after a longer or shorter period, this state of rigid contraction disappears, and is succeeded by the return of the mobility of the limb, and by renewed flexibility of its articulations. But Küssmaul has further shown, in his last paper, that this renewal of mobility is not the result of the altered muscular substance having again recovered its normal condition, but that the injected chloroform acts as a chemical poison, and occasions the mortification and gangrene of all the tissues through which it streams in the current of the circulation. The nerves, muscles, and all the other textures, first lose their vitality under the influence of the injected chloroform (*Cadaverisation* stage of Küssmaul); then the tissues soften and begin to putrefy (*Gangrene* stage); the blood (if its entrance into the parts is not hindered by obliteration of the vessels) takes up the putrefaction, and a secondary coagulation ar-

¹ Ueber die Todtenstarre und die ihr nahe verwandten Zustände von Muskelstarre, mit besonderer Rücksicht auf die Staatsarzneikunde.—*Prag. Vierteljahrssch.* 1856, Band 50, page 67.

Scattered through the *Periscope* of this *Journal*, for the last three or four years, the reader will find abstracts of several of the more important of Küssmaul's contributions.

² Ueber die Ertödtung der Gliedmaassen durch Einspritzung von Chloroform in die Schlagadern.—*Virchow's Archiv.* Band xiii., Heft 4 and 5.

³ *Comptes Rendues*, 1849, xxvii. page 534. Flourens has also performed many experiments of the same kind. See *Comptes Rendues*, 1849, 1851.

rests its further circulation; foul discharges then take place, and putrid gases are evolved (*Sphacelus* stage); and, finally, the mortified parts become dried and withered (*Mummification* or dry gangrene stage).

Another professor of note in Heidelberg is Hasse, who has recently written the volume on Diseases of the Nervous System for Virchow's *Handbuch der Speciellen Pathologie*.

The hospital at Heidelberg is a handsome building, which stands on an elevated situation behind the University. It contains about 150 beds; and of these, about 50 are for surgical cases, under the care of Professor Chelius, jun. I saw nothing of any particular importance in his wards.

The Lying-in Hospital, under the superintendence of Professor Lange, is a tolerably large and well-ventilated building, where there are about 250 births yearly. In the museum attached to the hospital, among many other preparations, I saw the interesting collection of pelvises, about forty in number, which were principally the property of the two Naegeles, father and son. Many of these have been figured and described by Naegele,—as, for instance, the well-known case of exostosis of the sacrum filling the pelvic cavity, and several with oblique contraction. In one curious case of this contraction there is complete osseous union of the sacrum and lumbar vertebræ with the left ilium; the sacral bones are very small, ill developed, and preternaturally low in position; while the lumbar vertebræ, coalesced together, and possessing sacral foramina, occupy the usual site of the sacrum. There is also a specimen of the *Stachelbecken*, in which the thorny spine grows from the left iliopectineal tubercle of a rachitic pelvis. Unfortunately, there exists no catalogue of this interesting collection.

And now, in conclusion, a few words about the Heidelberg students, who, after all, are the most curious "specimens" in the place. Much has been written about them by William Howitt and other authors, but, nevertheless, a few sketches, taken in the summer of the present year, may perhaps not be deemed inappropriate in this place.

At Heidelberg, all the students, according to an ancient custom, are leagued together in national corps; but these alliances (relics of the college-life of former times, before railways and telegraphs had broken down all such conventional partition-walls) are merely fantastic, and have no real significance in this utilitarian nineteenth century. It may be urged in their favour, that the bond of brotherhood among the young men engenders firm friendships which last for life, and that throughout after years the members of the corps must always feel the warmest interest in each other. Advantages like these are not to be slighted; but might they not be gained by some other less questionable method? In Edinburgh, our students attain all these happy results of lifelong friendships, and pleasant professional connections, by enrolling themselves as members of the

Royal Medical Society,—where their weekly meetings are decidedly more intellectual than a “Kneipe,” and their gladiatorial encounters at “public” or “private business” are less bloody than the duels of the students of Heidelberg.

The various national corps at Heidelberg are distinguished from each other by badges of caps and bands. The members of each wear a cap of a certain colour, adorned with curious flowering, in silk or straw work, on the crown and sides;—thus, that of the Prussians is white; of the Suabians, yellow; of the Vandals, red, and so on. Across the breast, like the sash of an officer, a narrow ribbon is worn, called the “corps-band.” Like the cap, it is made of the national colours; and upon it are inscribed the names of the other members of the league (*Gesellen*), and also the date and circumstances of each duel which has been fought by the wearer, the number of wounds he inflicted on his adversary, and even how many needles were required to sew them! When only slight wounds have been given, a “B” signifies that blood has been drawn. This band is looked upon as a high distinction: it is not allowed to be worn by a student until, after having been one or two years at college, he has ceased to be a “fox,” or “fresh man,” and has become a “Bursch;” and he must also have previously given proofs of his courage by fighting bravely one or two duels. One of the students showed me his band—which was inscribed with records of thirty-five duels—with as much triumph as a Red Indian chief would invite a stranger to a display of his scalps. I had an opportunity of witnessing some of these duels, during my stay in Heidelberg. I was conducted across the Neckar to a lonely wayside inn, about half a mile from the town, called the *Hirschgasse*. Here the duels used formerly to take place; but the place having got too notorious, it was resolved that, in future, these “events” should come off in the solitude of the thick woods which clothe the hill-sides above this bank of the river. I was led into the depths of the forest by many a winding path, up a toilsome hill-side, until at length we reached a level platform, some fifty yards long and four or five broad, which had been neatly cut in the soil as the arena for the duels. To afford a free open space, the trees around this plateau had been all removed, except in so far as their over-arching boughs were calculated to shade the duellists from the glare of the sun. Here were collected about forty or fifty students, lolling against trees, or reclining on the ground,—some of them being principals or seconds in the combats, others being merely spectators who had come to witness the sport. A bundle of spare “*schlagers*”¹ lay at

¹ The *schlagers*, or swords used at the duels, are long narrow blades, made of villanous steel, sharpened only at the point. The object of the swordsman is to wound the antagonist with this point, by making the blade bend sharply round his like a flexible switch. But there are three kinds of duels among the students,—1st, those fought with the *schläger*; 2d, those with sabres; and, 3d, those with pistols. Duels of the latter two kinds are comparatively rare.

one side of the ground, and beside them stood a beer-cask of portentous dimensions, to quench the thirst and keep alive the courage of the combatants. On my arrival, there came two youths to be appropriately armed for the fight; but Mars, instead of being attired by Venus, was, in this instance, dressed in padded leather by a stout burly man, who was introduced to me as "the Doctor." On my expressing surprise that a middle-aged medical man would devote his time to such frivolity, I was told that the "Doctor" was not a *practischer Arzt*, or regular practitioner, but that in his younger days there had been some "difficulty" about his diploma, and he had since devoted his talents to the treatment of incised wounds as occurring among students. This worthy immediately fraternised with me, and invited my attention to his mode of dressing his patrons. Large pads of stuffed leather were carefully placed in the axillæ, and in both groins, to protect the large vessels from any accidental thrust; long leathern gauntlets were drawn over the arms, and a suit of coarse stout sackcloth was also donned. A cap, with a strong shade of pasteboard, was used to shield the eyes; and, as a further protection, a pair of iron "goggles" was worn. When duels are to be fought for any serious misunderstanding, no cap or spectacles are worn. The duel now commenced. Each principal had a second immediately behind him, who was similarly dressed, and armed with a sword; and an umpire—an experienced duellist, chosen from a neutral nationality—stood by to keep the duellists "up to time," and to decide all questions that might be mooted. The seconds give the words,—*"Fertig! los!"* (Make ready! close!), and that instant the foil-like swords of both writhe and twist round each other, and fly switching and hissing round the heads of both the antagonists. *"Halt!"*—cry the seconds, and the fight immediately ceases for a few seconds. These halts are often called during the course of the duel (which must last for fifteen minutes), whenever either of the seconds sees anything occurring which he regards as disadvantageous to the interest of his principal. The most frequent cause of these halts is the *schläger* getting bent, and requiring to be straightened. *"Fertig! los!"*—again the fighters close; and again, by quick sharp turns of the wrist of the sword-hand, the same fierce switching of the *schlägers* goes on. But the fifteen minutes has expired, and a final halt is called. The wounds are then examined, and one lad is found to have a long cut on his cheek, the scar of which he will carry to his grave;—the other has fortunately escaped with a gash on the scalp, from which a slender stream of blood trickles down his temples. Both the wounded are cared for by the "Doctor," and are speedily good friends again, now that the duel is over; and any embers of old animosity which may remain are drowned in potent draughts from the miniature "Heidelberg tun," which stands hard by.

At these duels serious mutilations are known to occur occasionally; the eye-sight is not unfrequently lost, and a nose or an ear are now

and then sliced off. I have somewhere or other read a horrible story of a nose having been cut off at a students' duel, and the fighter who had inflicted the mutilation rushing forward and crushing the lost member beneath his heel, to prevent his opponent from attempting its re-union. Professor Chelius told me of a similar story—which is current as a tradition among the students—of a youth, whose nose being cut off, was immediately swallowed by a dog that was standing by;—the hound was instantly killed, the nose taken carefully from its stomach, and successfully re-united to the face of its owner! Certainly, this, if true, might rank as the most wonderful rhino-plastic operation ever performed in Heidelberg.

But these same students, when their wild oats are sown, and their college days are over, generally settle down quietly into the gravest and best of citizens; and many a learned man, with European fame, have we seen, whose scarred face told how he, too, in his younger days, had been a duel-fighting *Bursch*. I have spoken of the eccentricities of the Heidelberg students, and of how their comparatively lax discipline has contributed to injure the repute of the college as a place for serious study. But, with all their faults, they are frank, manly, open-hearted lads, full of loyalty and patriotism, devoted to their University and their professors. An air of romance hangs about them, as about all else that is connected with the lovely little town of Heidelberg. They figure conspicuously in modern plays and romances; painters delight to sketch them; even the poets have laid hold of them. Longfellow introduces them in *Hyperion*,—and which of us does not know the three *Burschen* who crossed the Rhine, and stood by the landlady's dead daughter, in the exquisite little poem of Uhland? All good, then, be with them, and with the Professors and old College of Heidelberg!

WÜRZBURG.

On to Würzburg from Frankfort, by the railway which, all the way between the two cities, follows the windings of the Main—a pleasant river, with busy little towns scattered along its banks. We soon whirl past the village of Dettingen, and its battle-field, whereon our second George of England, and his son, the Duke of Cumberland, fought so valiantly against the French; and we feel an additional interest in the spot, when we recollect that here the incomparable “Captain Paton” of Lockhart's famous ballad—

———“fought with a French major, and despatched him at a blow,
While his blood ran out like water on the soft green grass below.”

We halt for a few minutes at the charming little town of Aschaffenburg, where the late King of Bavaria has built a Pompeian villa close by the railway station; and we are, for the first time, reminded that we are now in Bavaria by the enormous quantities of *Baierisches Bier* which are consumed at the refreshment-rooms here by the

travellers of all ranks and ages, and of both sexes. Then we strike into the heart of the Spessart range of hills, which, as far as the eye can reach, are green to their very summits with immemorial pines, while the quiet valleys that lie between them are well wooded with larches, beech, and grand old oak trees. "This is the forest primeval," and it is solemn and antique enough to have overshadowed Longfellow's ideal village of Grand-Pré,—“the home of Acadian farmers.” For it is none other than the same vast primeval Hercynian Forest, whereof Tacitus speaks in his “*Germania*.”¹ Now the *Schwarzkopf* mountain rears its dark crest straight ahead of us, as if to oppose our further progress, as we fly—puffing and snorting steam—on through this hilly pass; but we scorn such a barrier, and dash disdainfully through its base,—our engine-whistle shrieking so shrilly, in the darkness of the long tunnel, that the Gnomes must have been startled by the audacity of mortals like us. We emerge into daylight again, and see stretched out, far beneath us, in calm panoramic beauty, the lovely valley of the Lohr. Thereafter we join company with the Main, and our course once more lies close by its banks—along the foot of the high hills which slope downwards to the edge of the stream. The course of the railway has here been quarried out of the red sandstone of the hills, and every steep rocky ledge and parapet overhead is covered with the greenery of vines. Triumphs of human daring, skill, and patience are these German vineyards; for on every cleft, peak, and cranny of the rocky hillsides, whither human feet and hands can clamber, vines are planted and tended, and goodly clusters of grapes are gathered, by this industrious, indefatigable people. To the most giddy and apparently

¹ I believe these wooded Spessart hills to be the true vestiges of the old Hercynian Forest; but my friend, Mr W. Bell Macdonald of Rammerscales,—one of the best classical scholars in Scotland,—writes to me: “The ancient geographers vary pretty widely in the position which they assign to the Hercynian Forest; but latterly, when the Romans became better acquainted with Germany, the name was applied to the mountain-range extending around Bohemia, and through Moravia into Hungary. Cæsar says, ‘Its breadth was nine days’ journey, and its length sixty.’ Aristotle first has mentioned these mountains in his *Meteorologia*, Book I. ch. xiii. He says: ‘From the Pyrenean mountain flow the Ister and Sartessus: most of the other rivers to the north flow from the Arcynian mountains.’”

The passages in which Tacitus refers to the Hercynian Forest are these:—“*Igitur inter Hercynium Sylvam Rhenumque et Mænum omnes Helvetii, ulteriora Boii, Gallica utraque gens, tenuere.*”—*Tacit. German.* c. 28. “So the Helvetians occupied (the region) between the Hercynian Forest and the rivers Rhine and Maine, the Boians the regions beyond, each a Gallic people.” “*Ultra hos Catti intium sedis ab Hercynio saltu inchoant, non ita effusis ac palustribus locis ut ceteræ civitates, in quas Germania patescit: durant siquidem colles, paulatimque darescunt: et Cattos suos saltus Hercynius prosequitur simul atque deponit.*”—*Tacit. Germ.* c. 30. “Beyond these (the Mattiaci) the Cattians begin their territory from the Hercynian Forest: not so wide-spread and marshy as the other states of Germany, for the hills extend a long way, and sink gradually, and the Hercynian Forest accompanies its Cattians, and ends with them.”

inaccessible spots the labourers climb up fearlessly, carrying burdens of soil and manure on their backs. And yet, in the stony soil of these airy cliffs, if no untimely storm play havoc with their husbandry, the vines grow and ripen in great luxuriance, and yield many a goodly *Fass* of wine, as a fitting reward of adventurous industry. Vineyards such as these lack the air of romance with which poets and painters have invested them; for, instead of being ideal paradises, they are stern realities,—stony parterres cultivated with a shrewd eye to business, and about as prosaic and matter-of-fact-looking as a cornfield. Yet some of the choicest wines are yielded by grapes grown in such apparently unpromising soils. Thus the princely Johannisberg, and the fragrant Rüdisher, as well as the blood-red Assmannshäuser, are the produce of vines which cling to the face of the high rugged cliffs overhanging the waters of the Rhine; while the steep precipices of the Ahr-Valley, near Bonn, yield a vintage of the generous Ahrbleichart, or Rhenish Burgundy. We cannot say the same of the Franconian wines, which are made here near Würzburg; for they are all very sour, and are devoid of the full aroma of those which come from the Rhine district.

But a truce to this gossip; for here we are at Würzburg.

Würzburg is an old Episcopal city, on the banks of the Main, which lies nestling among the vine-clad Franconian hills. For more than a thousand years it has been the dwelling-place of a long line of Prince-Bishops, who reigned here supreme, alike over the temporal and spiritual affairs of the people. On the steep heights above the river's left bank the town is overlooked by the strong old citadel or fortress of Marienburg, which was the quarters of the Episcopal garrison, and in which the Bishops themselves used to live in olden times. But their residence for the last century and a half has been the noble palace—often styled the German Versailles—situated in a splendid square, into which I look from my windows in the *Kron-Prinz* Hôtel. A truly magnificent residence, in which one wanders through interminable suites of state apartments;—halls of polished marble, chambers flashing with countless mirrors from floor to ceiling, and ante-chambers richly draped with silk, or hung with fine old Gobelin tapestries. But it is now one of the royal palaces, and no longer the abode of the Bishops, who, by the way, are not princes now-a-days. The general appearance of Würzburg is striking and picturesque. Its numerous churches, with all the sharp pinnacles of their towers and steeples standing out in bold relief against the sky, make the view of the city very imposing. The most of the streets are narrow, with old-fashioned houses on either side; but they have not the delightful quaintness of Nüremberg, to which I shall by and by allude. The town has a sober air of quiet dignity, which, although rather dull and stupid at first to strangers, seems befitting an ecclesiastical city, and an eminent seat of learning. Everywhere the influence of the national Catholic faith is apparent:

as in the bridge across the river, ornamented by colossal figures of saints ; in the flower-decked shrines by the way-sides ; and in the sculptured Madonnas at the angles of the streets.

In Bavaria there are three Universities, two of which, Munich and Würzburg, are Roman Catholic, and the third, at Erlangen, is Protestant. The University at Würzburg was founded in 1502. The collegiate buildings here are large, gloomy, and very uninteresting,—containing numerous class-rooms, a good library, and a large museum which is particularly distinguished for its collection of specimens of natural history. When we pass out from its dull echoing courts, we soon emerge into a broad cheerful road, where the footpaths are lined by rows of green linden trees. This pleasant promenade, called the *Graben*, passes along the front of the *Julius-Spital*, or Julius Hospital,—a magnificent building of great length, of vast extent, and most imposing appearance. This, which is one of the largest and best managed of German hospitals, was founded in 1572 by one of the Bishops of Würzburg, Julius Echter von Mespelbrunn, as an asylum for the poor, the infirm, and the sick. A bronze statue of this venerable prelate,—a man of large heart and cultivated mind,—by Schwantaler of Munich, stands under the lindens of the *Graben*, opposite the main doorway of the hospital which he endowed. The chief archway of the building leads us into a spacious quadrangle, with two handsome fountains in its centre ; and the cool plashing of the falling waters seems to sing a soothing lullaby, fit to bring sleep to the eyes of the sick, tossing on beds of pain and weariness.¹ The

¹ Fountains attached to an hospital are not only objects of beauty, which always interest the sick, but I have often thought that they have an excellent soothing and hypnotic effect on the patients. Their benefits in this respect are known and acknowledged at Vienna, where there is a fountain in every one of the eight or nine courts of the *Allgemeine Krankenhaus*. Their cool dripping breaks the oppressive silence which might otherwise prevail, and exercises a sedative influence on the sick. Sir Philip Sydney, in one of his sonnets, reckons absolute quiet among the best means for procuring sleep :—

“ Sweet pillows, sweetest bed ;
A chamber deaf to noise, and blind to light ;
A rosy garland, and a weary head.”

But it is well known that monotonous sounds have a greater effect in inducing sleep than dead silence. Thus, the pattering of rain, the murmuring of a brook, the humming of bees, and the ticking of a clock, have all a powerfully soporific effect. Spenser beautifully expresses this in the following exquisitely soft and somnolent stanza, which contains a perfect picture of stillness and repose, and almost makes the reader sleepy :—

“ And more to lull him in his slumbers soft,
A trickling stream from high rocks tumbling downe,
And ever-drizzling rain upon the loft,
Mix'd with a murmuring wind much like the sowne
Of swarming bees, did cast him in a swowne ;
No other noise, nor people's troublous cries
As still are wont t' annoy the walled towne,
Might there be heard ; but careless Quiet lies,
Wrapt in eternal silence, far from enemies.”

hospital contains about 400 beds in all the different departments; and medical, surgical, and lunatic patients are all treated under its roof. The wards are large, well ventilated, and scrupulously clean; and their walls are adorned by crucifixes, and pictures of saints and martyrs. This hospital is the head-quarters of the Würzburg Medical School, concerning which a few remarks are necessary.

Würzburg has, for many years, held a very high position among the German schools of medicine; and the number of its students still continues on the increase. During the past session, about 350 of the 750 enrolled *alumni* of the University were medical students,—and this, be it remembered, is a large number for Germany, where the profession is very much overstocked, and for times of peace, when there is no great demand for surgeons for the military service. Würzburg owes its popularity to the well-deserved prestige of many of its professors and teachers,—such men as Virchow, Scanzoni, Bamberger, Kölliker, Linhart, Heinrich Müller, Leydig, etc. Würzburg has always been remarkable for the harmonious unity of aim, and the uninterrupted friendly relations of its professors; and its great popularity and efficiency as a medical school are probably, in no small degree, due to these fortunate circumstances. Happy indeed the university that is in such a case! Surely the most amicable feelings and the most catholic sympathies should prevail, to the exclusion of petty jealousies, among men who have all taken that solemn oath which Science imposes on the high-priests of her mysteries, and who are all consecrated to the same noble mission.

Würzburg probably first came into note on account of the distinction of its microscopists, and the originality of the views promulgated by the advanced school of pathology which was founded there by Virchow. When the microscope was first introduced into medicine, it was looked upon with suspicion and distrust; and we know that no less a man than the great physiologist, Johann Müller, could not, at first, “be convinced that there existed any necessity for physicians to acquire the ability of making microscopical examinations for themselves.”¹ But ere long Müller changed his views, and, by his earnest labours, gave a powerful stimulus to microscopical investigations both in physiology and pathology. Following the example of patient industry which had been set by Ehrenberg, Müller, Purkinje, Schwann, Schleiden, and others, the professors and teachers at Würzburg espoused the cause of histology; and the labours of Kölliker, Leydig, Heinrich Müller, and Virchow, firmly established the microscope in the confidence of the

And the reader, doubtless, remembers the story related by Macnish, of a miller whose mill was stopped when he was seriously ill, “that he might not be disturbed with its noise; but this, so far from inducing sleep, prevented it altogether; and it did not take place till the mill was set a-going again.”

¹ *Vide* Johann Müller. An Eloge by Prof. Virchow. Translated and edited by A. Mercer Adam, M.D. Edinburgh: Sutherland and Knox. 1859.

professional public. And, even to this day,—in spite of the many revolutions and capricious alternations of professional opinions all over Europe; in spite of the scepticism of “practical men” of the Velpeau school, and the sneers of the purely routine practitioners,—the use of the microscope, as a valuable aid to the physician, is decidedly becoming more and more common alike in Germany and in Great Britain. The microscope may now be said to have fairly stood the test of Time, which “tries all;” and it would long ago have been consigned to oblivion had it been merely a fashionable scientific toy, of no practical utility. To Germany belongs unquestionably the honour, not only of having developed histology into a distinct science, out of a mass of isolated facts and unconnected observations, but also of having been the first to institute classes for teaching histology systematically in her schools of medicine. In both of these respects, France and Holland followed but slowly in her wake. In this country, systematic courses of lectures on histology were first commenced in the University of Edinburgh; for so early as the session of 1841–2,—immediately after the appearance of the remarkable researches of Schwann and Schleiden,—Professor Hughes Bennett began to teach this branch of medical study to his pupils, and to instruct them in the practical use of the microscope in medicine.

The reader must not imagine, however, that Würzburg is famous only for the opportunities it affords for the cultivation of the higher branches of scientific medicine. It is also equally distinguished for the excellence of its clinical instruction, both in practical medicine, surgery, and midwifery; and for the great facilities which the students possess for observation and study in the wards of its hospitals. Scanzoni, as a teacher of Midwifery; Bamberger, of Clinical Medicine; and Linhart, of Clinical Surgery,—better men than these are not to be found in any Continental University. So let us now enter into a few details regarding them, and some of the other notabilities of Würzburg.

No name is better known in medical literature than that of Albert Kölliker, the Professor of Anatomy and Physiology in Würzburg. His *Manual of Human Histology* is the standard authority on the subject; and the Sydenham Society conferred a great boon on British physicians when it made them acquainted with this book, by means of the admirable translation and most valuable editorial notes of Messrs Busk and Huxley. This work, having now securely taken its place as one of our standard medical classics, is far beyond any praise or criticism of mine.

Mr Addison says that “a reader seldom peruses a book with pleasure, till he knows whether the writer of it be a black or a fair man, of a mild or choleric disposition, married or a bachelor, with other particulars of the like nature that conduce very much to the right understanding of an author.”¹ I have endeavoured, in preceding

¹ *Spectator*, Vol. I., No. 1.

"Notes," to gratify this excusable curiosity, and have occasionally offered rough pen-and-ink sketches of the celebrated medical men of the Continent; and it is my intention still to give the reader such information as is likely to interest him about the personal characteristics of the German physicians. But of Kölliker, it is almost unnecessary that I should offer any such sketch, as his face and form are quite familiar to the profession in Edinburgh, London, and elsewhere in this country. A man of from forty to forty-five, with long glossy hair,—once raven-black, but now beginning to be of a steel-gray hue; with open intelligent countenance, delicate features, thin lips, and a kindly dark eye; with a spare and somewhat wiry form, and a firm elastic step: A man, in whose face you can trace the evidences of much hard work gone through; but from whom—vigorous as he is in the prime of manhood—the scientific world has reason still to expect great things.

I met with a very kind reception from Professor Kölliker, who showed me all that was note-worthy in his department. His classrooms, dissecting-rooms, etc., etc., are in a large and handsome building, situated immediately behind the Julius-Spital, in an open space which is cultivated as a small botanic garden. Here are also the lecture-rooms, laboratories, etc., of Professor Scherer, the teacher of chemistry. These occupy the ground-floor of the building, and the upper story is devoted to the anatomico-pathological museum, the histological collection, and microscopical work-rooms. The Würzburg museum is large, and contains many rare and unique preparations—both wet and dry—in human and comparative anatomy. It is particularly rich in pathological specimens,—thanks to the contributions of Heusinger, Hesselbach, Brünninghausen, and others, but specially to the zeal and industry of Virchow. In it I saw the beautiful series of preparations made by the late Professor Bernard Heine, illustrative of his celebrated experiments on the formation of new bone from periosteum. Here we see the femur of a dog, formed entirely of new bone, which was developed from periosteum eleven months after the extirpation of the original bone; and there is a rib similarly developed seven months after the operation. Heine cut away all the bones of the right fore-leg of a dog, leaving the periosteum behind. Fourteen months afterwards, a new scapula, with a perfect articular surface, was formed, and similar development of new bone took place, a few months after the resection, at the site of all the other bones. The beautiful dried preparations of these curious results are preserved with great care, and are shown with a justifiable pride. I heard that the French Government had offered to purchase the series for a Parisian museum, but that the Würzburg Faculty had properly declined to part with them. There is a large collection of urinary calculi here,—among which is one with a musket-bullet for its nucleus. In osteology, there is a good display of rachitic skeletons, deformed pelves, and interesting hydrocephalic and abnormal skulls. Among the

latter is a curious case of atrophy of several of the cranial and facial bones, as a result of a peculiar hypertrophic skin-disease, called "Leontasis," in which a mass of long warty growths fringed the head and face like the mane of a lion. The most interesting crania, however, are those collected by Virchow to illustrate the varieties of race, and his theories about the development of the skull and the peculiarities of the facial angle in Cretins,—most of which have been figured by him in his various monographs. The microscopical preparations here, are worthy of the most careful study,—and among them are some beautiful injections.

