

Heidelberg and Strassburg.

Dear H.: (Hurdman) A short time before our visit, Hershey had come over from London to operate on a son of the late Professor Walz, who had died. We stayed a day at Frankfurt, as I was anxious to visit Weigert, and my colleague wished to see Edlinger about methods of brain preparation. After Cohnheim's death, in 1884, Weigert left Leipzig and accepted the charge of the Laboratory of the Senckenbergischen Stifts (a hospital founded in 1763 by Dr. Senckenberg), a position which has been occupied by several most distinguished German professors, notably Soemmerring, the anatomist. It would be difficult to mention a histologist to whom the profession is more indebted than to Professor Weigert, as by the introduction of the aniline stains he has revolutionized the study of bacteriology, while his special methods have been of incalculable service in normal and pathological histology. We found him busy at a new stain for neuroglia, which will show the connective-tissue framework as plainly as his well-known method does the medullated nerve fibers. It is not yet perfected, but he demonstrated specimens of extraordinary beauty, showing the rich plexus of fibers in the gray matter of the cord. The stain will be most useful in determining slight grades of sclerosis, as it picks out unerringly every neuroglia element. The method is not sufficiently matured to warrant publication, and in this respect Weigert exercises a most commendable caution. He will work month after month, early and late, until every possible modification has been tried and every contingency met before the plan is finally approved and announced. I was in the laboratory at Leipzig when he was working at his celebrated nerve stain, and the patient thoroughness with which day by day the method was tested, then improved, and at last completed, was a valuable lesson, and showed a spirit which all of us might emulate. Another important stain for elastic fibers will also be ready soon, which brings out the most delicate fibrils with the greatest distinctness, such, for example, as a set of longitudinally arranged filaments just beneath the endothelial lining of the arteries. There are places in the laboratory for six or eight special students, and, with so genial a teacher and so thorough a master of histological methods, it is not surprising to hear that the applicants are numerous.

Edinger was extremely kind in showing us his collection of brain sections, which is particularly rich in those of the frog and turtle; but he is also, as you know from his excellent little work, a diligent student of human cerebral anatomy. It is remarkable that a man engaged in active practice can spare time for these studies, but I suppose he had learned the secret of the value of odd minutes and spare hours. He had recently received from Dr. Ramon y Cajal, the Spanish histologist, a specimen illustrating his remarkable discovery of the branching of the nerve fibers in the spinal cord. The sections prepared by Golgi's well-known method showed collateral branches from the axis-cylinder process, some of which form a dense plexus about the ganglion cell.

At Heidelberg we found the outside attractions of this ideal university town too strong for much medical visiting. Of course we saw Professor Erb, whose extensive writings on the nervous system are as highly appreciated in America as in Europe, and in his morning rounds we found a rich material in well-arranged wards. For many years the clinic here has been particularly strong in the department of neurology, the result no doubt of the impetus given by the master mind of Friedreich; and Erb and Franz Schultze, now professor at Bonn, have worthily maintained its reputation. Naturally there were cases of Friedreich's ataxia and of Erb's dystrophia muscularis near the various institutes devoted to physiology, histology, anatomy, and pharmacology, and the clinic for various and central diseases. Together the latter form a most

progressiva on exhibition. A short time before our visit, Horsley had come over from London to operate on a son of the late Professor Chelius, who had paraplegia, the result of an injury in the hunting field. Erb stated that it was too soon to say how far the operation had been successful. One gets the impression that everything works smoothly at the medical clinic, and I can well understand how it is that the young men who have been here speak very warmly of it as a most agreeable place for post-graduate study.

The pathological laboratory has long been a favorite resort for American students, and we are indebted to Professor Arnold for a very pleasant hour in its various departments. He is one of the most expert histologists in Europe, and, having been for years familiar with his numerous and elaborate contributions in Virchow's Archiv, I was particularly glad to have an opportunity of meeting him.

