

Fredrich Paulsen, *The German Universities and University Study*
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Selections

CHAPTER I

THE GERMAN UNIVERSITIES DURING THE MIDDLE AGES¹

1. *Origin.* Universities came into existence in France and Italy during the earlier portion of the second half of the Middle Ages. During the first half of this period men looked backward to Christianity and the ancient world, but at the end of the eleventh century they began to look forward. A mighty intellectual revolution occurred about that time. The crusades had brought the oriental peoples into the closest contact not only with each other, but with the occidental world as well, and the religion and civilization of the Arabians were thereby placed within the European intellectual horizon. In knighthood there appeared a new patron of secular literature and culture, and in the new Franciscan and Dominican orders, a kind of ecclesiastical intellectual knighthood was established to which most of the great names in the rapidly developing new theology and philosophy belonged. Everywhere the desire for knowledge began to make itself felt, and, above all, the attempt was now made to understand and rationalize the faith which the new peoples had at first merely passively accepted, for the purpose of assimilating it more thoroughly and consciously. At the same time the principal works of the Aristotelian philosophy became known. Thus arose the problem of harmonizing faith with knowledge, the doctrines of the church with philosophy, in order to bring them to a consistent unity. The solution of the problem was found in the great systems of the thirteenth century.

¹ G. Kaufmann's thorough work, *Geschichte der deutschen Universitäten im Mittelalter*, supplies, in its second volume, complete information concerning the subject matter of this chapter. For the development of the entire university system of the Middle Ages the works of Denifle and Rashdall are of first importance.

This new intellectual world produced the universities as its organ or support. Paris, the first great university of the western world, became the seat of the new theological-philosophical speculations. From Paris—*ex diluvio scientiarum studii Parisiensis*—the German universities especially take their descent. But the independently founded universities of Italy, especially Bologna, originally a law school, were not without influence upon them.

While the oldest universities of France and Italy, as well as of Spain and England, date back to the thirteenth, and even as far back as the twelfth century, the oldest German institutions do not go beyond the second half of the fourteenth century. Prague and Vienna were the first foundations. The former was established in 1348 by the house of Luxemburg, the latter in 1365 by the house of Hapsburg. Both were located on the eastern border of the German sphere of culture, manifestly because in that region the most extensive independent territorial jurisdictions had been built up, and, probably, because Paris, with which the old ecclesiastical schools along the Rhine, notably Cologne, already sustained intimate relations, was readily accessible to the west. Toward the end of the century the west followed with the universities of Heidelberg (1385) and Cologne (1388), and Middle Germany with Erfurt (1392), the two last named being municipal foundations. The establishment of these three universities was in part due to the disintegration of the university of Paris by the great ecclesiastical schism. Cologne had long been one of the most important seats of ecclesiastical learning. Here, in the Dominican school, Albertus Magnus and Thomas Aquinas had taught, while Duns Scotus had given instruction in that of the Minorites. Erfurt also had an organized school long before 1392, as Denifle has shown, which soon laid claim to the title of *studium generale*. By way of compensation for the loss of the university of Prague—lost to German culture by reason of the Hussite disorders—the dukes of Saxony founded a university in Leipzig (1409) for the numerous masters and scholars who had immigrated to that city. In 1419 the municipality of Rostock, in coöperation with the rulers, established the last university founded during this period.

With two exceptions the seven universities of this first period are still in existence. Cologne and Erfurt, which at the turn of the fifteenth and sixteenth centuries, stood in the first rank, perished, with the ecclesiastical states to which they belonged, in the storm of the French revolution, so destructive to many of the old universities. Cologne was abolished in 1794, Erfurt in 1816.

A second foundation period began with the rise of the humanistic movement. It witnessed the establishment of no less than nine new German universities: Greifswald (1456), Freiburg (1460), Basel (1460), Ingolstadt (1472), Treves (1472), Mainz (1477), Tübingen (1477), Wittenberg (1502), and Frankfort-on-the-Oder (1506). With the exception of Greifswald and Basel these were all government foundations. The three first-named and Tübingen are still in existence at their ancient seats. Treves and Mainz, the two archiepiscopal universities, which were never of great importance, succumbed toward the end of the eighteenth century, with the ecclesiastical states to which they belonged. The remaining three were either removed to other places or were combined with other institutions, about the beginning of the nineteenth century. Ingolstadt was removed, first to Landshut (1800), and then to Munich (1826); Wittenberg was combined with Halle (1817), and Frankfort-on-the-Oder with Breslau (1811).

2. *Organization and Regulations.* First, a word or two about the name. Originally the proper designation for a university was *studium generale*. It was so called because, in contrast to the *studium particulare*, or school for the town or province, the university aimed to be a school for the whole of Christendom regardless of national or geographical lines. And, as a matter of fact, the degrees conferred by these universities were everywhere acknowledged and accepted. On the other hand, the name *universitas* described, not the school as a school, but rather the civil corporation of instructors and students which, by means of all sorts of exemptions, had secured for itself the position of a public legal corporation. It was therefore spoken of, for example, as the *universitas magistrorum et scholarium Parisiis existentium*, or the *universitas studii Pragensis*, or *Viennensis*, etc. This designation gradu-

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ally supplanted the other and became, with its modern significance as *universitas litterarum*, the name for the institution of learning as such.

How Founded. Unlike the first French and Italian institutions, the German universities did not originate spontaneously, but were the result of a definite scheme in which, as a rule, the civil and ecclesiastical authorities were both interested. The actual founders were the territorial governments, or perhaps the municipalities. The ruler called the school into being, supplied it with buildings and endowments, and, at the same time, granted the *universitas* certain corporate rights, such as autonomy, jurisdiction over its own members, and exemption from duties and taxes. The next step was to secure recognition from the higher authorities, especially the papal, from whom was procured, for a price, a "bull" which finally sanctioned the establishment and endowment of the university and authorized it to teach, hold examinations, and confer degrees. In this latter arrangement we see clearly the medieval notion of instruction as an ecclesiastical function. Somewhat later it became customary to procure the imperial sanction as well, for the imperial power also had something of the glamour of universality about it, and besides, the view had become prevalent that the Roman law was also the "imperial" law. Freiburg began this practice. The new university thus became a *studium privilegiatum* or "privileged school."