I congratulated Kölliker on the success of his important experiments on the physiological action of poisons. "I do not pretend to be a toxicologist," said he, "for your great Christison is the only man in Europe who is truly one. But I have sought to render service to practical medicine, by showing how certain poisons really act on the organism." And he has not failed in his high aim; for the results of his carefully performed experiments throw much light on an obscure subject. He has shown the effect of such poisons as urari, upas, strychnia, opium, veratria, etc., on the muscles, the heart, and the nervous system. He found that the deadly arrow-poison of the American Indians, called urari¹ (also woorara and curare), causes death by paralysing the nerves of respiration; that it destroys the excitability alike of the motor and sympathetic, without affecting the functions of the sensory nerves; but that it does not destroy muscular irritability, or arrest the action of the heart. Conia acts in a somewhat similar manner, leaving the excitability of the muscles unimpaired, while it causes paralysis of the nerves which penetrate them. Kölliker further found that strychnia has no influence, through the blood, on the motor nerves; nor does it alter the condition of the sensory nerves, as is proved by his having poisoned frogs with the acetate, after previously dividing the ischiatic nerve of one limb. But strychnia, says he, causes paralysis of the motor nerves supplying voluntary muscles, as a result of their over-excitement during the tetanus induced,—just as too strong currents of electricity produce loss of power in the motor nerves which they convulse. The tetanic spasms of tetanus do not affect the heart, although they make its pulsations slower. The tetanus which follows poisoning by strychnia, he believes to be caused either by irritations conveyed to the grey substance of the spinal cord by the sensory nerves, or by certain influences transmitted to it from the brain. He found that opium acts similarly to strychnia, in causing tetanus by its action upon the grey matter, and by inducing paralysis of the motor nerves as a result of their hyper-excitation. His most recent experiments have been made with the upas-tree poison (*Upas Antiaris*

¹ Kölliker acknowledges having got the poison for experiment from Prof. Christison.

vel Toxicaria), and he found that the specific effect of this poison is at once to destroy all excitability of the muscles, and to cause immediate death by paralysis of the heart. He maintains that we have no true "blood-poison,"—meaning thereby one which would so change the mutual physiological relations of the elements of the vital fluid as to render its circulation positively injurious; but he holds that all poisons act on the parts which they affect through the medium of the blood. Some poisons he regards as purely muscular, and others as purely nervine, in their elective affinities for specific tissues. The upas-tree poison, and perhaps veratria, are the only true muscular poisons. Nervine poisons, however, are divided by Kölliker into three classes, according to the mode in which they operate on the nerves: 1st, those which act on the grey matter, as strychnia, veratria, and opium; 2d, those which change the nerve-tubes, as urari and conein; and 3d, those which probably act in both ways, as prussic acid, nicotin, and æther. He adds the corollary that there are likely excitant and paralysing agents in all the three groups.¹

Such are a few of the results of Kölliker's important physiological experiments in toxicology; and believing them to be comparatively unknown in England, I have stated them at some length. On Kölliker's other recent researches,—as, for example, on the absorption of fat by the glands of the alimentary canal, on the existence of a physiological fat-liver in the young of mammalia, and on the functions of the spleen,²—I have no space to enlarge. They seem to confirm satisfactorily the opinion now generally entertained of the use of the spleen, viz.—that it is a blood-forming organ, which develops colourless corpuscles, and that these blood-cells (at least in young animals) became transformed into red globules, partly in the spleen, partly in the liver, and probably also in the current of the general circulation.

Virchow is no longer a Würzburg professor, having occupied for more than a year the pathological chair in the University of Berlin. His loss has been seriously felt at Würzburg, but his name will always continue to be honourably associated with the history of this medical school, which owes so much to his industry and his genius. Another eminent man, Professor Förster, of Göttingen, who is a great authority in morbid tumours, etc., goes this winter to Würzburg, as Professor of Pathology, exchanging with Professor Otto Beckmann, of this University.

Bamberger, the Professor of Clinical Medicine, is another very eminent ornament of the Würzburg school. He is universally acknowledged to be one of the very best clinical teachers in Germany,—possessing all the great qualifications for this office,—to wit, quickness in diagnosis, skill in physical examinations, decision in treatment, and an intimate acquaintance with all the ancient and

¹ The reader interested in these investigations is referred to Prof. Kölliker's papers in *Virchow's Archives*, vol. x.

² *Verhand. der Phys. Med. Gesellsch. zu Würzburg*, Band vii., Seite 174.

modern literature of the profession. He has a peculiar aptitude for imparting knowledge to others; a patient, kind manner with his students, and a very contagious enthusiasm for the advancement of science. I frequently listened to his clinical lectures on the cases in his wards, and was much pleased by his lucid and graphic expositions of all the subjects which he discussed. Among other curious cases which I saw under his treatment, were two of lead-poisoning from the use of snuff. Prof. B. told me, that in Bavaria the snuff is usually sold in packages lined with an amalgam of tin and lead, and that the acetic acid present in nearly all their snuff acts chemically on the lead, and causes the snuff to become impregnated with the acetate thus formed. In both cases, the characteristic paralysis of the extensor, and emaciation of the flexor muscles, was very well marked. Their treatment consisted in the use of sulphates, followed by the administration of iodide of potass, and the local use of galvanism. I find a few notes of some of his clinical lectures in my pocket-book. In one lecture, on small-pox, he discussed with great ability the possibility of other contagions,—such as those of scarlatina, measles, and syphilis,—co-existing in the same individual with that of variola. He related the case of a girl who was admitted into the hospital, complaining of fever, headache, chronic bronchitis, and slight conjunctivitis. Next day a maculated papular eruption appeared on the face; and as small-pox was prevalent at the time, the professor ordered the patient to be removed to the division of the hospital allotted to variola, believing that he had to deal with an incipient case of that disease. The following day, however, Bamberger saw that he had made an erroneous diagnosis, and that the case was only one of measles. So the patient was removed from the small-pox department,—after having been there for twenty hours,—back again to the clinical wards, where the disease ran through the ordinary course. The date of this patient's admission to hospital was the 17th January; and on the 1st February, when convalescent from measles, she was again attacked by febrile symptoms, headache, etc., and two days afterwards the eruption of variola distinctly appeared. In this case the contagion of small-pox must have been received during the presence of the infection of measles. Professor Bamberger said he had seen small-pox attack patients infected by syphilis; and although, in these cases, the pustules were distinctly and indubitably variolous, they degenerated, on several of the mucous membranes, into sores of a specific syphilitic character. He regarded this as proof that a true variolous pustule may, in a syphilitic individual, become directly transformed into a true syphilitic efflorescence; and that the pustules of small-pox, in such cases, may retain (at least, for some time) the characters of both diseases. And if this be so, said he, it seems to afford a decisive answer to the vexed question, whether or not constitutional syphilis can be communicated from a diseased to a healthy child by means of vaccine lymph. He admitted that, in our Par-

liamentary Blue Book on Small-Pox and Vaccination, the majority of eminent physicians had replied in the negative to this question, and were of opinion that in the lymph of a vaccine vesicle its own peculiar virus cannot co-exist with the poison of syphilis. But, like Hamernjk, Bamberger believes in the possibility of syphilis being communicated by vaccination, although he asserts this opinion much more cautiously, and with less dogmatism, than the talented professor of Prague. Alluding to the experiments of Sigmund and Friedinger, of Vienna, who found that inoculation with a mixture of vaccine lymph and the pus of a chancre produced only an ordinary chancre, he said, that their results only showed that the poison of a primitive sore was more powerful than vaccine virus, and did not prove that the modified infection of constitutional syphilis would act similarly. Dr Heine, of Bamberg,¹ had recorded the following among other cases in point, which had unfortunately escaped the notice of the Blue Book Commissioners, but which clearly prove the communicability of syphilis by vaccination. Thirteen children, born of healthy parents, were inoculated with vaccine lymph taken from the child of a syphilitic mother, which at the time was covered with bullæ, excoriations, and sores, and which soon afterwards died. Nine of these children were immediately affected by syphilis; phagadenic ulcers were formed at the points of inoculation, and glandular swellings, condylomata, etc., followed. In two of the four children who were not affected by the syphilis, the vaccination either produced no effect, or the vesicles never matured; and in the remaining two cases no result ensued, as the mothers, alarmed by the aspect of the child from which the lymph was taken, had removed the vaccine virus from the arm as soon as they could. Heine had also recorded the case of three young physicians, who inoculated themselves with vaccine lymph from a syphilitic child, as a fool-hardy bravado; and two of them suffered from unmistakeable syphilitic sores, etc., in consequence. The lecture concluded with an expression of the professor's conviction that, in the face of facts like these, none but the followers of Ricord, who disbelieve the communicability of secondary syphilis, could deny the *possibility* of this specific poison being communicated simultaneously with the virus of vaccine vesicles.

Professor Bamberger has contributed largely to medical literature, and is the author of two standard works in practical medicine. The first of these is his treatise on "Diseases of the Chylopoietic System,"² which forms one of the volumes of Virchow's *Handbuch der speciellen Pathologie und Therapie*. In a somewhat encyclopædic form, he therein discusses the anatomical characteristics, ætiology, symptoms, diagnosis, prognosis, and treatment of all the diseases which may affect the tract of the alimentary canal, or the

¹ Heine's *Beiträge zur Lehre von der Syphilis, etc.* Würzburg, 1854.

² *Krankheiten des Chylopoëtischen Systems*, bearbeitet von H. Bamberger. Erlangen, 1855. (Virchow's *Handbuch*, Band vi., Abtheil. 1.)

liver, spleen, pancreas, etc. Bamberger was one of Oppolzer's most distinguished pupils, and in this work he gives a great many of the views of his eminent master, modified by his own experience, and the progress of medical science. His later work, recently published, on *Diseases of the Heart*,¹ ranks as the first standard work on the subject in Germany, and has been received with an extraordinary amount of popular favour. It certainly deserves its high reputation; for it is an admirably written book, full of graphic delineations of all the various cardiac diseases, and withal a very systematically arranged treatise, of the most concise and practical nature. It contains an able exposition of the newest views both of British and Continental physicians; it is specially distinguished by an independent and truth-seeking spirit; it is pervaded by a high philosophic tone; and it is enriched by many original investigations. Thus, for example, the chapter on the mechanism of the heart's action contains much novel and valuable matter. The theories there advanced are founded on original observations made in a case where a man had a large gash in his side, below the left nipple, which laid open the pericardium without injuring the substance of the heart, and allowed the insertion of the finger so as to feel the heart's action; and also upon a series of experiments on rabbits, performed conjointly with Prof. Kölliker.² Bamberger has shown satisfactorily that, during the systole, the heart becomes shortened longitudinally, and broader transversely; that it moves downwards with each systole and during each inspiration, by means of stretching of the great vessels; that in thus descending it partially rotates round its own axis from left to right, so that, between its rotation and its descent, it seems to slide downward along the walls of the chest with a screw-like motion; and finally, that the impulse of the normal heart-stroke felt on the walls of the chest depends simply on the hardening and bulging (*Wölbung*) of the anterior ventricular wall, and of the apex.³ Again, he opposes the ingenious views propounded by Dr William T. Gairdner, that in dilatation of the ventricle, without actual hypertrophy, valvular insufficiency occurs, on account of diminished contractility of the chamber, which prevents the papillary muscles—whose function, according to him, is to maintain tension and apposition of the valves in the direction of the orifice they close—being brought into the requisite approximation to one another.⁴ Bamberger affirms that the

¹ *Lehrbuch der Krankheiten des Herzens*, von Prof. H. Bamberger, Oberarzt des Julius-Spital in Würzburg. Wien, Braumüller, 1857.

² For details of these experiments, see Virchow's *Archives*, vol. ix., 1856.

³ *Herzkrankheiten*, p. 22-29.

⁴ "Wherever dilatation predominates largely over hypertrophy, the contractions of the ventricles are inadequate to bring the columnæ carneæ together at any period of the systole; they remain, therefore, permanently apart, and the tendinous cords, instead of drawing the edges of the valves *towards* the axis of the opening, may actually cause them to diverge from it."—Dr W. T.

greatest tension of the muscoli papillares cannot alter the position of the margins of the valves, because the chordæ tendineæ of the first class,¹ which arise from the papillary muscles, are attached to the middle or base of the valves, instead of to their margins. The stream of the blood expands the free margins of the valves, and they are then fixed, and rendered tense by, the finer tendinous cords which do not arise from, and which are not acted on by, the groups of papillary muscles. His opinions are also very valuable on the connection which exists between Bright's disease and cardiac affections.² He believes that in these cases the renal complaint is preceded or occasioned by the valvular disease. With the exception of one case, where endocarditis occurred in the course of Morbus Brightii, Bamberger, throughout his great experience of heart diseases, never saw an instance of the granular kidney preceding the lesion of the valves; but, *au contraire*, he has witnessed, in numerous instances, the development of Bright's disease in patients having valvular affections. He acknowledges, however, that in such cases, the granular degeneration may often be no further advanced than its first or preliminary stage. As regards the relation between the cardiac hypertrophy (especially of the left ventricle), which so frequently co-exists with Bright's disease, he admits that the primary affection is generally that of the kidneys; but he rejects all the mechanical theories of Traube,³ of Berlin, and others, who consider the hypertrophy to be dependent on derangement of the circulation, resulting from the obliteration of the renal capillaries which occurs during the shrivelling and atrophy of the kidneys. For, as he well remarks, we may find dilatation and hypertrophy of the left ventricle present in the early stages of Bright's disease, where there is no disturbance of the capillary circulation, as well as at a more advanced period of the disease.⁴ Moreover, he has shown,⁵ by a careful analysis of an extensive series of cases, that the cardiac hypertrophy in granular kidney often affects the whole of the heart, and is the result of inflammatory affections (peri myo and endocarditis), of fatty or bacony degenerations of the organ, or of synchronous affections of the lungs. He regards all purely mechanical theories as quite untenable, and thinks that in most cases the cardiac hypertrophy in cases of Bright's disease depends on partial degenerations of the organ itself, arising from certain *vital conditions*, which, as yet, are not accurately understood. Finally, I would direct attention to Bamberger's views on the treatment of pericarditis. He deprecates all heroic antiphlogistic remedies, and is op-

Gairdner, *Trans. of Edin. Medico-Chir. Soc.*, May 3, 1854. *Edinburgh Monthly Journal*, July 1854, vol. xix., p. 77.