At the biological laboratory we saw Professor Butschli, perhaps the greatest living authority on the protozoa. He talked most interestingly about the pathogenic sporozoa and the haematozoa of birds and fishes. He had lately seen in Italy the malarial organisms, and it was gratifying to hear that, although he had had grave doubts at first, he had been convinced of their parasitic nature. The problem of the life history of these parasites outside the body could be best attacked in a biological laboratory, under the direction of a man thoroughly acquainted with the conditions of growth of the protozoa. By the way, a knowledge of these organisms is gradually reaching this country. Professor Rosenbach, of Breslau, was with us at the hospital last autumn for a day or two, and we showed him the various forms, but he did not seem at all convinced. He has recently, however, had opportunities of studying cases, and has published a paper expressing his concurrence with Laveran's views. Quincke, too, of Kiel, one of the highest authorities on the blood, has within the past few weeks described the parasites in several cases.

As we strolled along the Castle Road we inquired the nature of the large building close to the hotel, and were told that it was Professor Schweninger's "Kur-Anstalt." You know, I dare say, the story of the Munich Docent who became Bismarck's physician, and was foisted into the Berlin faculty as professor of dermatology. Certainly he has shown great wisdom in the choice of a locality in which to make the fat lean and the lean fat. We were shown through the place by the resident physician, and, so far as we could gather, the remedial agents employed were the old-time favorites of Asclepiades - regimen, exercise, baths, and friction. The professor appears once a week and directs the treatment.

With only three or four days to spend at Heidelberg, we escaped quickly from hospitals and laboratories, and in delightful mountain walks, at the castle, and, must it be said, at "Zum Perkeo," we tried to recognize, if not to feel, the romance which fills every nook and corner of this place. A month's sojourn in this earthly paradise would be the thing for the tired, patient-worn doctor who goes to Europe for rest. Resisting the devil, which drives so many of us from Dan to Beersheba, racketing about in a restless holiday, let him unpack his trunk at the Castle Hotel and spend his days on the mountains, and he will find peace of mind and rest of body.

With the exception, perhaps, of certain of the new laboratories at Berlin, the university buildings at Strassburg are the finest in Germany, having been paid for by the Imperial Government, which still furnishes the means of support. They are on a most magnificent scale, and comprise on the east side of the town the central university building and the chemical, physical, geological, and botanical laboratories, while on the south side near the old City Hospital are the various institutes devoted to physiology, physiological chemistry, pathology, anatomy, and pharmacology, and the clinic for nervous and mental diseases. Together the latter form a most

imposing group, just within the fortification wall, with the buildings not too close to spoil the architectural effects and each within easy access of the other, so that no time is lost by the student.

The medical clinic is still in the City Hospital, but new accommodations have been promised and are much needed, as the old building looks like a survival from the tenth century. Professor Naunyn, who succeeded Kussmaul about eighteen months ago, is a representative German clinician, thoroughly scientific, thoroughly practical, an ardent worker, an admirable teacher, and a most genial colleague. Like his teacher, Frerichs, he is an able chemist and a good experimenter. He has had a varied professorial career, having occupied in succession the chair of medicine at Dorpat, Bern, and Königsberg. The method of teaching is practically the same as at other German schools, but on two mornings of the week the class is taken into the wards and the students are drilled at the bedside. We were present at one of these demonstrations, which was perfect of its kind, but, as is so often the case, there were too many men clustering about the patient. Professor Naunyn then took us through all the wards and pointed out several cases of special interest, among them one of Virchow's hyperplasia of the circulatory system in a young girl, and another of hepatic intermittent fever. In the chemical laboratory we found in progress experiments on the brains of birds, conducted by one of the assistants, and researches on the chemistry of gallstones and the pathology of diabetes. The collection of gallstones was very fine, and the professor has recently demonstrated certain canaliculi through which the cholesterol reaches the central parts.

At the pathological laboratory Professor von Recklinghausen was just about to lecture, and we heard a very concise yet clear explanation of the pathology of emphysema and bronchiectasis. I am sure many teachers would have spent three lectures in covering the same ground; only a few typical, perfectly illustrative specimens were shown. The demonstration courses, the daily sections, the classes in pathological histology, and the private work are personally conducted by the director, who seems to leave very little to the assistants. This is one reason, perhaps, of the popularity of this laboratory with foreigners. It was rather surprising to see the students cutting sections in the old free-hand method with the razor, but the professor insists that often a better idea of the changes in a tissue can be had from a moderately thick than from an extremely thin section. A point of much greater value was the care with which fresh specimens were examined either by section or by teasing. The uniform kindness and the untiring patience with which Professor von Recklinghausen treats the young men who work under him finds its proper reward in the affection with which he is regarded by them.