How Organized. The oldest German universities (Prague and Vienna, the former imitated by Leipzig, and Leipzig in turn by Frankfort) adopted the dual organization into "faculties" and "nations" from still older models. To facilitate instruction, the teaching force was divided into four faculties, and for administrative purposes the entire "corporation" was arranged (as at Paris) into four "nations," to one of which each member was assigned according to his nationality. The division into faculties, whose functions were to teach, hold examinations, and confer degrees, was based upon the nature of the instruction to be given. Each faculty elected a dean as its presiding officer. The division into "nations" was made for the purpose of government and jurisdiction. Each "nation" elected a procurator as its chairman. At the head of

the entire university stood the rector, who was elected by the four "nations," which included the masters and scholars. But this organization soon became obsolete. It was supplanted by the faculties, who gradually assumed the functions of administration also. The later foundations, even Heidelberg and Erfurt, simply had the division into faculties. The student bodies at the German universities were not so numerous as those at Bologna or Paris, where many foreigners somewhat above the average age were usually gathered; nor was their feeling of mutual interest ever as intense. A survival of the old corporate unity of teachers and scholars was, however, retained in the custom which allowed the rector to be chosen from the student body, and that even in universities in which the students had never enjoyed the right of suffrage. The practice of conferring this honor upon princes and nobles, matriculated for the purpose, continued in vogue for a long time. By this means the lustre of a great man's fame was reflected upon the university also. Usually, a vice-rector was provided to look after the administration of affairs.

At first everyone belonged to the faculty from which he received the master's or doctor's degree. In fact, the bestowal of the degree signified that the recipient had thereby been made a member of the faculty. But self-preservation soon compelled certain distinctions, at first between the members who actually gave instruction (*magistri actu regentes sc. scholas*) and those who did not; and then also between the older and long active teachers and those who had been but recently admitted (*magistri novelli*). This was especially true of the faculty *in artibus*, with its numerous and frequently changing membership. From this narrower circle of fully privileged members an executive committee, the council (*consilium*), was then appointed, at first merely to prepare the budget of business for the meetings of the full faculty, but afterwards supplanting that body entirely. The corporate faculty of later times is here fore-shadowed.

Attendance. Here, as usual, tradition is very generous with large figures. It tells of thousands and tens of thousands of students contemporaneously at Prague, or Vienna, as well as

at Paris or Oxford. Nor do the matriculation lists of many of the universities, preserved and recently published, quite disprove these reports. When the matriculation for a given year is found to have been anywhere from five hundred to one thousand, and a residence of from four to six years is assumed for each student, the large figures are easily approximated. But a more careful consideration of possibilities under the circumstances, as well as a critical use of the original sources of information, have led to the adoption of more conservative figures. This is not the place to go into details, but it will not be far from the truth to conclude that the largest German universities (Vienna, perhaps, excepted) hardly counted more than a thousand *supposita* (the technical name for matriculates), and the smaller ones only a couple of hundred, and even less. The majority belonged, as a rule, to the lower faculty of arts (or philosophy, as it has been called since the sixteenth century). Of the three higher faculties, which have, as a rule, only small figures to their credit, the faculty of law seems to have enjoyed the largest attendance, next the theological, and last, and usually quite unimportant, the medical.¹

Customs. Life at a medieval university had little in common with that which prevails at a modern German institution. Primarily the medieval university may be compared to a great boarding school. The teachers and students, at all events those of the faculty of arts, lived together in the university buildings. Each university had one or more *collegia* (the colleges of the English institutions, a term preserved among us in the expression *Colleg* for lectures) and frequently, also, a *paedagogium* for the primary Latin students. If, with increasing attendance, the buildings became inadequate, some of the masters would establish private boarding-houses to supply the deficiency. These were known as *bursen*, a term still preserved in our "Bursche." In these institutions life was

¹ A first attempt to get behind the fabulous figures and reach the actual numbers was made by me in an article *Gründung und Lebensordnungen der mittelalterlichen Universität* (in von Sybel's *Historische Zeitschrift*, 1881). A later careful investigation by Fr. Eulenburg, *Die Frequenz der deutschen Universitäten in früherer Zeit* is found in Conrad's *Jahrbücher für Nationalökonomie*, 1897.

governed in monastical fashion, and a large number of regulations yet extant enable us to trace details in various directions. Such a house usually contained a number of rooms that were used in common—such as the dormitories, dining-rooms, study halls, and lecture rooms, a *stuba facultatis*, in which the meetings of the masters were held—as well as private apartments, rooms for the masters and cells or chambers (which could not be heated) for the students. The arrangements were all based on the one hand upon the presumed celibacy of the masters, and, on the other, upon the youthful age of the students, which averaged between fifteen and twenty years. The entire mode of life, down to the minutest details, was regulated by rules established and superintended by the university. The times for rising and retiring, the hours for the two daily meals (the *prandium* at 10 A.M. and the *coena* at 5 P.M.), the kind of clothing to be worn (naturally, of a clerical cut), the instruction, the review hours (*resumptiones*), in short, everything was governed by precept. Nor were prohibitions lacking against noise, loafing, carrying weapons, the introduction of women, etc. It may safely be assumed, and, if needful, it can be proved by numerous documents, that then as now various ways were known by which both the prohibitions and the precepts could be circumvented.

The Teaching Staff. In the higher faculties the number of lecturing doctors was never large, usually from two to four theologians, three to six jurists, and one to three medical men. The theologians and jurists were generally holders of ecclesiastical benefices which had been incorporated with the university. The members of the medical faculty were also practising physicians and, so far as the university was concerned, played no great rôle. The teaching force of paid professors was sometimes supplemented by lecturing baccalaureates. In the faculty of arts the number of lecturers, as well as of students, was usually much larger. In the more important universities this faculty may have numbered as many as twenty or thirty members. The older lecturers had positions in a college and, perhaps, had a small fixed salary, or enjoyed a benefice. But the majority, being without salary, had to depend upon the tuition (*pastus* or *minerval*) and the examina-

tion fees paid them by the scholars. Membership in this faculty, however, was not usually looked upon as a permanent vocation, but rather as a stepping-stone to something else. Often the lecturing masters *in artibus* were also students of some higher faculty as candidates for its degree. That goal attained, they either continued as holders of endowed lectureships or, preferably, secured ecclesiastical livings.

3. *The Course of Study.* When, at the age of fifteen or sixteen years, the *beanus* came up to the university from the local school where he had acquired the Latin, the literary language, his first care was to be matriculated by the Rector, a service requiring a fee, which was frequently, however, remitted *propter paupertatem* or, more rarely, *ob reverentiam* (in the case of well-known scholars or for the benefit of students recommended by them). He next betook himself to one of the lecturing masters *in artibus* and applied for admission into his classes. And when, finally, in the presence of the older students and the Master or Dean, he put off the *beanium* he was recognized as a student (*scholaris, studens*). (The frequently described *depositio sc. cornuum*, was the act of initiation. It consisted of all sorts of symbolic representations intended to impress the novice with the full import of his entrance into the world of academic culture.) After this he began to attend the prescribed lectures and exercises in the *facultas artium*, or, if he was too young, and not sufficiently prepared in Latin, he was assigned to a *paedagogium* or placed in the care of an instructor until he mastered the language.