¹ Kürscher. *Wagner's Handwörterbuch*. "Herzthätigkeit."

² *Op. cit.* Also Virchow's *Archiv.*, Band xi., 1857.

³ Traube, *Ueber den Zusammenhang von Herz und Nierenkrankheiten*. Berlin, Hirschwald, 1856.

⁴ *Op. cit.* p. 328.

⁵ Virchow's *Archiv.*, Band xi.

posed alike to venesection and the use of mercury, as recommended by Graves and other English physicians. The results obtained by his treatment of the disease are very encouraging. Of thirty-four cases of pericarditis treated by him, which were either quite uncomplicated, or dependent on acute rheumatism, pneumonia, or pleuritis, only two died, one of which was a typhus patient with pneumonia, and the other a woman, eighty-six years old, with the addition of double pneumonia. Of twenty-nine cases, where he found the pericarditis complicated with incurable affections, such as aneurisms, heart disease, cancer, and Bright's disease, he had only five recoveries. The treatment which he recommends, consists in leechings, cataplasms, or blisters locally, and the internal use of digitalis, neutral salts, nitrate and tartrate of antimony, and also of opiates when necessary.¹

The writer may add that he is at present engaged, with the consent and co-operation of Professor Bamberger, in preparing an English translation of this work for publication in this country. In this edition an explanation will be given of the differences (where such exist) between the German and English schools, so that the work may be completely intelligible to readers unacquainted with the peculiarities of German medicine.

Scanzoni next demands our attention. He it was who attended the Empress of all the Russias at her last accouchement, and was presented with the munificent fee of about L.5000, perhaps the largest *honorarium* which any continental physician ever received. The *présteige* with which his favourable reception at the Russian court invested him; his undoubted skill, and widely-spread fame, as an authority in female diseases, have rendered him the most celebrated and popular of continental accoucheurs. Every summer, crowds of the French, German, and Russian nobility and aristocracy flock to Würzburg to consult him; and the principal hôtels there during the season, are like so many fashionable hospitals, filled with his lady-patients. I remember that I considered myself very fortunate in getting possession of the only vacant apartments in the *Kron-Prinz*, just as they were vacated by a *Gräfin*, or German Countess, who had been under Scanzoni's care. Nor is he only busily employed during the summer months; for when the *Kurzeit*, or season, is over at the Spas, when the pleasure-seekers and invalids have left Baden-Baden, and when the gambling-rooms of Wiesbaden and Hombourg are deserted alike by the fools and

¹ *Op. cit.*, p. 132. The reader is referred also to the following very able papers by Prof. Bamberger, which will well repay his study:—"On Acute Yellow Atrophy of the Liver." *Würzburg. Verhand. d. phys. und med. Gesell.*, Bd. viii., Hft. 3. (*Schmidt's Jahrb.*, Bd. 93, S. 181, 1858.) "On Leukæmia." *Ibid.*, Band vii. "On Acute Multiple Cancer." *Oesterr. Zeitsch. f. pract. Heilkunde.* (Schmidt, Bd. 95, S. 159.) "On Cerebral Diseases." *Würzburg Verhand.*, etc., Bd. vi. (See also abstract in *Brit. and For. Med. Chir. Review*, vol. xvii.)

black-legs who had thronged them in summer, the little spas of Kissengen and Brückenau, in Bavaria, preserve their vitality, being constantly frequented by visitors, who desire to be in proximity to the great obstetric physician of Würzburg. Scanzoni has earned his great reputation while still comparatively young. He is a man of forty, slightly above the average height, and with a slim, well-made figure. His complexion is fresh, and his long light-brown hair, carefully brushed back from a large well-developed brow, falls in negligent masses behind. He has a cheerful open countenance, and a merry eye; his face generally wears a smile, and a touch of quiet humour lurks about the angles of his mouth. His manners are peculiarly affable, and all who have enjoyed the pleasure of his society must retain, as I do, the most delightful recollections of his friendly courtesy. Scanzoni's unprecedented success has not lost him to science. We all know how often this is the result of a man gaining the ear of the great public, and becoming what is called a "fashionable physician;" how often he ceases to investigate disease, or to contribute to medical literature as in days gone by; and how often the clink of golden guineas dulls his ear to the calls of science. There are among us, no doubt, many most honourable exceptions,—men who scorn all fashionable quackery, and who, in the midst of an extensive and harassing practice, still contrive to cultivate science and medical literature with quite as much success as their less busily employed brethren. Hofrath Scanzoni is a man of this stamp, and he fully deserves his fame; for he continues to be as active and enthusiastic in the investigation of all that relates to obstetrics, as he was in former days when he was comparatively unknown.

The works of Scanzoni, like those of his colleague Kölliker, are now so familiar to all scientific obstetricians,—although, singular to say, no English translation of them has yet appeared,—that any special reference to their contents is quite unnecessary. His *Manual of Midwifery*,¹ now in its third edition, is a most complete treatise on the subject; and his work on *Female Diseases*² is eminently practical in all its details. He has recently commenced a periodical specially devoted to obstetrical science, which promises to be a very valuable addition to this department of professional literature. It is entitled *Contributions to Midwifery and Gynecology*,³ and contains, not only contributions from his own pen, but also from many other writers of note. In the third part, recently published, Scanzoni relates a most interesting case of death induced by passing carbonic acid gas into the uterine cavity. The reader

¹ *Lehrbuch der Geburtshilfe*. Dritte Auflage, Wien, 1855, pp. 1066.

² *Lehrbuch der Krankheiten der Weiblichen Sexual Organe*. Wien, 1857, pp. 570.

See Reviews of these works in this Journal, vol. ii., February 1857; also *Brit. and For. Med. Chir. Rev.*, April 1858.

³ *Beiträge zur Geburtskunde und Gynaekologie*, herausgegeben von Dr. F. W. von Scanzoni. Würzburg, Stahel, 1858.

is doubtless aware that, of late, carbonic acid has been extensively used, not only as a local anæsthetic of undoubted efficacy, but also as a means of exciting the muscular activity of the uterus, in the induction of premature labour. The unfortunate patient was a woman, aged thirty, who had a large, painful, fleshy tumour, of bluish-red colour, and as large as the fist, attached to the vulva; and who had also a disease of the cervix, and, what afterwards proved to be, a large dropsical cyst of the uterus. Before commencing an operation for her relief, a stream of carbonic acid, as an anæsthetic, was passed into the vaginal canal; but hardly had two or three cubic inches of the gas entered the cervix, when the patient screamed out, "The air is entering my abdomen, my head, and my neck!" Alarming symptoms immediately ensued; great rigidity of the whole body; laboured respiration; small pulse, and coldness of the extremities. In spite of all the remedies applied, the patient sank, one and three quarter hours after the introduction of the gas into the vagina. Scanzoni considers that the death may be accounted for in two ways: *firstly*, by supposing that the gas entered one of the large uterine vessels and occasioned a fatal result, just as sometimes happens from the entrance of air into the veins in surgical operations; or *secondly*, by the hypothesis of a veritable intoxication, produced by the gas. He admits that objections may be raised against both of these views, but he considers that the first theory is more likely to be correct than the second. The first hypothesis seems opposed by the fact that, on the careful examination of the uterus, not a single injured or gaping vessel could be found, which could admit the gas into the circulation; and, moreover, it is worthy of remark, that death did not occur for an hour and three quarters after the introduction of the gas, whereas on the entrance of air into the veins, the fatal result usually takes place very quickly,—sometimes in a few minutes. Against the intoxication-theory may be adduced the facts, that proportionably very large doses of carbonic acid may be brought into contact with the blood, through the medium of the respiratory and digestive passages, without any poisonous effects being produced; and further, that, in numerous instances, this gas has been passed for a long time into the vagina, without giving rise to any dangerous symptoms whatever.

As a clinical instructor, Scanzoni surpasses most obstetrical teachers in rendering his pupils adepts in correct diagnosis. I remember hearing him deliver a clinical lecture on the differential diagnosis of fibroid pelvic tumours, from pregnancy, fibrous tumours and polypi of the uterus, which was quite a master-piece for its lucidity and simplicity. He has large clinical wards for patients with female diseases allotted to his care in the Julius-Spital; and he gives instruction in practical midwifery in the *Entbindungs-Anstalt*, or Lying-in Hospital, a handsome new building, near the Julius-Spital. This institution, which is principally supported by allowances from the Government exchequer, and also, in part, by the

fees of the students and midwives who attend it,—is well worthy of the medical school of Würzburg. It is intended for the reception and care of poor women at their confinements; for the shelter and private delivery of pregnant women who wish their accouchements to be kept secret; and for affording a good school for the instruction of medical students and midwives in practical obstetrics. The very poor are, of course, received gratuitously, but nearly all the patients contribute something for their maintenance and treatment. The rates charged vary according to the accommodation afforded, etc.; and the patients are divided in three classes:—the first pay 2s. 6d., the second 1s. 2d., and the third as low as 3d. a-day. Patients of the latter class, however, in consideration of the low rate of board charged, are expected, if strong and well, to render assistance in the general household work of the establishment. The maximum length of residence allowed in the *Entbindungs-Anstalt* is fixed at six weeks, but exceptions are made in favour of poor women who are in ill health, and demand medical attention during pregnancy, and also in the case of rich patients who desire a refuge within its walls for a longer period. On the reception of a patient into the hospital, the following particulars are recorded in a book:—Name, surname, age, and place of birth; date of admission; number of pregnancy,—its beginning, its present stage; time of expected confinement; any personal peculiarities, etc., worthy of notice; and columns are further provided for the registration of the date of the discharge, and whether or not the mother was accompanied by her child. The institution contains about 130 beds, and about 50 are, on an average, constantly occupied. The number of births averages about 350 annually. The whole of the interior is furnished with a view to elegance and comfort; and the system of ventilation throughout the building is quite unexceptionable. Around the hospital are neatly laid-out gardens, which serve as airing-grounds for the patients. Each of the first-class patients is allotted a neat little room for herself, which is elegantly fitted up with furniture made of walnut wood, consisting of a bed, table, sofa, chest of drawers, and several chairs,—with occasionally an extra bed for the attendant nurse. The second-class patients have also separate apartments, similarly fitted up, but with furniture of a little plainer description. In each room a cosy little child's cot stands beside the bed of the mother. Patients of the third class sleep in dormitories, which are well lighted, and exceedingly clean and comfortable. In one part of the establishment there is a suite of about six or eight apartments, which is called the *Geheime-Abtheilung*, or secret department. This feature distinguishes many of the German Lying-in Hospitals,—as we shall afterwards have occasion to mention when speaking of the Vienna hospitals,—and it enables the victims of seduction and illicit love to conceal their shame from the open gaze of the world. Here, the young lady, who has “loved, not wisely, but too well,” may retire from society

before her disgrace becomes apparent,—her friends believing meanwhile in some pleasing fiction, that she has gone on a tour to visit England, or to enjoy the gaieties of Paris. Here she enters, seen by no human eye, save that of the hospital attendants, who are all trustworthy, and sworn to implicit secrecy; here she lives till her confinement is past,—never called by her name, but merely designated by a number; and when that event is over, she again passes out into the world,—and perhaps talks of the celebrities she has seen in Pall Mall or Rotten Row, or of the fascinations and beauties of the Champs-Élysées. The object, in providing such facilities for the concealment of illegitimate births, has doubtless been the prevention of criminal abortion (a crime as heinous as murder in the eyes of the Roman Catholic Church) and infanticide;—but the effect of these provisions on the public morals cannot be very good.

For the reception of puerperal women, there are four excellent wards, with water-closets attached; and there are also sick-rooms for patients who have abnormal deviations from the ordinary process of recovery after labour. Each sick-chamber has a little kitchen annexed to it, for preparing cataplasms, cooking food, etc. There are lavatories in all the passages; and I was shown one or two large and cheerful work-rooms, where great numbers of the poorer patients were all busily employed—as is the custom with the German peasantry—spinning away with their “rock and wee pickle tow.”

In the upper part of the *Anstalt* is a large hall or amphitheatre, called the *Entbindungs-Saal*, or accouchement-room, wherein the patients of the third class are delivered by the students, under the direction of the Professor or the assistant-physician. Seats are arranged, in a circular form, round the room, for the accommodation of the students; and in the centre of the space which they enclose, stands an obstetrical bed, which is something quite unique. It resembles in general appearance the ordinary German beds, which are simply long and not very broad wooden boxes, raised on four legs, and having no posts or curtain-hangings of any kind. This bed, however, rests on a strong, central, circular pivot, which enables it to be turned round easily in every direction. It also admits of being separated, transversely through its centre, into two halves; and this is done when turning, or any instrumental interference is necessary. The lower half being then withdrawn, and the patient placed in the lithotomy position, the operator enjoys great freedom of action in every direction. The bed is also furnished with two moveable wooden handles, which can be shifted higher or lower for the convenience of the patient, and by grasping these she can have a firm support during the labour-pains. Whenever a patient is seized with labour-pains, the clinical students are specially summoned to attend at the *Entbindungs-Saal* and witness her delivery. One of their number is selected to conduct the case, under the superintendence of the Professor or his assistants. It cannot be denied that there

are many advantages connected with this mode of teaching clinical midwifery, but the publicity and exposure which it entails, are attendant evils that render it repugnant to British notions of propriety, and preclude the possibility of its importation into this country.

Professor Scanzoni kindly accompanied me through the whole of the excellent museum attached to this hospital, and showed me his collection of valuable obstetric instruments. His new cephalotribe struck me as a very beautifully devised instrument, infinitely simpler in its construction, and easier in its working, than the cephalotribes of other physicians. In Germany, this instrument has completely superseded the perforator and crotchet in craniotomy cases; and I feel quite convinced, from what I have seen of its use, that if British accoucheurs would only give it a fair trial, that it would soon come into general employment in this country also. Scanzoni's cephalotribe is not more difficult of application than the ordinary forceps; it is easily worked, and is devoid of all the dangers to the mother attendant on the employment of the old-fashioned craniotomy instruments. The museum contains a large collection of interesting anatomical preparations. Among them is a curious specimen of a uterus, with a rudimentary appendix on its left side, in which an ovum—which had descended from the right ovary, and had travelled thither through the fundus of the large uterine cavity—was developed into a foetus of four or five months old.¹ The mother died at this stage of her extra-uterine pregnancy, although she had before been thrice safely delivered of children, and had once aborted with twins. At the *post-mortem* examination, the ruptured sac of the foetal membranes was found in the appendix I have referred to, which constituted a true horn of the uterus. This horn or appendix was attached externally to the left Fallopian tube and ovary, and on its internal or right side it was united to the fundus of the uterus by a band of connective tissue. A narrow passage perforated this connective tissue, which admitted of the passage of a probe, and constituted a true communication between the fundus and the appendix. No cicatrix was found in the left ovary; but in the ovarium of the right side there was a distinct corpus luteum, about six lines in length, which indicated the point from which the ovum came, which, after wandering through the whole of the uterus proper, found its way along the narrow passage into the abnormal horn, and was there developed into a foetus. Probably no similar instance of the wanderings of an ovum in the human subject is upon record; although Bischoff, the embryologist, was aware of their occasionally travelling in this manner in the lower animals. The peculiar abnormality is also very uncommon. I believe that Rokitansky only knew of one similar case of a rudimentary appendix attached to a uterus.

¹ This case is described by Scanzoni in the first part of his *Beiträge*, etc., alluded to.

The Museum contains many fine specimens of the various deformities of the pelvis, and among them is a preparation of great interest, illustrating the curious anomaly, first described by Kiwisch, which is termed by Lambl of Prague, Spondylolisthesis. This deformity consists in a dislocation forwards of the fifth lumbar vertebra and the upper segment of the sacrum into the hollow of the pelvis. This preparation has been minutely described, and accurately figured by Dr Lambl, in the last part of Scanzoni's *Beiträge*.

We have still much to say concerning other professors and teachers of the Würzburg school, but the length to which the present paper has already run forbids me entering into details. Scherer, the professor of chemistry, is well known as one of the best organic chemists; Linhart, formerly teacher of surgery at Vienna, is an able clinical professor, a very expert operator, and author of a capital treatise on operative surgery. The oldest professor, the venerable Hofrath von Textor, lectures on surgical instruments, and their uses; the Hofrath, Dr von Marcus, teaches psychology and history of medicine; and Professor Rienecker gives excellent lectures and clinical instruction on the diseases of children. Ophthalmology is taught by Professor von Welz; and comparative anatomy and microscopy by Professor Heinrich Müller. The latter physician is distinguished by his papers on the retina, and has made the finest preparations extant illustrative of its structure.

And now, in conclusion, I would say, very briefly, that I am not acquainted with any school of medicine which, taken all in all, offers more solid advantages to a hard working student; and, a few weeks could not be more profitably employed by any physician from this country, who is able to speak and understand German (for in Bavaria, even among educated men, the stock of English is rather scanty), than in attending the cliniques, and hearing the lectures of the distinguished men whom I have mentioned, in the delightful old city of Würzburg.

A FEW MORE NOTES CONCERNING BAVARIA.

NUREMBERG.

WE reluctantly leave the university, hospitals, and genial professors at Würzburg, and hasten onwards, by way of Nuremberg, Munich, and the Tyrol, to Vienna. We pass through a flat, uninteresting country—our course no longer skirting the pleasant river Main—until we come in sight of the four magnificent towers of the *Domkirche*, or Cathedral of Bamberg. Like Lincoln Minster, this cathedral has a very imposing appearance, from being built on a commanding eminence overlooking the town. The Emperor Henry II., who founded it, lies buried in the nave; and I may mention that, among other carvings on his tomb, there is a curious bas-relief, which represents a Benedictine monk in the act of performing lithotomy on the imperial sufferer. The tonsured priest, with his clumsy knives and gorgets, the smoking brazier and heated cauteries, recall to our recollection the dark ages of surgical science, and make us feel thankful that we live in a time when the poorest can have such an operation performed skilfully, bloodlessly, and painlessly,—advantages which this dead monarch never possessed.

Waiting here for change of trains, we saunter into the refreshment-room, which is filled with travellers;—and, verily, every man, woman, and child therein seems to be drinking beer. And yet—hear it, O ye rabid Maine-law advocates, who clamorously insist that, because “you are virtuous, there shall be no more cakes and ale”—not a single person was the least degree intoxicated. In fact, I never saw any one drunk in Bavaria, where the universal consumption of beer is the most striking characteristic of the people. Some idea may be formed of the extent of this beer-drinking from the fact that, on an average, no less than ninety-six millions of gallons are brewed annually in Bavaria. Every large town has several breweries in its outskirts, and attached to many of them are *guinguettes* or beer-gardens, which are favourite resorts on the summer evenings.

If we visit one of these gardens on an evening, we will find all classes of society represented in the crowd. At one table there is a group of lieutenants of cavalry and artillery, who sit jingling their spurs and talking camp gossip; round another is gathered a knot of students, long-haired, saucy, and proud of the jaunty little caps they wear; while at a third we see an honest burgher with his whole family. *Paterfamilias* stolidly smokes his long pipe, and skims the *Allgemeine Zeitung* or the *Nürnberg Correspondent*; while his wife and daughters are busy with knitting or needle-work, just as the ladies of Weimar are wont to work cosily in the pit of the theatre, the while the drama or opera proceeds. There is generally an excellent military band present on such occasions; and the music, the beer, and the invariable pipe or cigar, are never-failing delights

to these simple-minded people. The Bavarian beer has a pleasant aromatic, bitter taste, and a refreshing "sharpness" or pungency, owing to a considerable quantity of carbonic acid which is held in solution. It generally contains from 3 to 4 per cent. of alcohol, from 7 to 8 per cent. of extract of malt, about 0.14 per cent. of carbonic acid, and about 87 per cent. of water. Hence it is much weaker than pale ale, which contains 12 or 15 per cent. of alcohol; and also than London stout, which contains about 6 or 7 per cent. A large quantity of the Bavarian beer can therefore be drunk without producing intoxication; indeed, it is not uncommon for a regular beer-drinker to consume nine or ten measures (*Maas*)—each containing about one and a half English quarts—in the course of an evening, without being at all inebriated. As regards the manufacture of this beer, I believe that the process of its brewing closely resembles that used in England. Of course, the malt differs somewhat from that of England, and the hops—which come chiefly from Central Franconia in Bavaria, from Saatz in Bohemia, and from Rottenburg in Würtemberg—possess a more aromatic bitter than those of Kent and Surrey. The malt is prepared from the finest barley, which is first of all steeped for about five days, then forced to germinate in a dark heated chamber, and afterwards carefully dried for use.

In Bavaria, however, there is a difference in the mashing process; for the wort is a *decoction* of the malt, instead of a simple *infusion* of the grist, as is usual in England and Northern Germany. Good German beer thus prepared contains water, sugar, dextrine, gum, extract of hops, alcohol, carbonic acid—sometimes vegetable albumen and a little resin—and several earthy salts, such as the phosphates of lime and soda, sulphate of lime, a trace of chloride of sodium, etc.

Is all this use of beer wholesome in a dietetic point of view? Ask a Bavarian, and he will answer you, shrugging his shoulders and raising his eyebrows with delight, "*Ach, mein Herr! das Bier ist flüssiges Brod!*" (My dear sir! beer is fluid bread!) Now, whatever the teetotal party may say to the contrary, the honest German's answer is very near the truth. Böcker of Bonn, Mulder of Utrecht, and other eminent physiological chemists, have shown us clearly and indisputably that beer and wine, by arresting the destructive metamorphosis of our tissues—especially of those containing phosphates—are both valuable as indirect nutritive agents. Will it be credited that a pint and a half of good beer will afford a hard-worked man about as much nourishment as a pint of milk?¹ The physiological

¹ And now we are in a position to perceive how it is that the English and the Germans are a fat race, while the French and the Scotch are lean. The former drink beer, which contains about the same amount of alcohol as the light French wines, but in combination with a narcotic and nutritive extract to the extent of from four to eight per cent.; while in milk, the model food, the nutritive matter is about twelve per cent. So that a pint and a half of good beer is equal, in respect of solid nourishment alone, to a pint of milk. But it has

effects of beer on the animal economy are these :—The carbonic acid of the blood is increased, and the excess is eliminated by the skin and kidneys, and burnt off in the lungs. The alcoholic elements stimulate digestion, increase the appetite, and facilitate the absorption of nutriment by the alimentary canal. Its sugar and dextrine, transformed into lactic acid and sugar, pass into the portal system, where they increase the bile-forming constituents of the blood, and offer the source of additional animal heat. And, lastly, the narcotic principle of the hops soothes the excited or irritable nervous system. Thus we can understand how beer, like wine, is a valuable aid to nutrition, in virtue of its tonic and sedative properties, and on account of its arresting the waste of tissue inseparable from intense or continued mental application. “Surely, then,” says Dr T. K. Chambers, “that is a truer philanthropy which turns its attention to increasing the variety and quantity of wholesome fermented liquors, than that which, by precept or example, endeavours to deter men from them altogether.”¹

But the arrival of the train for Nuremberg is now announced by a magnificently-attired railway beadle, who forces his way through the crowd to the centre of the refreshment-room, strikes a massive

this immense advantage over milk, that it soothes the over-active nervous system at the very instant that it presents to it its means of nourishment. It cherishes and nourishes at once. Shall we then, misled by the crude speculations of modern chemists, reject the evidence of all history in favour of the mighty boon conferred by Bacchus on our race? When we reflect that in the present age the work is done more with the brain and the nerves than with the muscles and the bones,—and we have now bones of iron and muscles of steam, which relieve to a great extent those of the human frame,—and that this substitution is daily progressing; while, on the other hand, the strain upon the mental and cerebral system is proportionally increased, for we cannot multiply brains by any process of machinery yet invented, and that this very liberation from the toil of the hands begets greater and greater competition in the rate of mental achievement; when we reflect on all this, is there not something very presumptuous in venturing, against the most advanced investigations of physiology, to enforce more than monastic asceticism upon those who, instead of the dawdling life of the monastery, with the trifling expenditure of its hibernating existence, have daily to undergo a waste of cerebral and nervous matter, in the furnace of a city, to an amount hitherto unknown in the annals of our race? If we forbid alcohol in all its forms, is there not a danger of our starving the brains and the nerves? May not a portion of this substance be absolutely necessary for those who, like pleaders, have to go through a work of intense cerebration, so to speak, for hours together? Certainly in my own practice I have met with many instances where the health was kept in a state of deterioration by abstaining from alcoholic drink, and where the addition of a glass of ale or a glass of wine permanently improved the health and comfort of the persons; and I believe, notwithstanding all the averments of the teetotallers, will contribute to the prolongation of a life it has already made happier. There is wisdom in the adage that wine is the old man’s milk.—*A Contribution to Medical Literature, by T. Rutherford Russell, M.D.*

¹ *British and Foreign Medical Chirurgical Review*, Oct. 1854. See also Dr Chambers’ *Digestion and its Derangements*, p. 526. See Lewes’ *Physiology of Common Life*, p. 144. Böcker, *Beiträge zur Heilkunde*, vol. i. Also my *Medical Notes*, No. III., Oct. 1858., *Edinburgh Medical Journal*.

silver-headed staff with emphasis on the floor to arrest our attention, and splutters out the names of the stations at which the train will stop, with nearly as much rapidity as Charles Matthews sings one of his patter songs. So we proceed with our journey, without even halting, as we pass, at the little University town of Erlangen, where a medical degree (*quantum valeat*) can be obtained, and "no questions asked," by any one who is not over particular, and who can jingle a few English sovereigns in his pocket. Nuremberg is reached at midnight; and as we drive through the streets, the dim moonlight partially reveals the shadowy forms of its churches, fountains, and brave old houses. Not a soul seems astir as we rattle across the steep Rialto-like bridge which spans the sluggish Pegnitz; and our wheels waken ghostly echoes in the silence of the deserted streets.

