

GERMANY.

In the German empire there are twenty universities which possess a medical faculty and grant degrees in medicine; namely, those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practice medicine in this empire unless he has passed the Staats-Examen board. The law forbids any one to call himself *Arzt* (physician) unless he has passed the State Board, or doctor unless he has passed the examinations at some university, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practice has no power or right to insist on payment of his services. The physician licensed by the State Board, on the other hand, is not allowed to call himself "doctor," unless he has passed an university examination. The practitioner who is neither doctor nor physician practices at his peril; for though he is not forbidden by law to do so, yet, if any mishap occur from his ignorance, he is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the faculty of an university, and the examination is more exclusively practical; hence it is selected by the poorer students, who seek only a rural practice. The majority of students pass both the university and the state examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an university or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one modern language besides German, logic, the physical sciences, and mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the medical faculties vary greatly in the different universities; but in all we find three classes of teachers, namely, professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the state or university, a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*.

As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some universities they are furnished with rooms, and given a share of the clinics; at others they receive little or no assistance.

There are no independent schools in Germany. No one can open a course on his own responsibility, and the universities have alone the power to confer academic grades. The system of *privat-docents*, however, compensates in a great measure for this want of freedom. As the test of fitness for a degree in the university, or for the position of a practitioner in the state, is mainly the ability to pass certain examinations, and as the salaries of the professors are guaranteed by the state, it is evident that it makes little difference as to precisely when, where, or how the student gets his information, provided only that he really gets it.

There is, therefore, little objection to free, or, as it is sometimes called, "extramural teaching," and hence young men of ability can establish themselves as private teachers, demonstrators, etc., in the immediate vicinity of the universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. These *privat-docents* are subject to certain regulations, and follow in a general way the teaching and directions of the professor of the special branch to which they attach themselves; they are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some the course extends over four years. The following lectures are the least which will be accepted by any of the university faculties, and may be taken in whatever order the student may wish. The courses occupy nine and a half months in each year. For one year: chemistry, six hours weekly; physics, four hours weekly; zoology and comparative anatomy, three hours weekly; botany, three hours weekly; mineralogy and geology, two hours weekly; anatomy, histology, and preparation of specimens, ten hours weekly; physiology and laboratory work, eight hours weekly; general pathology, pathological anatomy, and practical work, six hours weekly; pharmacology and toxicology, two hours weekly. For two years: special pathology and medical clinic at hospital, ten hours weekly; general and special surgery, hospital clinics, and operating, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and gynecology, with clinics, three hours weekly for one year; eye and ear clinics, use of ophthalmoscope, operations, four hours weekly for one year; forensic medicine, two hours weekly for one year.

The professors receive fixed salaries, varying from £120 to £480 annually, and increased every ten years by the addition of from £20 to £50. The students'

fees for the entire course vary in different schools from £36 to £52.

UNIVERSITY OF BERLIN.

The institutions for clinical treating connected with the university are: Professor von Langenbeck's Clinic for Surgery; the University Polyclinic (Dr. J. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Clinic (Dr. Lucae); the Obstetric Clinic (Dr. Schroeder); the Institute for Practical Instruction in State Medicine (Dr. Liman); and, in the Charité Hospital, the Medical Clinic (Dr. Frerichs); the Clinic for Elementary Medical Instruction (Dr. Leyden); the Surgical Clinic (Dr. Bardeleben); the Ophthalmic Clinic (Dr. Schweigger); the Obstetric Clinic (Dr. Gusserow); the Gynecological Clinic (Dr. Schroeder); the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Heuch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the physiological laboratory under that of Professor Du Bois-Reymond; and the chemical laboratory under that of Professor Hofmann.

SWITZERLAND.

In Switzerland degrees in medicine are granted in the universities of Basle, Berne, Geneva, and Zurich. These degrees do not confer a license to practice, for which a separate examination is required.

AUSTRIA.

The universities of the Austro-Hungarian Empire which possess medical faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbrück (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the universities are under government control, and the degree of doctor of medicine obtained at any of them alone gives the right to practice medicine in the empire.

The course of study required of candidates for the degree of doctor of medicine in the universities of the Austrian Empire extends over five years, or five winter and five summer terms or semesters. The following arrangement is recommended by the government. (The first, third, fifth, seventh, and ninth are winter semesters; the others are summer semesters.) First semester: systematic anatomy; experimental physics; inorganic chemistry, general botany; dissections. Second semester: systematic anatomy (second part); experimental physics (second part); organic chemistry; special botany; practical introduction to chemical analysis; practical introduction to the use of the microscope. Third semester: physiology, histology, medical chemistry; zoology; dissections. Fourth semester: physiology (second part); embryology; exercises in physiology, in histology, and in medical chemistry. Fifth semester: general pathology and therapeutics; pharmacology; pathological anatomy; pathological histology; post-mortem examinations; practical introduction to the physical examination of patients. Sixth semester: pathological anatomy (second part); special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; post-mortem examinations; exercises in pathological histology. Seventh semester: special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; diseases of

the eye; exercises in surgical anatomy (operations). Eighth semester: internal diseases; surgery or diseases of the eye; surgical operations (surgical anatomy). Ninth semester: internal diseases; surgery; theory and practice of obstetrics and gynaecology; forensic medicine (exercises in obstetric operations); medico-legal exercises. Tenth semester: clinics of diseases of children, of diseases of the skin, and of syphilis (obstetrics and gynaecology); exercises in obstetric operations (medico-legal exercises). Of the subjects included in parentheses one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

The examinations are public, and each member of the commission examines the candidate for a quarter of an hour. He is required to undergo three examinations for his degree.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the professors of the medical faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors.