

We are indebted to our friend Dr. I. S. Dodge for the following letter from his Berlin correspondent :

BERLIN, March 1, 1858.

MY DEAR DOCTOR:—A short stay of four months at Berlin will enable you to become enthusiastic with the scientific institutions of this "Modern Athens," but it would require a longer time to give even a poor description of all of them.

The University comprises the following departments or chairs:—Medicine, Law, Philosophy, Theology, Mathematics, Natural Science, State-science or National Economy, History and Geography, the Arts and the History of the Arts, Philological Sciences, Gymnastics. There have been matriculated during this winter course 1570 students, 381 from foreign countries—France 3, Italy 4, Switzerland 25, England 8, Scotland 14, Russia 28, Turkey 18, Greece 6, U. States 86.

The Medical Faculty consist of 19 ordinary Professors and 14 private doctors (tutors.) Now you will, of course, expect to hear something of Gräfe, the great Ophthalmologist. First I will give you some account of the career of this extraordinary man, who is at this time only about thirty years of age.

Albrecht von Graefe was still in his childhood, when his father, a distinguished surgeon, died at Berlin, leaving a great fortune to his family. The mother took great care to give her son a good education, selecting the best private teachers for his instruction. Graefe very early took an inclination to Mathematics, for the study of which he was endowed with good natural parts. Some years later he turned his attention to Natural Philosophy and to Chemistry, and thus he was naturally led to the study of Medicine. He obtained his degree at Berlin in 1848, when he was but twenty years old, and after his graduation he went with some of his friends, in the further pursuit of knowledge, first to Prague, where he soon was on familiar terms with Arlt, who was at that time in Prague the professor of Ophthalmology—at present he is professor in Vienna. Graefe, from his intercourse with Arlt, perhaps, now made the diseases of the eye his favorite study, and leaving Prague, he found at Vienna an abundance of material in the Clinic of Jaeger. From Vienna Graefe went to Paris

and became acquainted with Desmares, and after having visited London, Dublin and Edinburgh, he returned to Berlin to settle as a practitioner.

Graefe was the favorite child of fortune; besides being equipped with great natural gifts and a rich stock of knowledge in almost all branches of science, he was connected by his family with the most influential members of society, and had a large fortune on hand;—some say that it now amounts to half a million.

You might easily be led to think that it is no wonder a man should be attended with success, having such extensive means within his reach, but still Graefe deserves our admiration. In the ordinary course of life, the young men strive for comfort and pleasure; Graefe had the means to feel at ease and to do the same, but he did not do it. On the contrary, he made and makes now the greatest sacrifices for the benefit of his fellow-men, and for the extension of science. Graefe is every inch of him a great man, a genius. But let me return. He at first instituted a clinic with rabbits for the sake of experiment. Sometimes he is said to have had more than eighty rabbits, each of which had its number on a little tin plate fixed to a ring drawn through the ear of the little animal, and this same number was then kept on record, with a minute description of the course of the disease artificially produced, the history of the case closing with the accounts of the post mortem examination.

In a short time Graefe's name was favorably known in Berlin and soon in the neighboring provinces, from whence people of all ranks came, to have their eyes treated by him. Having plenty of material aid on hand, he could extend his institution almost at pleasure.

And now please to accompany me to Graefe's clinic. We must go a quarter of an hour before the fixed time, or else we can not obtain a good seat, but thus we find a place just by the side of Graefe's chair, or immediately behind it, from where you can look over his shoulders. By the other side of the chair there stands a large table with vials, cases with instruments, a large case with a full set of convex and concave lenses, and the book of records. Every five minutes you find the number of students increasing,—one of the adjoining rooms is filled with patients, the next is kept secluded from light for ophthalmoscopic examinations. The time for the Clinic having come, in steps one of the assistant physicians,



and reads from the practitioner's list the names of about four or five gentlemen, who responding to the call, walk into the adjoining room, to receive one patient each for a thorough examination. A short while after, you see Graefe with an easy and quick step, a gentle smile on his face, his long curls floating down to his shoulders, enter the hall. He makes at once a very agreeable impression upon you, and looks altogether like a man who is about to perform a very pleasant task. Having taken his seat, he calls for the first patient, who is then led into the room by the practitioner. Graefe looks at the eye of the patient, and asks the practitioner what he has made out of the case. He is very pleasant towards the student, but also very strict; he requests him to give his reasons for making such a diagnosis, and if the student, perhaps, did not make his examinations with sufficient accuracy or carefulness, Graefe takes the patient by the arm, leads him to the dark room, and himself examines the patient with the ophthalmoscope, ascertains on the black-board the extent of the field of vision of the patient, determines the mesopter by letting the patient read print of different type, with the use of lenses or without, or by making him count fingers at different distances.