Nuremberg is quite unique among European cities, for none has so well preserved the aspect of antiquity. Wars and tumults have surged over its walls, but they have left its peculiarities intact; so that to-day, in this bustling nineteenth century, its appearance is much the same as it was four or five hundred years ago. I admit that there are here a railway station, a factory for steam-engines, a *papier-maché* manufactory, and such like modern institutions; but still the delightful archaic character of the place remains, as in those days when Nuremberg was the cradle of art, science, and poetry in Germany, and its burghers proudly boasted that

"Nurnberg's hand went through every land."

We walk through its narrow streets, among strange mediæval houses, with pointed gables, ornamented fronts, sculptured doorways, and small lattice-windows—all quite fresh and perfect in their grey antiquity. These houses are entered by huge lumbering oaken doors, which swing on great iron hinges of curiously-wrought patterns, and which are fitted with massive locks, turned by apostolic-looking keys of imposing size. The lower windows are fenced by strong stanchions, as befits the houses of wealthy citizens; yet these safeguards do not possess their modern form of prosaic, straight iron bars, for, by the skill of the smith, the iron work has been made to assume the form of trellis-vines, or clusters of creeping flowers.

"Through those streets, so broad and stately, these obscure and dismal lanes,
Walked of yore the master-singers, chanting rude poetic strains."

Yes, in these quaint old houses the *Meistersänger* held their guilds, in that rude era of early German literature, when poetry was taught and practised mechanically like any of the trades by a stalwart race of brave mechanics, who could not discern that the delicate spirit of poetry eluded their grasp, and was not to be fettered by rules of art. Here, in this queer old hostelrie, dwelt then the German Chaucer, Hans Sachs, "*Schumacher und Dichter dazu*,"—the shoemaker bard—who was the friend and contemporary of Luther, and who, as he

sat mending shoes, managed to compose about 6000 poetical pieces, among which were 200 tragedies and comedies! O brave old Hans! patient, industrious, and devoted to art, we uncover respectfully beneath the shadow of thy doorway!

In a picturesque old Gothic building in the *Hirschgasse* is the celebrated *papier-maché* manufactory of Messrs Fleischmann. Here we not only see *papier-maché* applied to every useful purpose, and employed for all kinds of ornament, but we witness its beautiful adaptation to medical science in the manufacture of anatomical and pathological models. Diseases of the soft parts, cancerous growths, epithelial tumours, and morbid conditions of the viscera, are copied in this plastic material with a marvellous fidelity; and all the pathological conditions of the bones are also most truthfully delineated. Models of this kind possess many advantages over those made of wax, for the uses of medical lecturers. They are equally faithful and beautiful; while, at the same time, they are not only very cheap, but almost indestructible. I was very much pleased with the specimens of pelves in this collection. Models of the oblique or *shräg verengte* pelvis of Nägele are here sold at 6 florins, or about 10s. each. One can also obtain copies of all the more remarkable pelves described by D'Outrepont, which are in the Cabinet at Würzburg. Thus here we have the celebrated *P. obliqua coarctata*; and also the rare pelves, too wide in every direction, the *P. per omnes radios justo et amplior*, from that museum. I saw also an interesting model of a medullary bony growth of great size attached to the pelvis, which is copied from the preparation of Dr Martin of Jena; one of exostosis of the pelvis, after a case described by Dr Busch of Stettin; and another similar pelvic exostosis of still greater size, after a case in which Braun of Vienna performed the Cæsarian section about a year ago. Several of Rokitansky's and Virchow's specimens of tuberculous disease of the lungs, etc., are also beautifully reproduced in this collection. The English physician, who may chance to be in Bavaria, will find himself amply repaid by a visit to this very interesting establishment.

While in Nuremberg I visited the new hospital, which was erected in the vicinity in 1842. It is a handsome Gothic building, containing about 200 beds; it seemed very clean and well managed in all its departments. I saw nothing particularly novel or interesting either in the cases in its wards or in the modes of treatment adopted.

MUNICH.

We are now in Munich,—the “Capital of Art” in Germany. How modern and fresh seems its aspect to the traveller coming from the mediæval town of Nuremberg! What a contrast between the quaint narrow lanes he has left behind, and the imposing breadth of such streets as the *Ludwig-strasse*, which is one of the finest city thoroughfares in the world! No European city has risen so rapidly

as Munich from a state of comparative obscurity ; for only a century ago it was a small and insignificant German town, possessing no traditions, no literature, no architecture, no art-galleries, no museums, no university, and no libraries. And in this short period—nay, within the recollection of living men—it has attained its present intellectuality and pre-eminence in Continental Art and Letters ! Munich may be truly said to owe all its beauty and celebrity to the refined taste, the indefatigable industry, and the unbounded liberality of one individual,—the late king, Ludwig I., who abdicated in favour of his son, the present sovereign, during the troubles of 1848. Himself a highly accomplished man, an artist, a musician, and a scholar, he brought all the energies of a lifetime to bear upon his one great aim,—the elevation of Munich to eminence as a seat of learning and art. Magnificent churches, schools of art, galleries of painting and sculpture, and triumphal arches,—sprung up in obedience to his wishes, and in accordance with his designs ; and in the construction of these he tried to reproduce beauties that had charmed him in the architecture of other lands.

The University, which is one of the finest buildings erected by King Ludwig, is situated at the far extremity of the noble *Ludwigstrasse*, where the street traverses a spacious quadrangle, just before it is spanned by the Triumphal Arch. Two sides of this quadrangle are formed by the institution, founded by government, called the *Georgianum*, or Priests' Seminary, a sort of Jesuit College ; while the range of the University buildings completes the square. There is an inexpressible charm in the appearance of this beautiful University. It seems to wear a calm and solemn air of scholastic repose ; there is something very striking in its long rows of arched round windows, between each of which, set in the pure white marble-like stone, there is set an exquisitely sculptured medallion of some famed philosopher, poet, or lawgiver. Here and there the sunbeams flash upon richly-stained windows, and piercing the coloured panes, they bathe all the treasures of learning within in a flood of mellow tintured light. Amid the greenery of orange-trees, fountains are playing in the spacious courtyard in its front, and groups of professors and students are seen moving to and fro, giving animation to the scene.

The University itself is older, of course, than these beautiful buildings ; and it has been rather a “peripatetic school” of learning, inasmuch as it has travelled about a great deal in its time. It was founded in 1472 at the dull town of Ingoldstadt, on the banks of the Danube, and while it was here the celebrated Dr Faustus was enrolled as one of its students. In 1800 it was transferred to Landshut ; and finally, in 1826, it was removed to Munich. Although it ranks as the chief of the Bavarian colleges, it is deservedly less in repute as a medical school than the sister university of Würzburg. During the summer of 1858, when I visited it, there were in all 1303 enrolled students ; and of these 140 belonged to the

faculty of medicine, while the greater proportion of the alumni, viz., 516, were students of jurisprudence, and 420 of philosophy and philology. This may seem a small number of medical students when we compare it with the crowds at any of our principal schools. But the number of students of medicine has decreased very much within the last two or three years at all the German universities. The chief cause of this is the fact of the profession there being,—as it is here,—very much overstocked. And it is to be recollected, also, that a young medical man, on getting his degree and undergoing the usual academical ordeals, must not only pass another examination by Government officials as to his fitness for being entrusted with the lives of the lieges, but he must also obtain a special permission from the authorities before he is allowed practice in any certain town. A new regulation, however, had just been introduced into the Munich University at the time of my visit. The student who distinguished himself most at the graduation *concours*, was to be rewarded by having official permission to practise wherever he chose in the state.

Among the Munich professors are several men whose names are familiar to all the scientific world,—such as Liebig, Bischoff, Siebold; but there are also many men of great abilities, whose reputation is as yet principally confined to Germany. Of these we propose, in passing, to say a few words.

Baron Liebig is so well known in England, and his chemical theories have been so generally diffused among the present generation, that little needs to be said about him or the influence of his works. He was born in Darmstadt, in 1803; he and Mitscherlich studied together at Paris about 1822 or 1823; and in 1824 he was appointed Professor of Chemistry in the University of Giessen, in Nassau. Just as the genius of Boerhaave gave a world-wide fame to the University of Leyden, so did the brilliant intellect and wonderful labours of Liebig raise the college of Giessen from comparative obscurity to a high degree of eminence. His reputation attracted hither students from all parts of the world, and they, in their turns, became apostles of the new chemical doctrines which he taught, and which he had slowly elaborated in the model laboratory of Giessen. He accepted the Chair of Chemistry, and the Presidency of the Royal Laboratory in Munich, in 1852. Long may he live to enjoy his honours, and to enrich science by his labours.

Nor is there much need that I should enlarge on the character and achievements of Professor Theodore Ludwig W. Bischoff, who holds the chair of anatomy and physiology. He also, like Liebig, was a luminary of the Giessen school, and afterwards Professor in Heidelberg, before he was appointed to the chair in Munich. He first attracted public notice by his well-known labours as an embryologist, and by gaining the prize offered in 1840, by the Prussian Academy of Science, for a monograph on the development of the ovum of the rabbit. His prize essay on this subject, published in

1842, continues to this day one of the highest authorities on foetal development, etc. Besides his later contributions on the physiology of menstruation,¹ it will be in the remembrance of most readers, that he recently distinguished himself by an admirable treatise on urea, as a measure of the amount of metamorphosis of tissue.² This little work was a defence of the doctrines of the Giessen school, of which he was then a professor, and a justification of Liebig's dictum, that it was "impossible urea can have any other origin than the metamorphosis of the nitrogenous tissues," in opposition to the views of Bidder, Schmidt, and others, who thought that the urea excreted was only partially derived from this source. Professor Bischoff is still a very hard-working man, enthusiastic in the prosecution of science, and much beloved by his students. He is the conservator of the Anatomical Museum. This is contained in a spacious and elegant building, and the collection is very large and valuable. My limited time precluded me from examining it with great minuteness; but I have a vivid recollection of a curious preparation to be found there: viz., *the uterus and ovaries of a woman who is still alive!* A medical man pulled these organs down into the vagina by means of forceps, believing that he was extracting the placenta the while. He then removed them; the wounds healed kindly; and the patient recovered favourably! I believe that no similar case is on record.

Another well-known name is that of Charles Theodore von Siebold, the Professor of Zoology and Comparative Anatomy. Both he and Kuchenmeister are principally known by their researches on entozoa, and by their valuable experiments, which proved so distinctly the production of tænia from some form of cysticercus swallowed in the food. He is also author of a most valuable work on comparative anatomy, which he wrote in conjunction with Staninius.³ He is also, with Kölliker, co-editor of the *Zeitschrift für Zoologie*.

Special therapeutics, as applied to clinical medicine, are taught by Professor von Pfeufer, who, with Henle, is conjoint editor of the *Zeitschrift für rationelle Medicin*, which usually is named after them. Ringseis is Professor of Special Pathology; Weissbrod, of Midwifery; Gietl, of Practice of Physic; and Buchner, of Pharmacology. Professor Max Pettenkofer is well known as an able pathological chemist. One of the most rising men in this University is Dr Ludwig Buhl, Pathologist to the General Hospital, who has given evidences of rare abilities as a morbid anatomist. He has contributed largely to the current medical literature of the day, and his articles generally appear in Henle's *Zeitschrift*. In 1856 he published a very important series of pathological observations, based

¹ Vide *Edinburgh Medical Journal*, Oct. 1854.

² *Der Harnstoff als Maass des Stoffwechsels*. Giessen 1853.

³ An English translation of this work, by Dr Waldo Burnett, was published in Boston, U.S., in 1854.

on 280 post-mortems, performed at the Munich Hospital.¹ His descriptions of pneumonic lungs in this paper are novel and graphic; but his divisions of the disease into the three forms of tubercular, croupous, and desquamative, are somewhat fanciful, and rather too refined for practical pathologists. The tubercular variety he attributes to a total arrest, and the croupous to a simple disturbance of nutrition in the lungs. The desquamative form, he says, only occurs in red hepatitis; in it there is great redness and toughness of the parenchyma; it does not present capillary hemorrhages, fibrous exudations, or pus corpuscles; but the air is expelled from the pulmonary vesicles by means of the puffy and swollen epithelium, and by an albuminous exudation which gums them fairly together for a time. The epithelium desquamates, and is replaced by new tissue; so, from its analogy to *Morbus Brightii*, Buhl has given it the name of desquamative pneumonia. This variety he considers rare in the dead-room, on account of the great tendency which there is to a favourable termination.

Professor Buhl has also directed attention to a peculiar form of acute atrophy of the lungs, which occasionally occurs in the course of typhus; and this appearance he regards as the highest grade of desquamative pneumonia.² During the epidemic of cholera, which visited Munich so severely in 1854, Buhl was indefatigable in grappling with the pathology of this mysterious disease; and his monograph³ on the subject is probably one of the ablest that we possess.

Nor must we forget to mention among the medical notabilities of Munich, two of the *privat-docenten*, who are physicians of great ability, although less widely known. I allude to Dr Breslau and to Dr Lindwurm. Both these gentlemen are distinguished for their courtesy to any English physicians who may visit Munich. The former was unfortunately from home all the time I was in the city; to the latter, I feel deeply indebted for the opportunities which he afforded me of seeing all the medical institutions, and for all the information he so readily afforded me on every subject I investigated. Dr Lindwurm is an accomplished English scholar, and he has done "yeoman's service" to his countrymen by placing in their hands an excellent translation of Stokes on *Diseases of the Heart*. He has visited Great Britain twice; and on the last occasion, he went specially to Dublin, in order to study the types of fevers in the hospitals there, and to satisfy himself whether or not the typhus and typhoid fevers were identical, or nosologically distinct diseases. On his return to Germany he published a little treatise on the subject,⁴

¹ H. and P.'s *Zeitschrift*, vol. viii., p. 1, 1856.

² Virchow's *Archiv*. Band xi., 1857.