The course in arts was about four years long and was divided into two parts, the division being marked by the first examination. After a year and a half or two years of study, devoted particularly to logic and physics, the student announced himself as ready for his first examination. If he could show that he had heard the prescribed lectures, taken part in the required number of disputations, and had acquired a sufficient sum of knowledge, he publicly received the first academic degree, the honor of the *baccalarius* (or, in its later form, *baccalaureus*). Examinations, the bestowal of degrees ("promotions"), occurred only at fixed periods, the "promotions" being by groups in which the individual student received a place (*locus*)

according to the success he achieved in the examinations. After several additional years spent in the study of the other philosophical branches, physics and mathematics with astronomy, metaphysics and psychology, ethics with politics and economics, the second examination took place, with its consequent "promotion" to the degree of *magister artium*. In the higher faculties the process was a similar one, only that greater attainments in knowledge were demanded for entrance, and a more advanced age was required before the degrees were conferred. It was the custom, for example, that a candidate should be thirty years old before he received the degree of doctor of theology.

It is worthy of remark just here that the new *magister artium* usually had to pledge himself to lecture for a couple of years (*biennium complere*) in the course *in artibus*. The purpose of this was two-fold: first, the preservation of the institution. Without such obligatory instruction there would often have been a dearth of teachers in this faculty, because no salaries were paid. In the second place, this practice was supposed to give the finishing touches to the student's own education.

The Middle Ages agreed with Aristotle, that ability to teach was the peculiar mark of a scholar. For this reason even the *baccalarius* was allowed to exercise his gifts not only in the disputation, but as a lecturer. As a matter of fact, the gradation into *scholaris, baccalarius, and magister* is apparently identical with that of apprentice, journeyman, and master, which we find among the medieval artisans. The apprentice learns; the journeyman learns, and produces and teaches as occasion offers; the master produces and teaches. The same divisions are found in the local schools: school-master (*ludi magister*), fellow (*socius*, often also called a *baccalarius*), and pupil.

It must not be supposed, however, that it was the rule during this period for students to complete the course in arts. Much less was this true of the courses offered by the higher faculties. Most of the students left the university without even obtaining the lowest degree of *baccalarius artium*. In modern times the contrary is the rule, for the reason that appointment to office

is now conditioned upon the applicant's definite preparation for the discharge of his duties. But that was not the case during the Middle Ages. Not even a brief residence at a university seems to have been required for appointment to any office whatever. The only condition precedent to appointment to the ecclesiastical offices—the only kind really in question, for there was scarcely such a thing as a secular office—was ordination to the priesthood. Previous to such ordination, it is true, the candidate was expected to pass an examination before his bishop, but it was such that it could only remotely make any demands upon his scientific attainments, except, indeed, in that it required a passing knowledge of the Latin. Even as late as the close of the fifteenth century a very considerable number of the clergy had never attended a university at all. It may, however, be safely assumed that it had gradually become the proper thing for the higher clergy, at least, to have a university education; and in the chapters a certain number of places were often reserved for the graduates in theology. A knowledge of the law had also become more and more important for the higher clergy, while for the lower orders of ecclesiastics the degree of *baccalarius* or *magister artium* was always a weighty recommendation. Yes, even a mere matriculation card might cause its possessor to be preferred over his competitors. For this we have the testimony of the *rotuli* which the older universities sent to the Roman Curia from time to time. They contained lists of all the members of the university in the order of their academic standing, down to the simple *scholaris*. They are all applicants for benefices.

4. *The Matter and Method of Instruction.* For the medieval university teacher the subject matter of instruction was definitely fixed, and his task was simply to hand down (*tradere*) the fixed sum of knowledge to his successors. Theology obtained its facts, in the last analysis, through revelation; the Holy Scriptures (*sacra pagina*) were not only its original source of information, but its final authority as well. That authoritative source was to be understood, however, only as the Church explained it. And thus, through the elaboration and systematization of this given body of doctrine by the natural reason, the great theological systems of the Middle

Ages were built up and became at last the real content of theological instruction. In the faculty of law the great collections of Roman and ecclesiastical laws were the source and substance of instruction, supplemented by commentaries and glossaries. The faculty of medicine, also, depended upon a few works of canonical character, especially the writings of Hippocrates and Galen, with some later commentators, particularly Arabians, among whom Avicenna's name was the most distinguished. The faculty of arts, finally, gave instruction in the philosophical, that is to say, purely theoretical branches, so far as they can be derived from the natural reason. Here, also, the substance of instruction was drawn from the canonical text-books, above all, from the writings of Aristotle. In addition, Euclid was studied in mathematics and Ptolemy in astronomy, together with a limited number of newer texts, such as the *Summula Petri Hispani*, the *Sphaera* of *Joannes de Sacro Bosco*, and others.

In the higher faculties it was the rule for each teacher to lecture upon designated books. He was, as we would now put it, a paid specialist in theology, law, or medicine. In the faculty of arts, however, the principle of universalism was in vogue. Every master could lecture, at pleasure, upon any philosophical text. At the beginning of each term the books, were, therefore, distributed among those masters who had announced themselves as lecturers for the year. The distribution was made sometimes by vote, *secundum senium*, sometimes by lot, and sometimes in rotation, in order that all might have the benefit of the more popular and remunerative lectureships. The presumption was that anyone who had completed the whole philosophical course, in which mathematics and the natural sciences were included, and had won the degree of *magister in artibus*, was in fact a master of his subjects and knew how to teach them. No one was expected to supplement the course with the achievements of his own wisdom. If, as sometimes happened, the lot resulted in an unwise distribution of the courses, it was most likely always possible to secure more suitable arrangements by exchange or resignation. The time-limit of a lecture, as well as the size of the fee for it, were prescribed by the statutes.

The method of instruction everywhere consisted of two complementary parts, the lecture and the disputation.

The purpose of the lectures (*lectio, praelectio*) was the transmission of the sum of knowledge. Some canonical text-book, let us say one of Aristotle's writings, but of course in a Latin translation, was read and expounded. This does not mean that it was dictated to the students, for each hearer was supposed to have a copy of the text before him. Sometimes the teacher did read the text in the hearing of the class in order either to amend it or to correct its punctuation. Sometimes, for the purpose of more readily securing the needful number of copies, certain hours were set apart for mere dictation (*pronuntiare*). But the essential purpose of the lecture was to expound the meaning of the text. The *versus memoriales*, in which the method of expounding the judicial texts is schematically presented, will serve, with one or two adaptations, as an illustration for all:

*Praemitto, scindo, summo, casumque figuro,
Perlego, do causas, connoto, objicio.*

The purpose of the disputation was practice in the use of knowledge for the solution of controverted questions (*quaestiones*). This exercise does not appear to have been less important than the lecture. At the great weekly debates (*disputatio ordinaria*) the entire faculty assembled in a body in the Aula, or great hall, with the masters and students all in cap and gown. One of the masters, as presiding officer, then proposed theses, which the other masters were expected to attack in turn with syllogistically arranged arguments (*arguere*); while the bachelors assisted in defending the theses of their master by replying (*respondere*) to these arguments, a task in which they were guided by the *Praeses*, as occasion seemed to demand. Besides these disputations properly so called, at which the scholars were present merely as listeners, others were held under the guidance of masters or bachelors in which the students participated. In connection with the lectures there were exercises (*exercitia*) and repetitions (*resumptiones*) which closely approximated disputation.