In his discourses Graefe is very lively, and he speaks very fast, so it must be very hard for many foreigners to understand him, if they are not perfectly familiar with the German language, for it is far from being an easy matter to follow him, when he is speaking of the more difficult parts of ophthalmology, even if you command the language with great ease. Once in a while he is so quick that he finds no time to pronounce the last word of the sentence, but hurries with great speed into the next. His language is beautiful, never for mere show, but always to the purpose, to infuse knowledge. All the motions of Graefe show the man of high talent, even the holding of a knife or an instrument. In his Clinic he presents at first about three or four old patients, to show the course the disease in each case has taken. These dispatched, some three or four of the new patients are gradually introduced by the young practitioners. This Clinic closes about twelve o'clock. The assistant physicians, of which there are about six or seven in number, attend during all the time to the rest of the patients. At one o'clock the polyclinic begins, which is visited by one-third of the students only at a time, in order to give them an opportunity to witness with greater profit the opera-

tions, which are postponed until the clinic is closed. The patients of the polyclinic come several times in the week for treatment, and return home again every day, while patients with more severe affections occupy the upper rooms of the institution. Sometimes the patients of the polyclinic collect in such large numbers, that besides Graefe, three or four of his assistants are kept constantly at work for two or three hours, and the hall rings often for a long while with the screaming of little children, that you might imagine yourself to be in a large nursery.

Graefe is no friend of children that have been spoiled by their mother. If he meets such, he treats them rather sharply, on the other side, if a child or a young lady stands an operation well, without moving the eye or making much noise, then he becomes exceedingly pleasant. Once a mother brought to the clinic her little daughter, affected with blepharo-spasmus. The child was not very ready to come up to Graefe, although he commanded her. He saw at once it was a spoiled child, and asked how it passed its time at home. The very anxious mother reported that it kept always behind the stove, refusing food and drink, and being all the time unable to open its eyes, poor thing. Graefe said to her, that if she wished to have her child cured, she must give it entirely up to his directions at the hospital, and not paying a visit without permission. The mother looked at her darling with tears in her eyes, but still submitted to the proposal, after which Graefe said, "Madame, stand back and leave the child alone," which, surrounded by the students, cried aloud for its mother. Graefe told the child to come to him, and it did come, but when he said, "Now open your eyes, my dear," it answered, without trying to open them, "No, I can't!" Then Graefe wanted it should climb the chair opposite to him; but the child was not willing to try, and Graefe then called for the servant, told him to take the girl and dip its head into a basin with water, moderately cold, for 8 or 10 seconds. The servant took the screaming girl, went to the hydrant in the same room, filled the basin and dipped the child, which kept as motionless as the whole audience during this procedure; the mother stood at a distance horror-struck. The face of the child was neatly wiped off, and the child put on the floor; Graefe called it, and it promptly came up to him, climbed the chair and tried its best to open its eyes, but did not succeed. On the following days, by the directions of Graefe, it was several times dipped



into the water in view of two objects: 1. To bring the child under perfect command, and 2. To act on the facial nerve, which was in this case taken to be the cause of the affection; and for the sake of effecting a more healthy action in the state of the nutritive functions, the child was induced to ascend and descend a chair several hundred times daily under the control of one of the house-nurses, the food of the little patient being at the same time allowed in liberal quantity. I assure you, that in the course of two or three days, the child climbed the chair with great skill before the class, opened its eyes almost entirely, and said with a smiling face, that it was doing very well. The redness of the conjunctiva induced by the spasmodic pressure of the lids, soon diminished, and after the lapse of one week, the mother came to receive, instead of a squeamish, cramping girl, an obedient daughter; its bright eyes as wide open as is the custom with other people.