³ A review of this paper was contributed by the writer to the *Edinburgh Medical Journal*, vol. i., p. 339, Oct. 1855, to which the reader is referred for further details.

⁴ *Der Typhus in Irland beobachtet im Sommer 1852*. See a review of the work in *Monthly Medical Journal*, Feb. 1854.

in which he relates his impressions, and inclines to the opinion that the two fevers are the same disease, occurring in different degrees of intensity.

We now propose to sketch the leading features of the hospitals in Munich, and to conduct the courteous reader, by way of the Tyrol, to the medical school of Vienna.

IN THE HOSPITALS OF MUNICH.

“ Ich ging zum Hospitale,
Da fand ich Alles nett,
Viel Grütz' und Kraut zum Mahle
Und reinlich Krankenbett.”—UHLAND.

Like all who have visited Munich, I am still haunted by pleasant memories of that city, and, were this a fitting time and place, I would fain embody among these “Notes” a few sketches of its life and manners. Its noble art-galleries, stored with the master-pieces of painting and sculpture; its splendid churches; its new palace, adorned by Schnorr's remarkable fresco-illustrations of that great Teutonic epic, the *Nibelungen-Lied*; its public library; its museums; the studios of its artists; and its scientific institutions; all seem to rise up in vision before me, and to claim a passing word. But this must be denied. I dare not be tempted to linger over these; my journey assumes to be a medical one—so let us hasten onwards.

Yet I cannot take leave of Munich without describing its hospitals, inasmuch as they possess many features of great interest to the medical profession. And first, as regards

THE GENERAL HOSPITAL OF MUNICH.

I left the town, accompanied by Dr Lindwurm, and drove into a suburb named after the late king (the *Ludwig-vorstadt*), where we came upon the *Theresienwiese*, the park where stands the celebrated Bavarian “Hall of Fame.” Within the portals of this hall, the busts of all distinguished Bavarians find a niche, and the colossal statue of Bavaria by Schwantaler,—a female figure upwards of 60 feet high, accompanied by a correspondingly gigantic lion,—towers above the edifice as the presiding *genius loci*. Just at the entrance to the *Theresienwiese*, in a cheerful and salubrious situation, stands the *Allgemeine Krankenhaus*, or general hospital of the city, a large building enclosing two spacious courtyards, and surrounded by neat shrubberies and well-kept gardens. An inscription on its walls speaks of its foundation by King Maximilian in 1813:—

AEGRORUM MEDELÆ ET SOLAMINI BENEVOLENTIA.

MAXIMILIANI JOSEPHI REGIS.

MDCCCXIII.

It contains 54 small wards, each having 12 beds, and between 40 and 50 private rooms for patients who can afford to pay a higher rate for their board. A suite of these separate rooms is reserved for

the accommodation of any of the court-servants who may fall ill, where they are treated and maintained at the expense of the king. Other chambers are specially appropriated to sick students of the University and Art-Academies, etc. The wards are about 38 feet long, 24 feet wide, and 14 feet high; and each patient, supposing all the twelve beds to be occupied, has a supply of 1135 cubic feet of air. This is rather a scanty allowance of air compared with that in the wards of most institutions; thus in Guy's Hospital there is a cubic capacity of from 1600 to 1800 feet per head, and in most of the French military and civil hospitals each patient has a supply of 1500 feet, which is regarded by sanitary authorities as the minimum quantity necessary for the health of the inmates. But the statistics of the Munich Hospital, as we shall presently see, show a very low rate of mortality, which is probably attributable to the existence of a very efficient system of ventilation, which compensates for the defective size and capacity of the wards. The ventilating apparatus in use was invented by Dr Häberl, a very ingenious man, who was appointed head-physician and director of the hospital on its being opened in 1813. It consists of two parts: the one a suction-pipe, which abstracts all the foul atmosphere from the wards; the other a ventilator, by the pressure of which a greater or less supply of fresh air is introduced into the chamber, according to the season of the year, the number of occupants, etc. The apparatus possesses many advantages; it is entirely self-acting, requiring no superintendence or regulation by the nurses, and the medical men report very favourably on its simplicity and efficiency. Another circumstance, which has doubtless contributed to the salubrity of the wards here (as at Berlin and in all the other hospitals where I have seen it used), is the varnishing of the floors of the wards with a composition of linseed oil and litharge, which invests the porous wood with a hard shining coat. Floors thus varnished are unaffected by the temperature; they are easily kept sweet and clean; and they are quite impervious to all foul discharges or unpleasant fluids which may be accidentally spilled upon them. The varnish is also very durable; it is only renewed once a year in Munich hospital, except in some of the clinical wards, where it requires to be applied half-yearly, as it is quickly worn away by the feet of the crowds of students who daily cross these floors. Everywhere that I have seen it used, the physicians have spoken to me in the highest terms of the increased freshness and salubrity which it imparts to the wards. Skoda's clinical wards are the only varnished floors in the Vienna hospital, and they always smell sweeter than any of the others in the building. Miss Nightingale, in her evidence before the Army Sanitary Commissioners, as well as in her recently published work on the construction and management of hospitals, recommends the adoption of some such varnish for the floors of Army Hospitals;¹ so, in the

¹ "As to floors, the only really clean floor I know is the Berlin *lacked* floor, which is wet-rubbed and dry-rubbed every morning to remove the dust. The

hope that it may prove useful to some of my professional brethren, who may wish to try it in their wards, I append the receipt for the manufacture of the preparation.¹

All the lobbies and corridors throughout the house are paved with triangular slabs of a cream-coloured lime-stone, which is very hard, and carries as high a polish as Dutch tiles.

The patients sleep in those immemorial wooden boxes which the Germans dignify by the name of beds. Has the reader ever slept in a German bed? Perhaps he has been accustomed to stretch his limbs out in the vast area of an old-fashioned English four-poster; and on arriving at a German hôtel he is staggered when he is shown a narrow oblong wooden box, set on four short legs, and is told that it is his resting-place. He tumbles into it, but an enormous square pillow, reaching down to the middle of his back, prevents him from getting into his usual easy recumbent posture; and he is forced to tuck himself in with a flimsy quilted coverlet of down, which has been served out to him in lieu of blankets. Yet, joking apart, German beds are not uncomfortable by any means, after one becomes a little accustomed to their use, at least as one finds them in the best hotels of Rhenish Germany and Bavaria. But their construction is not favourable to cleanliness; and in certain districts—for example, in some parts of Austria and Bohemia—the wooden fabrics are alive with active parasites, and woe betide the unsuspecting sleeper! I shudder to this day at the recollection of nights passed in such bedsteads in Prague. One would think that, knowing all this, Germans would be chary of introducing wooden beds into hospitals, where they must necessarily be occupied by a float-

French *parquet* is always more or less dusty, although infinitely superior in point of cleanliness and healthiness to our absorbent floor."—Miss Nightingale's *Notes on Nursing*, p. 50.

¹ This varnish is prepared by dissolving finely powdered litharge in boiling linseed oil, stirring the mixture constantly during the process. When the oily compound is removed from the fire, some drying material (*seccatif*) is cautiously added, and the whole is stirred to prevent it from being burned or blackened in the vessel. The varnish requires to be warmed before use, to ensure its perfect fluidity, and it must be well stirred before its application to the floor. I append a note of the quantities of each ingredient used in Munich Hospital for the preparation of sufficient varnish for the floor of a ward 38 feet long and 24 feet broad. I have reduced the original weights (Bavarian standard), which are given within brackets, into our English apothecaries' measure; and I have also added the cost of the ingredients in Germany:—

				<i>s.</i>	<i>d.</i>
Linseed oil	3 Lii.	[3½ lbs. Bavn.]	costs about	1	9
Litharge	3 xi.	[2 Loth. 3 Qt.]	"	0	0½
"Dryer"	3 xi.	[do.]	"	0	1½
Cost of labour,	.	.	.	1	8
Cost of varnish for ward of 912 cubic feet,				3	7

I do not exactly know what is the composition of the *seccatif* or *dryer* which is used, but I presume it resembles the substance known in English commerce by the name of "Patent dryer."

ing population, chiefly drawn from the lower orders, who, in Germany, are very careless about personal cleanliness. But, in the matter of beds, they have wonderfully conservative ideas in Germany; and, accordingly, we find that in Munich the authorities stoutly resist the introduction of iron bedsteads into the hospital. They admit that iron is more cleanly and durable, and that it does not harbour vermin like wood, but they allege that the cold metal abstracts so much of the animal heat that the patients cannot keep themselves warm in their beds. I argued that, after much observation of the use of iron beds, both in civil and military hospitals in England, I had never heard such a complaint made by the patients; but Germans, as a class, are, as we say in Scotland, very "cauldribe;" so, shrugging their shoulders, my friends said *they* should not like to sleep in iron, *Gott bewahr!* and that patients *might* be infested by bugs even in metallic bedsteads. Wood, said they, was softer and warmer than iron, so the sick had better enjoy the comfort and run the risk! What could I say? *De gustibus*, etc.

The private rooms are neatly fitted up with furniture of cherry and walnut-woods, and in each there is a bell which sets in motion an "indicator" in the corridor, to enable the patient to summon his attendant. The cost of residence and treatment in the hospital varies according to the accommodation furnished; patients who occupy private rooms pay, according to the size, situation, and furniture of the apartment, from 1s. to 2s. a-day. The charges are about one-fourth higher in the winter than in the summer months. The hospital possesses a good many "foundation beds," which entitle their founders to recommend patients all the year round for gratuitous residence and treatment. One of these beds can be founded by a donation to the hospital funds of a sum capable of yielding a clear annual income of 100 florins, or about L.8, 10s. sterling.¹

A long underground passage conducts from the hospital to the dead-house and *post-mortem* rooms, which are clean, excellently appointed, and well ventilated. Separate vaults are also provided here for the corpses of those who may die of contagious diseases. Cases of small-pox are not received into the general hospital, but are treated in a separate building within the grounds, where they are completely isolated from the other patients.

The staff of the hospital comprises a director or superintendent, four principal physicians, seven assistant physicians, and one medical officer for the care of the small-pox cases. Professors Pfeufer, Ring-

¹ It must be recollected that German hospitals are conducted with great economy. Dr Grätzer of Breslau states, that among the German hospitals (not in Prussia), the average cost of each patient is highest in Hamburg and Vienna (about L.1, 11s. per head); it is less in Dresden and Prague (about L.1, 7s.); while in Munich, each patient only costs from 17s. or 20s. during his average residence of sixteen or seventeen days in hospital.—*Wiener Med. Wochenschrift*, December 1854.

seis, and Gietl, are the clinical physicians; Professor Rothmund teaches clinical surgery; and a syphilitic *clinique* is conducted by Professor Horner. Professor Buhl, the eminent pathologist, and Dr Lindwurm, of whom I have spoken, are both ordinary physicians.

The nurses, with one or two exceptions, are Sisters of Mercy, of whom there are sixty, with a superintending superior, attached to the hospital. This order is a very extensive one in Bavaria, where it was established in 1832. In 1854 it possessed no less than 46 religious houses, and numbered 236 professed sisters, 82 novices, and 42 probationary candidates; in all, 360 members. About 300 of these sisters are employed as nurses in hospitals, or as attendants in other charitable institutions. In some places, as in Munich, they are allowed to act as nurses in private families. They are excellent nurses, from having been carefully trained in all the duties of a sick-room; and they keep the wards, the linen of the patients, etc., exceedingly neat and clean. Being all, more or less, women of education and refined feelings, having been properly educated in all that concerns the care of the sick, and being under the immediate control and supervision of a responsible superior, they are calculated to be more efficient than hired nurses. Their duties, having been undertaken from motives of charity and religion, and not from a mercenary spirit, are likely to be performed more conscientiously than if rendered by mere hirelings.¹ The value of trained sisters is becoming more and more acknowledged. All over the continent, institutions are being established for training Catholic Sisters of Mercy and Protestant Deaconesses for the duties of nurses;² and even in our own country a feeling is daily gaining ground that the

¹ "The everyday management of a large ward, let alone of a hospital,—the knowing what are the laws of life and death for man, and what the laws of health for wards (and wards are healthy or unhealthy mainly according to the knowledge or ignorance of the nurse),—are not these matters of sufficient importance and difficulty to require learning by experience and careful inquiry, just as much as any other art? They do not come by inspiration to the lady disappointed in love, nor to the poor workhouse drudge hard up for a livelihood.

"And terrible is the injury which has followed to the sick from such wild notions!

"In this respect (and why is it so?), in Roman Catholic countries, both writers and workers are, in theory at least, far before ours. They would never think of such a beginning for a good working Superior or Sister of Charity. And many a Superior has refused to admit a *Postulant* who appeared to have no better 'vocation' or reasons for offering herself than these.

"It is true *we* make 'no vows.' But is a 'vow' necessary to convince us that the true spirit for learning any art, most especially an art of charity, aright, is not a disgust to everything or something else? Do we really place the love of our kind (and of misery, as one branch of it) so low as this? What would the Mère Angélique of Port Royal, what would our own Mrs Fry, have said to this?" —Miss Nightingale's *Notes on Nursing*, p. 75.

² "Germany has (1854) nine training establishments for deaconesses; Southern Germany has two, at Carlsruhe and Stuttgart; Northern Germany five, at Berlin, Breslau, Königsberg, Stettin, and Ludwigslust; and Central Germany

sick in our hospitals might be more advantageously committed to the care of refined and educated Christian women than to the tender mercies of the ignorant Mrs Gamp.