The Middle Ages laid great stress on these disputations. The number which it was obligatory to attend was precisely fixed, and masters negligent in this respect were threatened with punishment. The idea seems to have been that the best of the course of instruction was to be gotten in these debates. And this was scarcely incorrect, for they must have been an excellent means for the attainment of knowledge, as well as for practice in applying the knowledge acquired. They certainly were well adapted to increase a student's alertness, his power of comprehending new ideas, and his ability quickly and surely to assimilate them to his own. It is a safe assumption that the students of this period attained a degree of perfection in these respects which it would be difficult to duplicate to-day. The modern scholar relies upon reference books for many things which his predecessor of the Middle Ages carried in his memory. The art of quickly and logically defining one's own thoughts as well as those of an opponent, while yet face to face with him, is likewise scarcely to be met with now, because it is no longer practised, except, perhaps, in the court-room. I do not doubt that such intellectual tournaments in which the students were taught to defend a thesis against attack, did more to enable them to grasp a subject than the mute and solitary reviewing and cramming of our modern examinations can possibly do. That method brought into play all the excitement of a contest, the triumph of success, and the disgrace of defeat, in order to emphasize the value of what had been learned, together with the importance of an alert wit and constant readiness to use it.

Of course, all this is not said here in order to recommend the resumption of such disputations in our day, but only to point out the reasonableness of the practice then. For us it has become impossible, partly for external reasons, for we no longer have the old scholastic communal life, partly because of the lack of uniformity in our culture, but more especially because knowledge is no longer debatable. Medieval knowledge had assumed the form of a system deduced from certain principles, the system, that is to say, of the Aristotelian philosophy. And this system was not only generally known, but universally recognized as the firm and authoritative basis of all science.

Every dispute was decided by syllogistically proving that one of the asserted theses either agreed or disagreed with the principles of the "Master." We recognize no certain and universally acknowledged principles, at least no material ones, and without such principles debates could come to no conclusion. This was quite clearly recognized in the Middle Ages: *contra principia negantem non est disputandum*. Modern scientific efforts are directed toward the establishment of facts, and facts are matters of discovery, but not of debate. The passing of the disputations was directly due to this great change in the method of science which began in the sixteenth and became so decisive in the eighteenth century. By way of compensation we now have the various exercises in our *seminars* and the laboratories (*institutes*).

In conclusion, a word may be in place concerning the controversy whether the German universities of the Middle Ages—the German universities, let it be noted, for conditions were different in other countries—were or were not ecclesiastical institutions. Against the general tendency to answer the question in the affirmative, to which I also must plead guilty, G. Kaufmann constantly puts the emphasis upon their secular character. And it must be admitted that his position is, formally and legally correct. The universities were not, legally considered, ecclesiastical institutions. They were founded, supported, and, in so far as they did not, by the autonomy granted them, control themselves, governed by the secular authorities. But there is good ground for asserting, on the other hand, that when judged by their general character the universities belonged more to the *status ecclesiasticus* than to what was afterward known as the "principality." The following points deserve consideration: 1. Knowledge and instruction were indisputably the business of the medieval Church. This accounts for the papal "bull" permitting the establishment of a school, as well as the statutory control of instruction by the Church. 2. The large majority of the members of a medieval university, not because of such membership or by provision of law, but as a matter of fact, were either actual or potential clerics; the *rotuli*, which were forwarded to Rome, describe them as applicants for ecclesiastical benefices. Indeed, aside

from ecclesiastical positions, only a few government positions or places in the medical profession were to be had. 3. The salaries of the paid university professors, especially in the higher faculties, consisted for the most part of ecclesiastical prebends, and therefore bound the beneficiary to attend to certain ecclesiastical duties as well. 4. The entire manner of life at the universities was cut after a clerical pattern; the cloister was evidently the model which controlled the government of the *colleges* and *bursae*. That some secular customs actually entered into this life, is doubtless true. But they also found their way into the monasteries and the episcopal residences, and invaded the Curia itself.

This difference of opinion, however, depends entirely upon the observer's standpoint. Looked at from the present, or for the purpose of explaining the medieval university to those who have a modern one in mind, the ecclesiastical characteristics will receive the emphasis. But when looked at from the standpoint of the older educational system, that of the cloister and cathedral schools, the universities, which checked and finally supplanted them, appear rather as one of the stages in the process that led at last to the complete secularization of instruction. This is particularly true of the old Italian universities, but also of the Cisalpine ones. The founding of the German universities by the principalities, as well as the contemporaneously established local schools of the municipalities, really formed the beginning of the secularization of instruction. But the process was not, at first, opposed by the Church, because she was still perfectly confident of her position; she regarded the new institutions as secular endowments for spiritual ends, similar to those in other fields, and rewarded the civil authorities by granting them the control of positions. But what might be called a subjective secularization of knowledge was also thereby introduced, for it was at the universities that literary work and scientific instruction first achieved a place as an independent calling beside the ecclesiastical employments and the cure of souls; and that speculation, now in constant touch with Greek philosophy and natural science, with Roman law and medical lore of Greek and Arabic origin, gradually struggled out of the narrow lim-

itations of theological-ecclesiastical doctrines, and fell into the habit of seeking its criterion in itself. There can be no doubt that the medieval universities prepared the way for that great emancipation of subjective reason which occurred during the Renaissance and Reformation, even though their attitude was hostile in many respects to both these movements.

CHAPTER II

THE DEVELOPMENT OF THE GERMAN UNIVERSITIES IN MODERN TIMES

I. THE PERIOD OF THE RENAISSANCE AND REFORMATION.

The medieval era shades off into the modern in the great revolutionary interval of the Renaissance and Reformation. These mighty movements also had a transforming influence upon the universities.

1. *The Renaissance.* The conquest of the German universities by the new culture was accomplished during the first two decades of the sixteenth century, after the presence of a few storm-petrels, even since the middle of the fifteenth century, had presaged the coming tidal-wave. During this entire time there was a bitter struggle between the old and the new. The entire traditional university instruction, especially as it prevailed in the faculties of arts and philosophy, and theology, was attacked with extreme violence by the representatives of the new poetic and literary culture, who styled themselves orators and poets, in contrast to the philosophers. Both the form and content of the prevailing instruction were denounced with the utmost contempt as stupid barbarism. In the *Epistolae obscurorum virorum*, which originated about 1516 in the circle of young poets gathered about Mutian in Erfurt, the hatred and contempt of the younger generation for the old, of the new culture for the old university idea, have found an enduring expression.