The principles of ophthalmology, as entertained by Graefe, are laid down in his ophthalmological Journal, which may be regarded as the best source now existing. Without being somewhat posted on the subject, it is impossible to follow Graefe in his sublime flight, or to profit much from his beautiful demonstrations. No where else I became so much aware of the fact, that there are specialities in the medical sciences, as in the Clinic of Graefe, so profoundly does he penetrate this branch. Graefe is very benevolent, they say; he not unfrequently pays for the medicine for poor patients. He once said, that he has examined more than 80,000 eyes, since the last ten years, and claims some experience. He is very much esteemed by the students, and looked upon with great confidence by the patients. He seems most delighted, when by his judgment and skill a patient is saved from the danger of losing the noblest organ of the body.

Graefe, strong in spirit, is much less so in body; when the polyclinic has been overrun with patients, he is quite worn out, although he speaks during these hours but very little about the cases, to spare strength and time; towards the close the more important operations are performed by him. He pays great attention to every part of the operation, even to such that might appear trifling; his results are brilliant. Already, by the handling of the instrument, he shows that he is master of the art. Once, when he showed us the favorable result of Iridectomy in a case of acute Glaucoma, he remarked, that even a country physician ought to be able to perform

this operation, as the life of a patient might depend on it. Graefe has a short time ago presented a treatise on Glaucoma to the Institute of France.

Atropin is consumed every year at Graefe's clinic to the amount of about 300 dollars. Graefe lectures twice a week on the diseases of the eye; these may be heard free of charge, but they are not less valuable on that account—indeed, his words are pure gold, not to glitter, but to be laid in stock, like a good capital. The operative course lasted about two months. Graefe first stated the principles of the operation to the class, then made it on a hog's eye fixed into a phantom, and the following days we made this operation after the same method, with the help of one of the assistants, Dr. Schuffts, until we had acquired some skill, and then Graefe attended again, to see if every one was able to make the operation. Graefe was much more particular than his assistant, who sometimes took it rather easy. The operation for artificial pupil we performed on the living rabbit. There were often more than twenty rabbits waiting to have part of their iris removed in a neat manner. In order to render it more easy for them to keep in good order during the procedure, they were fixed with their four legs on a little table with strings. After we had finished all the operations, Graefe invited us several times to the pathological Institute, where the post mortem examinations are made by Prof. Virchow. Plenty of human subjects were produced here, and under the direction of Graefe himself, we had to make, each of us, all the different operations over again. Thus closed the operative course.

The ophthalmoscopic course was given by Dr. Liebreich, one of Graefe's assistants. Each member is provided with an ophthalmoscope of simple construction, with a sufficient number of lenses, which can be bought at Berlin for about four dollars. Eight patients were examined during the evening by each student; the peculiarities of each case were demonstrated by Dr. Liebreich on the black-board. Those not engaged for a time with a patient, could make their time profitable, by taking one of the rabbits, kept for the purpose, to be examined. Liebreich recommended the examination of the normal eye of the rabbit, for the sake of comparison.

This was all at Graefe's Institution to which I paid attention. For the study of the diseases of the eye, I sincerely believe that Graefe's Institution offers the greatest advantages; and this is the opinion of those who are at present in



Berlin, but who have visited the Institutions of other European capitals, Paris not excepted.

Virchow is Professor of Pathological Anatomy at the University of Berlin. The government have erected at his request a fine building on the premises of the Charité, termed the Pathological Institute. There Virchow may be seen every afternoon, between 1 and 4 o'clock, engaged in post mortem examinations. In Vienna and Prague the gentlemen were always dissecting in advance of their dictation to the recorder, performing their work with great dispatch. Virchow is a model dissector, does everything in a careful manner, and while he is cutting, he says with a distinct and loud voice what he finds it to be, never making a mere assertion, never being induced afterwards to correct himself. This is the reason why the medical profession generally place so great a confidence in his observations. He is a most industrious man, always working, never tired.

I attended also Virchow's demonstrative course in pathological anatomy every week, six hours for the whole term. The hall in which this course is delivered is large and well supplied with light; it occupies the greater part of the second story of the pathological Institute. The tables for the students run in a zigzag direction, and are in other respects similar to those used in the halls of the legislature or the Cincinnati Council-chamber. In the middle of the table-leaf there is the whole length a railroad track, on which the microscopes run very smoothly, resting on little railroad cars. The student thus moves the microscope to his neighbor by a gentle push on the instrument. When Virchow is about to begin his demonstrations, his table is richly provided with pathological specimens—livers, kidneys, bowels, brains, hearts, etc. He preserves these, if they present points of interest, from his post mortem examinations the day previous. He first enters minutely into the description of a case, demonstrates the pathological changes on the black-board, having for this purpose chalks of different color, and towards the close he passes the respective specimens around on a plate, takes also often particles from the same specimen, puts them under the microscope, which then move along from one student to the rest. Finally the students collect by division around Virchow, who takes the more interesting specimens for a thorough ocular demonstration. Virchow is very slow in pronouncing a definite judgment, when he is not quite certain; but I assure you Vir-

show is the grand-master of his department, and all other professors of Berlin, if not of all Germany, look upon him as the authority. Virchow is only about thirty years old, but also he sacrifices his health to science, like Graefe.

Not quite regularly I visited the surgical clinic of Langenbeck, whom you know by reputation. He is the surgeon to the royal clinical Institute, while Jüngken is surgeon to the Charité hospital. Langenbeck operates beautifully and with great ease, for he continually speaks on the case, while he is engaged in the operation. I saw an amputation of the penis (Carcinoma) with the Ecrasseur, where hardly one drop of blood was lost, the patient being under the influence of chloroform. We also amputated the portio vaginalis with the same instrument. In Langenbeck's clinic you can not see the operations as well as in Vienna, but you hear more, and if the student comes early enough, he can also find a seat to his eyes' content.

Romberg directs a clinic at the same institution; in speech he is one of the slowest men I have seen yet. He made the diseases of the nervous system his speciality, and most of the cases introduced at his clinic are of this kind. By the advice of Romberg, Graefe divided the supra-orbital nerve in a case of Blepharospasmus, and succeeded since to effect a cure in about twenty similar cases, one of which I have seen treated from beginning to end, which was highly satisfactory.

Jüngken I have visited a few times. He has an abundance of material under his direction, but I do not like many of his directions. He ordered in one case twenty-five leeches to be applied, and twelve ounces of blood drawn, and internally an antiphlogistic salt. He is certainly not an advocate of Hahnemann's principles. About his person he is very particular, which sometimes will give rise to great amusement in the audience. He is a perfect aristocrat, and in his discourses he prefers very old terms. Schönlein is the director of the internal ward at the Charité hospital. He has quite a different method from Oppolzer at Vienna; Oppolzer generalizes, Schönlein analyzes. It is very interesting to hear both these two famous clinical teachers. They both were a long time ago called to see a Russian general, each one made his diagnosis, but Schönlein's afterwards proved to be the correct one. Schönlein frequently walks with his pupils from his ward to the Pathological Institution, to see Virchow make the post mortem examination of a case that died in his ward. Once



they were assembled upon such an occasion. It was a case, where Schönlein had pronounced his diagnosis with great confidence, but Virchow held the proof to the contrary against him, crying, "The revenge of Oppolzer!"

If any gentleman wishes to prepare himself thoroughly in pathological anatomy, Berlin is, perhaps, the very best place, and the same favorable opinion is entertained by gentlemen, who have been at Paris or London, with regard to the study of the diseases of the eye.

After this term they are going to have here a physiological Institution, with demonstrations on living animals, a special clinic for cutaneous diseases, and an extension of the clinic of Prof. Traube. Hebra of Vienna is said to be now industriously engaged in preparing his treatise on diseases of the skin, for Virchow's Archiv.

Barensprung is the director of the syphilitic ward, and will probably become professor to the ward for cutaneous diseases next summer. He is greatly inferior to Hebra, who with all his faults, is still the man who is at home in his department. As I intend to return to Cincinnati this spring, this will be my last letter to you.

Truly, your friend,

ARNOLD STROTHOFFE.