The average number of patients treated annually in Munich hospital is upwards of 7000; but during the cholera epidemic of 1853-4 as many as 9271 were treated during a year. The rate of mortality is very low, being about 1 in every 20 treated.¹ It rose as high as 1 in 12 during the cholera year, and also in 1836-7, when there was an epidemic of influenza in Munich.²

I cannot recall to mind any cases of special interest in the wards at the time of my visit. I saw many cases of the endemic typhoid fever of Munich, as well as of the remittent fever so common in the neighbouring plains. The endemic fever of Munich resembles that variety so well denominated *pythogenic* by Dr Murchison. It arises from the foul smells which shock the nose in many of the alleys of that city, and from the malaria produced by decomposing organic matter which has not been adequately removed by drainage. It is most prevalent during the months of February and March; but few strangers can reside for six months in Munich without being more or less attacked by it. It is ushered in by rigors; the pulse becomes quick and soft, and the tongue dry and brown; crops of characteristic rose-coloured maculæ appear between the seventh and fourteenth days; there is abdominal tenderness; and, in fatal cases, the glands of the ileum are generally found to be ulcerated. Delirium is rare in the course of this fever; I saw one case in which head symptoms had appeared, and Dr Lindwurm assured me that these were a very unusual complication. Critical discharges frequently occur, in the form of diarrhœa or epistaxis. The latter, when moderate, is regarded as rather favourable to the patient; but when the hemorrhage is great it is arrested by means of pledgets of lint saturated with the Sol. Ferri Perchlorid. In the treatment of this fever gentle febrifuge salines are prescribed at first, and plenty of strong *bouillon* is given to keep up the strength. As soon as the state of the tongue will warrant its use, quinine is administered, in doses of one or two grains every four or six hours; and under this mode of treatment the majority of the cases do very well.

two, at Kaiserwerth on the Rhine (where Miss Nightingale received much of her experience), and Dresden. France has two, at Paris and Strassburg; Switzerland two; the Netherlands one, at Pittsburg; and Sweden one, at Stockholm."—From the *Armen und Krankenfreund*, May and June 1854; a journal edited by the Rev. Herr Fliedner, inspector of the Kaiserwerth establishment.

¹ Speaking of the German hospitals, Dr Grätzer says (*loc. cit.*):—"In the hospitals of Dresden, Prague, Berlin, and Vienna, the mortality is 1 in 8, in Breslau 1 in 9, in Dantzic and Hamburg 1 in 12, in Cologne and Königsberg 1 in 13, and, lowest of all, in Munich hospital 1 in 21."

² I have to acknowledge my obligations to the excellent Reports of Inspector Thorr for these statistics of the Hospital.

THE GEBÄR-ANSTALT OR LYING-IN HOSPITAL OF MUNICH.

Munich was probably the first city in Europe which possessed a lying-in hospital. Paris established one in the end of the seventeenth century, Dublin and London followed her example about 1745, and Vienna in 1752. But in Munich, as early as 1589, part of the no-longer-existing "Holy Ghost" hospital was set aside for the reception of poor pregnant women, about a fortnight before their expected confinement, where they were maintained gratuitously until after their recovery. In the end of last century the accommodation afforded in this institution became insufficient, and a small house in the suburbs was accordingly taken and fitted up as a maternity hospital. But, in course of time, the requirements of a growing city and an increasing population rendered more space and a greater number of beds absolutely necessary. So, in 1824, part of the new general hospital, which I have described, was allotted to obstetric cases, and a clinical school of midwifery was here, for the first time, established. But this arrangement was found to be far from satisfactory; so other changes ensued, until at length it was found necessary to erect a new building for the purpose. The year 1853 saw the foundation stone laid of the present Lying-in Hospital, which is unquestionably one of the handsomest public edifices in this city of architectural triumphs; and in the year 1856 it was opened for the reception of patients. Its situation is very good, standing in an open space in the western suburb, not crowded in on any side by other buildings, but with a lively promenade passing before it in front, and encircled by tastefully kept gardens. It is built in the form of a long parallelogram, or a single range, 186 feet long, 100 broad, and 65 feet high; having windows both before and behind. Its front is towards the east, and as most of its windows face the east or south-east, the inmates obtain all the available daylight in winter, while they escape the glare and heat of the summer sun. From its front windows we can look down on the animated scene which a public promenade presents; and from those behind, far away to the southward, our view is bounded by the distant Tyrolese Alps, whose white glaciers shine out in relief against the blue sky. It may be considered, from the nature of its internal arrangements, as consisting of a central block, with two equal-sized wings attached, which are separated from it on either side by glass-doors, so that in case of any epidemic the two side divisions can be separated from each other, and the patients completely isolated by the closure of these doors. So there are, as it were, two distinct buildings, identically the same in size and construction, both under the same roof, and only united to and communicating with each other through the intervening medium of the central division I have named. The main entrance consists of three massive doorways, in the central division of the building. We approach them, and are admitted by a watchful old portress into a

spacious vestibule, whose handsomely groined roof is supported by carved stone pillars. The reception and waiting rooms, and the *bureau* of the officials, are entered from this hall. We pass these, and ascend by the broad flight of steps behind to the *mittelstock* or first-floor of the house, where we find a good lecture-room, capable of holding about 100 students. Part of this floor is occupied by the private rooms of the resident physicians, and the remainder forms part of the *Geheime Abtheilung*, or *private department*, where patients are received, at any period of pregnancy, under strict *incognito*, and are secretly delivered.¹ The rooms for such patients are very elegantly furnished, and the cost of board and treatment is about 2s. a-day. We mount to the next floor, where we are ushered into a long hall, filled with the ordinary patients, who are daily expecting their confinements. These poor women are admitted three or four weeks before their accouchement, and are maintained gratuitously during their residence. Most of them wear the picturesque costumes for which the Bavarian peasantry are so remarkable,—the embroidered bodice, the *Riegel-Haube* or silvery swallow-tailed net for the hair, etc., etc. Good-humoured, fresh-complexioned countrywomen, there they sit busily knitting, sewing, or spinning with the immemorial wheel and distaff. This is their sitting or work-room by day, and at night they sleep in the five dormitories which enter from the passage to the right, each of which contains ten beds. The other part of this floor is occupied by the remainder of the *Geheime Abtheilung*. We ascend again, and now reach the last or lying-in stage, in the uppermost part of the house. Hither, like us, must all the ordinary patients come, when the pains of labour overtake them. Their labour is accomplished in one of two *Gebärsäle* or accouchement-wards, which are provided with operation-tables similar to those at Würzburg, and with every other necessary appliance. When their delivery is over, the patients are removed into the clinical wards, which extend along the whole length of this upper storey, and they remain here till they are able to be discharged. Each of these clinical wards contains six beds, and is calculated to contain 10,500 cubic feet of air. This aggregation of puerperal patients is a very bad practice, but yet the physicians here prefer it to their isolation in separate apartments (the "cell-system," as they call it). We shall presently have occasion to see that the amount of puerperal fever in this hospital does not say much in favour of their theory. The floors of the wards are lackered like those of the general hospital. The bedsteads are made of dark varnished wood, and there is a small concealed chest near the head for the linen, etc., of the patient. Beside each bedside are placed a little cot for the infant, a night table for the medicines, the urine-glass, etc.; and also a close-stool, which, however, is only allowed to be used during the first six days after delivery. There is an ingenious

¹ See account of Würzburg Hospital by author, p. 611, vol. iv., Jan. 1859.

contrivance in these stools for preventing the escape of unpleasant effluvia. Round the top of the moveable pan, within the chair, runs a broad rim, which is deeply grooved in its centre; and this groove is kept filled with fresh water, so that when the lid is placed in contact with it the cavity of the pan may be considered as hermetically sealed. Every time that the pans are emptied, some solution of sulphate of iron in water is afterwards poured into the pan as a disinfectant. Water-closets are fitted up in every part of the building, but, as usual abroad, they are only poor imitations of ours in England; in fact, to quote Mrs Malaprop, "comparisons are *odorous*." At the head of each bed hangs a black board, on which the following particulars are written in chalk:—Number, name, age, primipara or multipara, history of labour, position of the child, the day and hour of delivery, and the prescriptions and diet ordered.

A few words now as to the plan of ventilation adopted, of which the officials are very proud. It is essentially an improved modification of Häberl's system, which is used in the general hospital. In 1782,¹ Maret first demonstrated by experiment that the foul air, effluvia, and irrespirable gas of an hospital ward, instead of collecting, as had been supposed, in the upper part of the chamber, fall downwards and accumulate on the floor. Häberl was the first who took advantage of this scientific fact, and practically applied it to purposes of ventilation. He accordingly placed apertures for the removal of foul air in the floor instead of in the ceiling. So, in the floors of all the wards here, there are six grated apertures through which the foul air passes, and is conveyed along "suction-canals" to the chamber stove, where part of it is consumed in the fire and the rest is carried up the chimney. In this manner the impure air is effectually removed. To introduce a constant supply of fresh air into the wards a very ingenious apparatus is fitted up:—On the roof of the building there stands a hexagonal tower, several feet high, penetrated on every side by *jalousies*, which are so constructed that in gusty weather they prevent the entrance of an over-current of air, and yet afford ready admission to the faintest summer zephyr. Within this structure there is a smaller hexagonal tower, having similar valvular blinds on every side, which still further regulate the admission of air from without. The fresh air passes thence along large main-pipes which traverse the whole length of the building, and from them it is conveyed into the several wards by branch-pipes, which enter the lower part of the stoves. It must be recollected that there are no *fireplaces* in German houses, where the rooms are heated by lofty stoves, which consist of an iron furnace, etc., internally, with their exterior surface covered by neat porcelain tiles. Inside the ward-stoves of this hospital there exists an open space or chamber, which extends completely round the internal furnace, between it and the outside porcelain. The fresh air, con-

¹ *Nouveaux Memoires de l'Academie de Dijon.* 1782.

ducted by the branch-pipes into this space, becomes duly heated here before it passes out, at the upper part of the stove, to impart warmth and purity to the atmosphere of the ward. This system of ventilation has one obvious disadvantage, viz., that the foul-air pipes all communicate with each other. Thus, in cases of puerperal fever, the infection might be conveyed from one part of the house to another.

We go over an excellent museum, with a collection of beautiful obstetric models in wax, fashioned by Herr Zeiller, modeller to the University. A peculiar pelvimeter is used in this hospital, which was invented by Dr Weissbrod, Professor of Clinical Midwifery. It consists of the forefinger of an india-rubber glove, having attached to its point a tape which is graduated on one side, and on the other raised dots corresponding to the markings, thus enabling the operator to ascertain measurement by touch. In using it, the index finger of the right hand, armed with this glovelet, is passed *per vaginam* to the promontory of the sacrum, and the tape is stretched by another finger to the symphysis pubis, by which means the antero-posterior diameter of the pelvis is readily obtained. By changing the direction of the finger, the other diameters are ascertained. This little instrument is exceedingly simple, and is certainly a deal more useful in practice than many of the formidable-looking pelvimeters of other obstetricians.

The average number of births annually in this institution is about 1200 or 1300.

The Lying-in Hospital of Munich, despite its excellent ventilation and many admirable arrangements, has been very unfortunate for the prevalence of puerperal fever, which broke out among the inmates in December 1856, a few months after the hospital was first opened. Cases continued to occur throughout the whole of that winter and spring, and eventually the *Clinique* required to be closed in April. When the hospital was re-opened in June, there were a few mild cases now and then, and the disease gradually disappeared. Of the 1090 patients who were admitted during that unlucky epoch, 88 were attacked by some form of the disease; and of these 37 died, 47 recovered, and 4 remained under treatment at the date of Dr Martin's report on the epidemic.¹

The history of this outbreak is very instructive, and throws much light on the etiology of puerperal fever. A lull occurred in the course of the epidemic. No cases had occurred for several weeks in January and February; when suddenly two women, who had been normally delivered on the same day, and almost at the same hour, were simultaneously attacked by the disease. An investigation showed that both these patients had been examined by one of the assistants, who had just come from making a *post-mortem* inspection

¹ Published in *Monatschrift. für Geburtskunde*, Oct. 1857. See also *Schmidt's Jahrb.* Band 98, Seite 55.

of an infant, having previously washed his hands in a solution of chlorine before leaving the dead-house. The same assistant confessed that the first women who had been attacked in December, had been examined by him under similar circumstances. Here, then, was clear proof that cadaveric infection was one specific cause of the outbreak. It was further found that the epidemic became widened, and the proclivity to the disease increased, by infection introduced into the hospital by the students and practitioners attending the morning *clinique*, who were in the habit of coming hither direct from the dissecting-rooms, or the fever wards of the general hospital, without any change of dress, or precautionary ablutions. All these facts prove the correctness of the theory of Semmelweiss of Vienna, that puerperal fever may be originated and propagated by inoculation of the maternal passages with putrid animal fluids.¹ Nay, further, that it may be induced by the mere presence of cadaveric odours, imported into the atmosphere of the lying-in chamber on the clothes of the accoucheur; and that even washing of the hands in disinfectant fluids (as solutions of chloride of lime, or of cyanide of potassium), while it undoubtedly lessens the risk, by no means ensures perfect safety to the mother, if the attendant has previously been engaged in pathological operations, or in handling putrid animal substances of any kind. And the moral of the whole story is just the truism—which, though very trite, can never be too often recalled to mind—that no accoucheur is justifiable in going to a case of labour, who has recently been engaged in the dissection of dead bodies, or in attending cases of erysipelas, or of surgical or typhoid fever.

¹ On this subject, see Dr Arneth's admirable paper in *Edin. Monthly Journal*, June 1851. Also the discussion of the Edin. Med.-Chir. Society, *Monthly Jour.*, July 1851, where some remarkable facts are stated by Dr Simpson.