Foremost among the men who represent the vitality of humanism are Erasmus and Reuchlin. The latter blazed the way for the study of Hebrew in Germany, and gave a fruitful impetus to the study of Greek. Erasmus, a man of great power and activity of mind, taught the Germans a simple, natural,

and elegant Latin, awakened everywhere a taste for finer culture, paved the way for historical-philological investigations, and, finally, through his New Testament studies, brought humanism and theology into closer relations. His peculiar task, however, was to divert attention from the scholastic systems of theology to the study of the original sources and the literature of the ancient church. It is worthy of note that Erasmus always refused to accept a chair in a university, though repeatedly and urgently pressed to do so, doubtless because he did not regard such a position as commensurate with his importance; the task which he set himself was to represent and diffuse the new and independent culture in the society of the great ones of the earth.

The new culture triumphed all along the line. By 1520 it had taken root in all the larger universities. New curriculums everywhere admitted the new branches, at first by the side of the old, into the course as well as into the examinations. Three things especially strike our attention: 1. Classical Latin superseded the old scholastic Latin of ecclesiastical usage. The Latin translations of Aristotle were replaced by newer humanistic ones. 2. Greek found a place in the universities. Lectureships in the Greek language and literature were established everywhere. 3. Ancient Roman and Greek authors, particularly the poets and orators, were included in the courses, essentially with a view to tempting the student to literary imitation. Prominent among the earliest Greek scholars of the German universities were Reuchlin, who taught a short time at Tübingen and Ingolstadt, P. Mosellanus, of Leipzig, and, above all, Philip Melanchthon, of Wittenberg. Among the Latin scholars we may mention Conrad Celtis at Vienna, Eobanus Hessus at Erfurt, and H. Bebel at Tübingen.

The sudden overthrow of scholasticism, that is to say, of the entire old system of instruction, which had held sway at the universities for three centuries, was an astonishing event indeed. It has been for a long time customary to view it only through the spectacles of the humanistic poets and orators and consequently to regard it as something quite natural and self-evident: darkness and barbarism had simply been dissipated by the rising sun of humanism. That the case was not quite so

simple appears from the fact that the scholastic philosophy revived; indeed it experienced a kind of restoration as early as the sixteenth and seventeenth centuries, and an actual restoration, in the Catholic schools, in the nineteenth century. This philosophy must, therefore, satisfy an actual want; in the last analysis, it is simply the expression of the desire for a worldview on an ecclesiastical basis that can be verified in thought or, at least, justified by reason. It was the aim of the scholastic philosophy to exhibit the faith of the Church as rational and as agreeing with scientific knowledge, an aim which is still intelligible to us. It is no less intelligible, however, that the problem was not completely solved. For, to be sure, this philosophy was cumbered with a fundamental weakness: it was not allowed to investigate points which had been authoritatively decided, not even when the points involved historical or natural facts; it was, under all circumstances, in duty bound to show that what was believed was actual and that the actual was reasonable. In this way it became customary not to attribute much importance to the problem of the actual. Instead of an investigation into the reality of asserted facts the demonstration of their possibility and reasonableness was admitted as sufficient, and faith accepted their reality. Pneumatology, the doctrine of spirits good and evil, was especially developed along this line. That such ceaseless and aimless debates without investigation should at length have produced a feeling of weariness and disgust, like that felt by Faust, and led to the desire for something tangible and real, both in nature and history, which we see coming to the surface in the Renaissance, becomes self-evident to us when we note a similar example in the modern reaction against the exaggerated rationalism of Hegelianism.

Still another reactionary phenomenon, it seems to me, came into play. A kind of undulatory movement is perceptible in the history of intellectual life. Periods of logical-philosophical ascendancy alternate with periods of poetical-literary interest. Such a change took place at the end of the fifteenth and beginning of the sixteenth centuries. After the long, it might almost be said absolute dominance of the logical-rational systems in the intellectual life of Europe, which began with the thirteenth century, the poetical-literary impulse made itself felt with

tremendous force. But this change was also the assertion of the personal and individual against the rational and universal. A similar change occurred at the close of the eighteenth century. After the long sway of the logical impulse, whose last representative was the Wolffian system, the poetic tempest of Goethe's time came on with storm and stress. In this as in the earlier instance the conflict between the two tendencies was also a conflict of the young against the old, of the young who desire and seek the new against the old men who defend what they already possess.

2. *The Reformation.* Just as the new poetical-literary culture seemed to have won the victory over the old scholastic system, it was itself in turn overtaken by a movement of an entirely different kind and origin: the Reformation. Issuing from the depths of man's religious nature, and strongly appealing to the emotions of the masses, the ecclesiastical revolution almost extinguished, for the time being, the æsthetical-literary movement of the Renaissance which, after all, had only affected the leaders of society and its culture. At first, indeed, the Reformation seemed to be the ally of the humanistic movement. Luther and Hutten were alike hostile to the scholastic philosophy and theology, as well as in rebellion against the usurpations and inordinate greed of Rome, while as champions of German freedom they stood side by side in 1520. Essentially, however, they were men of very different natures, and very different, also, was the freedom which they proposed to win for the German people. Luther was a man of deep, personal, anti-rationalistic religious feeling, to whom the prevalent ecclesiastical piety seemed all too worldly and sordid, while Hutten represented a rationalistic and libertinistic individualism which could compromise either with the secular or ecclesiastical forces as occasion seemed to demand. Hutten did not live to see the great antagonism which came to light. Beginning with 1522-23 the eyes of the humanists were opened to the situation, and they turned their backs upon a reformation which, even more than the old church, opposed culture and research. And for the moment it really seemed as if the effects of the Reformation would be essentially hostile to culture, for, the Muses having been frightened away by the noise of the theological conflict, the

universities and other schools came almost to a stand-still during the storms of the second decade of this century, so that Erasmus could declare that knowledge perished wherever Lutheranism became dominant.

But the final result was different. In a certain sense the alliance between the Reformation and Humanism was restored, even with Luther's assistance. But it was most thoroughly represented in Melancthon. With persistent but quiet efficiency this labor-loving man planted and fostered the humanistic studies at the German universities, and that in spite of the fact that the time was very unpropitious. Combining in his person almost a complete philosophical faculty, he lectured for forty-two years (1518-1560) upon well-nigh all the philosophical and philological-historical subjects as they were then understood. With the fourth decade of the century Wittenberg became the most popular of the German universities. Young men flocked to it from all the countries of Germany, yes, of Europe. And when Melancthon died there was probably not a city in Protestant Germany in which some grateful student did not mourn the loss of the *Præceptor Germaniæ*. And long after his death he controlled, through his method and text-books, the instruction in the Protestant schools and universities. It was primarily due to him that the Protestant half of Germany won the ascendancy over Catholicism in the realm of education and culture. There can be no doubt whatever about the final outcome: German philosophy and science, German literature and culture grew up in the soil of Protestantism, and they may be described as the result, although perhaps remote, of that spirit of freedom and independence of thought which the Reformation called into being.