An illustration of the catholic character of the mind of the great master Virchow, is afforded by the fact that four of the greatest physiological chemists of Germany grew up under his inspiration - Hoppe-Seyler, Kühne, Liebreich, and Salkowski. The Physiological Chemistry Institute, presided over by the first mentioned of these men, is by far the most complete in the world, and has been planned and equipped regardless of expense. There were few men I was more curious to see than Hoppe-Seyler. In the first place, as our respect for a subject is oftentimes in direct proportion to our ignorance, I had never, in spite of a period of study with Salkowski, outgrown a sense of the deepest reverence for physiological chemistry - a reverence which was increased, if possible, by an acquaintance with the works of the Strassburg professor; and then my assistant and successor at McGill, Dr. [Name], this vast expenditure a necessity. To that Geist the entire world to-day

Wesley Mills, during a prolonged stay "learned his great language, caught his clear accents," and made me feel that as a man and as a worker Hoppe-Seyler was in some ways exceptional. We found a class of about thirty students listening to a lecture on gastric digestion, the steps of which were very skillfully shown. The greater part of the time was occupied with a discussion of the nature and varieties of peptone. It was gratifying to hear the name of Dr. Chittenden, of Yale, so frequently mentioned, on whose work the professor seemed to place a very high estimate. Hoppe-Seyler is an older man than I expected to find, but he is vigorous and active and has a very friendly and attractive manner. I knew that the institute was a large one, but the great extent and the completeness in every detail were a revelation. The advantages for research work are so favorable that the special laboratory is always full of men from all parts of the world. The students can follow practically in the general laboratory the subject upon which the professor is lecturing, but it is to be seen at a glance that the prime object of the institution is investigation.

Professor Schmiedeberg very kindly showed us his Pharmacological Institute, which is also, I believe, without parallel among similar institutions. As you will find an admirable description by Dr. Sibley, with illustrations, of the chief Strassburg laboratories in the early numbers of the British Medical Journal of this year, I will spare you the account of physiological and anatomical institutes. In the former, besides Professor Goltz's dogs in a more or less brainless condition, the work of Professor Ewald interested us intensely as an illustration of micro-chirurgy. In operating on the semicircular canals of pigeons, in order to obviate all unnecessary laceration and bleeding, the dissection, with the strictest antiseptic precautions, was made under a specially devised low-power microscope, and the vein, not so big as the finest thread, which runs over the canal, was included between two ligatures and cut. He had the tiniest little instruments, and every detail was carried out in miniature. I must mention the extreme kindness of Professor Schwalbe, with whom we spent the last, as in many ways it was our best, day in Germany.

Now, as you are in part a Teuton, it may interest you to know the general impression one gets of the professional work over here. I should say that the characteristic which stands out in bold relief in German scientific life is the paramount importance of knowledge for its own sake. To know certain things thoroughly and to contribute to an increase in our knowledge of them seems to satisfy the ambition of many of the best minds. The presence in every medical center of a class of men devoted to scientific work gives a totally different aspect to professional aspirations. While with us - and in England - the young man may start with an ardent desire to devote his life to science, he is soon dragged into the mill of practice, and at forty years of age the "guinea stamp" is on all his work. His aspirations and his early years of sacrifice have done him good, but we are the losers and we miss sadly the leaven which such a class would bring into our professional life. We need men like Joseph Leidy and the late John C. Dalton, who, with us yet not of us, can look at problems apart from practice and pecuniary considerations.

I have said much in my letters of splendid laboratories and costly institutes, but to stand agape before the magnificent structures which adorn so many university towns of Germany and to wonder how many millions of marks they cost and how they ever could be paid for, is the sort of admiration which Caliban yielded to Prospero. Men will pay dear for what they prize dearly, and the true homage must be given to the spirit which makes this vast expenditure a necessity. To that Geist the entire world to-day

stands debtor, as over every department of practical knowledge has it silently brooded, often unrecognized, sometimes when recognized not thanked.

The universities of Germany are her chief glory, and the greatest boon she can give to us in the New World is to return our young men infected with the spirit of earnestness and with the love of thoroughness which characterize the work done in them.

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New York M. J., 1890, lii, 333-334.)