The subsequent development of the German universities, up to the present time, may be divided into three periods:

1. *The Period of the Territorial-Confessional Universities.* It dates from the middle of the sixteenth to almost the end of the seventeenth century, and is characterized by a preponderance of theological-confessional interest. The theological faculty was the most important, and instruction remained in its medieval trammels.

2. *The Period of the Origin of the Modern Universities.* It is comprised by the eighteenth century, and is defined by the adoption of modern philosophy and science and the prevalence of the new principle of academic freedom. The philosophical faculty achieves the leadership, while the legal faculty becomes the most distinguished.

3. *The Period of the Dominance of Scientific Investigation.* It is comprised by the nineteenth century, and is characterized by the growing importance of the spirit of scientific research, as distinguished from the mere attempt to supply general or professional culture. The philosophical faculty retains its leading position, and the medical faculty comes to the front.

II. THE SIXTEENTH AND SEVENTEENTH CENTURIES. THE TERRITORIAL-CONFESSIONAL UNIVERSITIES.

1. *New Foundations.* The first stage of the great religious conflict came to an end with the close of the Peasants' War. The second stage followed with the organization of established churches upon a Protestant basis, and for two hundred years the universities stood in closest relations with these establishments. The old universities were restored, first by Protestants, and then by Catholics, in harmony with these new ecclesiastical situations, and a large number of additional ones were founded.

The first new Protestant foundation was the Hessian university of Marburg (1527). It was followed (1544) by Königsberg, for the secular duchy formed out of the territory of the Teutonic order, and by Jena (1556), for that portion of the old electorate of Saxony which remained in the possession of the Ernestinian line after the Albertians had obtained Wittenberg with the electoral dignity. And notwithstanding the smallness of the territory in which it is situated and the scarcity of means this seat of the Muses on the Saale has to this day maintained a very honorable place among the German universities. In 1576 a university with considerable equipment was established at Helmstädt for the duchy of Brunswick. It was one of the most important of the German Protestant institutions of the seventeenth century. The theologian Calixtus and the polyhistor H. Conring, the founder of the history of German law, were especially prominent in its faculty. The two foundations of the

free-cities of Altdorf and Strassburg must also be numbered among the more important universities of the seventeenth century. The former grew out of the gymnasium of Nürnberg, which was removed to Altdorf in 1573 and raised to the dignity of a university in 1622. The latter grew out of the gymnasium of Strassburg (1621), which had previous to this time been equipped with academic lectureships. Of minor importance was Giessen, detached in 1607 from Marburg (which had gone over to Calvinism), as a Lutheran institution for Hesse-Darmstadt. Rinteln, in Schaumburg (1621), and the Reformed university of Duisburg (1655) belong to the same class. More important was the university founded in 1665 in Kiel for the duchies of Schleswig-Holstein. Contemporaneously with the universities there came into existence, also, a large number of so-called academic gymnasia, institutions which offered, in addition to the ordinary school-curriculum, a limited number of philosophical and theological lecture courses. Some of these, the one at Hamburg, for instance, continued down to the present century. Of more consequence during the seventeenth century was the Reformed school at Herborn.

The Catholic countries also show a large number of new foundations. The first one was Dillingen, established by the Bishop of Augsburg (1549). It was for quite a while the focus of scientific study for Catholic Germany. Würzburg, established with considerable equipment by the Prince-Bishop Julius, came next. Then, in order, Paderborn (1615), Salzburg (1623), Osnabrück (1630), Bamberg (1648), all episcopal foundations; and in the Hapsburg domains: Olmütz (1581), Graz (1586), Linz (1636), Innsbruck (1672), and Breslau (1702). Some of these were never full-fledged universities. They were merely privileged philosophical and theological institutions, usually in the control of the Jesuits. Some also had a law faculty.

The foundations of this period showed, on the whole, less vitality than the universities which dated back to the Middle Ages. Of the ten Protestant foundations enumerated above five are still in existence: Marburg, Jena, Königsberg, Giessen, and Kiel, to which must be added the revived university of Strassburg. Helmstädt, Rinteln, Duisburg, and Altdorf were

discontinued during the great reconstruction of the German states at the beginning of the nineteenth century. The episcopal foundations also went under with the ecclesiastical states which controlled them. The Bavarian institution at Würzburg is the only one of these that remains to-day. Remnants of some of the others continue to exist as theological seminaries. The Austrian universities of Graz, Innsbruck, and Breslau also continue in existence.

The chief impetus leading to these numerous foundations was the accentuation of the principle of territorial sovereignty from the ecclesiastical as well as the political point of view. The consequence was that the universities began to be *instrumenta dominationis* of the government as professional schools for its ecclesiastical and secular officials. Each individual government endeavored to secure its own university in order, in the first place to make sure of wholesome instruction, which meant, of course, instruction in harmony with the confessional standards of its established church; in the second place, to retain the training of its secular officials in its own hands; and, finally, render attendance at the foreign universities unnecessary on the part of its subjects, and to keep the money in the country.

With adequate financial resources the thing was easy. Large amounts were not needed, a few thousand guilders or thalers sufficed for the salaries of ten or fifteen professors, a couple of preachers and physicians would undertake the theological and medical lectures, and some old monastery would supply the needed buildings. Expensive laboratories did not as yet exist. And if the means at command were not sufficient for even this much, then the already existing territorial school would be transformed into a *gymnasium academicum* or *illustre* by the addition of a few lectureships to its course of study, and by and by, as opportunity offered, the university privileges, now quite easily secured from the Emperor, would be applied for.

All this implies, of course, that the universities of this period lacked the universality so noticeable in those of the Middle Ages. The inter-territorial, not to say international freedom of transfer from one institution to another, so characteristic of the old *studium generale* was gone. Territorial boundaries, or at least the boundaries of creed, also marked the limits of a

university's field. Positive prohibitions, special and general, based upon credal or financial reasons, against attendance upon foreign universities, were not infrequent. Thus, for example, during the seventeenth and eighteenth centuries, the people of Brandenburg were repeatedly forbidden to patronize the Saxon university of Wittenberg, the home of the old Lutheran orthodoxy, because the Saxon dynasty had gone over to the Reformed faith. But even at this time the young German scholar's love of travel could not actually be repressed. The Dutch universities continued to be especially well patronized. During this period, also, a more determined effort was made to control instruction than at any period before or since. The fear of heresy, the extreme anxiety to keep instruction well within orthodox lines, was not less intense at the Lutheran than at the Catholic institutions, perhaps it was even more so, because here doctrine was not so well established, apostacy was possible in either of two directions, into Catholicism or Calvinism. Even the philosophical faculty felt the pressure of this demand for correctness of doctrine. Thus came about those restrictions within the petty states and their narrow-minded established churches which well-nigh stifled the intellectual life of the German people. We are less in touch with the period between the middle of the sixteenth and beginning of the seventeenth centuries than with any other in the entire history of our nation.

2. *Organization and Instruction.* In general the old forms maintained themselves through all the changes of the sixteenth century. The general scheme of organization remained intact, and with it its independence and legal autonomy. The university, with all of its members, and even their relatives and servants, continued to enjoy exemption from local jurisdiction; it had independent jurisdiction both in civil and criminal cases, but was liable to review by the territorial supreme court. The four faculties, and the fundamental regulations for instruction and examinations, remained essentially unchanged with the exception that the first of the two degrees, the baccalaureate, practically disappeared as early as the sixteenth century. It is noteworthy, however, that with the beginning of the sixteenth century the system of permanent lectureships endowed by the government became fixed in all the faculties, even in the philo-

sophical, marking the origin of the modern professorships. The incumbent of such an endowed lectureship was obliged to lecture *publice* on the subjects of his department at least four times each week. These public lectures, delivered in the auditorium of the faculty and arranged according to a "schedule of studies," embraced the entire course required for admission to the examination. There was, in addition, private tutoring of all kinds, from the elementary courses in the languages to the final preparation for the academic examinations and the disputations.

At the head of the several faculties stood the theological, for, since theological interests still controlled the entire trend of knowledge it also controlled instruction in the universities. And, as a rule, this faculty was also the largest, because, since the second half of the century, under the Reformation influence, the demand for theological education for all the clergy had gradually won the day. This was the result of the Protestant principle, which accentuated the idea of doctrine and its purity, and placed the emphasis upon preaching instead of liturgy in worship. Even the Catholic church was thereby influenced to a stronger accentuation of doctrine and preaching, and, consequently, also of scientific study. Her theological seminaries date from the time of the counter-reformation. But if Protestantism influenced Catholicism in this direction it, in turn, suffered a reflex effect in that it relapsed from its original devotion to a biblical theology into scholastic dogmatics. The Bible, it would seem, did not supply the system of ideas and those doctrinal formulae which were necessary for the control of the human mind and the subjection of opponents.

The faculty of law grew in extent and importance in proportion to the development of the modern state. The recognition of the Pandects as the authoritative system of law made a scientific course of preparation indispensable for both judge and lawyer, and the old-fashioned illiterate village "justice" retired before the learned "judge." This was true, of course, at first only of the higher courts. About the same time the faculties of law themselves began to assume the functions of courts of arbitration. For the gradually developing class of civil officials, also, a knowledge of the new legal lore became desirable, and,

after a while, essential. Thus our modern bureaucracy, based upon the absolute power of the state and an alien law, divorced itself from society and constituted itself an independent entity, like the Church. Law, like theology, became an esoteric science, and the judges dealt out decisions to the laity as the priests dispensed doctrines and the sacraments. The form of instruction in the faculty of law underwent a gradual change, and instead of the mere interpretation of texts it became the practice to expound particular codes of law—the *mos Gallicus* supplanted the *mos Italicus*.

As in the Middle Ages, the medical faculty remained by far the weakest; numerically it scarcely deserved consideration until the beginning of the nineteenth century. As late as 1805 the whole number of medical students in the Prussian universities was only 144, compared with 1036 law students and 555 theologians. Important changes began, indeed, to be foreshadowed in the methods of investigation and instruction. Anatomy and physiology began to develop independently. By basing the science of the human body upon observation and experiment medicine was gradually emancipated from the traditional textbooks, and in the class-room observation and experiment asserted their rights by the side of such texts. But for a long time the German universities, it is true, lagged behind the foreign institutions. Progress was made in the sixteenth century mainly by the Italian universities, and in the seventeenth and eighteenth centuries by those of the Netherlands. The prevailing aversion to dissection as a desecration of the human body could only be overcome gradually. This seems all the more strange to us to-day because the same people certainly had no aversion whatever to the practice of torturing, mutilating, and dishonoring the living body in every possible way by due process of law.

The faculty of philosophy, as the old *facultas artium* had come to be called since the universal renaming of things by the humanistic movement, retained its general position as the intermediate link between the Latin school, in which the learned tongues especially were taught, and the higher faculties, in which scientific professional training was acquired. Its peculiar task was to supplement the instruction of the Latin

school by a general scientific and philosophical education. To be sure, it was gradually somewhat sharply differentiated from the Latin school because the development of the higher schools of learning, first in Protestant, and then also in Catholic countries, where the Jesuit colleges corresponded to the territorial and cloister-schools of the former, gradually relieved the universities of the task of elementary instruction. There was likewise a gradual increase in the average age of the student body. As before, the Aristotelian texts continued to be the essential basis of instruction, and because there was at this time a very general, though seldom achieved, purpose to put Aristotle in the original in the hands of the students, the lectures were either based upon the Greek texts, or upon books which contained those texts in a revised form, a practice for which Melanchthon had supplied the model in his compendiums.

In addition to the course in philosophy there was one in the humanities, with interpretative lectures on the Greek and Latin classics, accompanied by exercises in poetical and oratorical imitation. These exercises were scholastic in character. The professor of eloquence and poetry taught the art of constructing, in Latin, of course, all kinds of declamations and poems, and practised, as an expert, the art which he taught by celebrating all the public functions of the university with orations and poems. The instruction of the ancient rhetorical schools was to some extent revived by these epideictic speeches, for which, again, Melanchthon's *declamationes* furnished the type.

As the Renaissance faded into the distance this humanistic instruction lost its importance in comparison with the philosophical-scientific. Since the middle of the seventeenth century Latin speeches and poems ceased to be in vogue in the learned world. The French language and literature began to assert themselves, first of all prevailing in court circles and the world of fashion, where they had an almost unlimited dominion for more than a hundred years before they triumphed in the universities. The old classical culture now suffered the same fate at the hands of the new culture *à la mode*, which it had dealt out to the scholastic culture of the Middle Ages. Latin poetry and eloquence were now as much despised as outworn scholastic plunder by the new "moderns," with Thomasius at their head,

as the philosophy and theology of the pseudo-philosophers and theologians had been two centuries before. The professors of eloquence and poetry exhausted themselves in vain complaints against the contempt for the fine arts and the returning "barbarism of the Middle Ages."

With respect to the outward regulations of life, the abolition of the entire old ecclesiastical order in the Protestant countries carried with it the habits and customs based upon it. The communal life of students and teachers in the colleges and "burses" ceased with the cloister life and the celibacy of the teachers. In addition, the age of the students increased, the gradual development of the old Latin schools into gymnasia (*Gelehrtschulen*) delayed the student's entrance to the university, as a rule, until he was seventeen or eighteen years old, though a considerably younger as well as older age was not infrequent. Another influence to this end was the fact that the higher faculties, the theological and juridical, whose students because of their mature age had probably not been compelled to live in the colleges and "burses," even in the Middle Ages, now became numerically the most important. And those of the secular nobility who did not enter the army for a career now also began to seek their intellectual training in the juridical faculty.

Thus, during the sixteenth and seventeenth centuries, the modern student developed out of the *scholar* of the Middle Ages. The change became apparent even in the outward appearance: the *scholar* had been compelled by university rules to adopt a clerical costume and behavior, but since the middle of the seventeenth century the student has taken the cavalier for his pattern both in dress and demeanor. And with the rapier as an indispensable part of a cavalier's equipment the duel also made its entry into the university world.

A remnant of the old customs continued in the territorial *convicta* which had been built at most of the universities and in which poor students could obtain free lodging and board, or only the latter. These *convicta*, like the ducal or territorial schools, owed their establishment to the great dearth of candidates for the learned professions directly brought about by the break-down of the old ecclesiastical order in the sixteenth

century. The means for these institutions, as in the case of the ducal schools, were obtained, as a rule, from the confiscated lands of the church. The enjoyment of their privileges carried with it the obligation to serve the country in a secular or clerical capacity. The custom also arose for professors to receive students into their homes as lodgers and boarders, a practice which obtained largely as late as the eighteenth century.

3. *Value and Significance.* At the end of the seventeenth century the German universities had sunk to the lowest level which they ever reached in the public esteem and in their influence upon the intellectual life of the German people. The world of fashion, which centered at the princely courts, looked down upon them from the heights of its modern culture as the seats of an obsolete and pedantic scholasticism. A man like Leibniz, who had secured his scientific education at Paris and London, disdained a position at a university, although, as the most distinguished scholar and philosopher of Germany, such a place was naturally open to him anywhere. He preferred the courts, where he could hope to find readier appreciation and assistance for his intellectual strivings, his comprehensive plans for the improvement of the entire culture of the German people. The organization of scientific societies or academies, which he carried on with restless energy (the Berlin Academy, it is well known, established in 1700, was due to him), is also an evidence of the hopelessness with which he regarded the old universities: he wished to establish scientific research, for which he did not hope for anything from the universities, at the new institutions and to leave only the ordinary school-instruction in the hands of the former.

In fact, university life at this time presents a lamentable aspect. Academic science was no longer in touch with reality and its controlling ideas; it was held fast in an obsolete system of instruction by organization and statutes, and toilsome compilation was the sole result of its activity. Added to this was the prevailing coarseness of the entire life. The students had sunk to the deepest depths, and carousals and brawls, carried to the limits of brutality and bestiality, largely filled their days. Even the professors, by reason of their dependency and poverty, seem frequently to have been pulled down into the mire.

The disrepute into which German scholarship and the German name in general had fallen among the other nations at this time may be gathered from an utterance of Queen Christine, a daughter of Gustavus Adolphus, who had gone over to Catholicism.

From Hamburg she wrote to her admirer, Cardinal Azzolino, in Rome: "It is better to be a heretic than a German, for a heretic can become a Catholic, but a brute can never become reasonable. May the country and the stupid brutes which it produces be damned . . . I assure you that among all the animals in the world none are more unlike human beings than the Germans. So far as the doctors are concerned I would as readily consult my carriage-horses as listen to them; they are all brutes and ignoramuses who kill people with their phlegm and clumsiness, things that are genuinely German but more horrible than death itself. . . . A very amusing thing happened to me in connection with one of the sybils of this country, who met me, to my misfortune, with a French book in my hand. That gave her the opportunity to begin a conversation about books and to say that she had read a great deal in her life, and had thereby ruined her eyes, and therefore did not read any more, except, indeed, one book in which she read every day—the 'Compendium of the Aristotelian philosophy.' I never felt such a desire to explode with laughter."¹

The remarks of this lady are doubtless extravagant and malicious. But her judgment was evidently only an echo of a thousand other judgments which she had heard in the company of scholars and wits of many lands of which, in her own country, she had been the honored center. The judgment which P. Bonhours, a French Jesuit, passed upon P. Gretser, a German confrater, dates from the same period: *il a bien de l'esprit—pour un Allemand.*

The entire new-German literature of the eighteenth century, beginning with Klopstock and Lessing, re-echoes these feelings and opinions in expressions of contempt for the name of the scholar. An abundance of testimony to this effect is brought together in Hildebrand's article *Gelehrt und Gelehrsamkeit*

¹ E. Daniels, *Christine von Schweden, Preuss. Jahrbücher*, vol. xcvi., p. 81.

(in Grimm's *Wörterbuch*). Even the ingenious storm and stress period, with its passionate striving after nature and originality, and contempt for scholasticism and book-learning, as it still speaks to us in Faust, is a reflection of these feelings and opinions.

III. THE EIGHTEENTH CENTURY. THE ORIGIN OF THE MODERN UNIVERSITY.

1. *The New Foundations.* Two important new foundations introduced the new period: Halle (1694) and Göttingen (1737), to which Erlangen (1743), the university of the Franconian principalities, must be added, which became an important link between North and South Germany. All three of these institutions are still flourishing. The first two opened the doors of the German university to modern philosophy and science, as well as to modern enlightenment and culture, and made these things a part of the life of the German people.

Halle, the university of the rising Brandenburg-Prussian state, received an impress especially from three men: the jurist Christian Thomasius,—who introduced the study of jurisprudence,—the theologian A. H. Francke, and the philosopher Christian Wolff. Thomasius, a pupil of Samuel Pufendorf, the first teacher of the theory of natural rights at a German university (the first chair for the new treatment of law was established at Heidelberg in 1662), was a man of the new culture represented at the French court. He was the editor of the first monthly magazine in the German language (1688), as well as the first to use that language in the lecture room. A despiser of the scholastic philosophy and humanistic eloquence, theological orthodoxy and the old pedantic jurisprudence, he came into violent conflict with his own university of Leipzig, in which he taught as a *private docent*. He was compelled to yield and went to Halle, where he was favorably received. The circle of students which he gathered about him became the nucleus of the university founded there in 1694. The theological faculty received its impress from Francke, the chief representative of pietism, who was also excluded from orthodox Leipzig; his efforts were directed towards the devout study of the Bible and practical Christianity. The orphan asylum which he founded in Halle

became a training-school in practical Christianity and elementary instruction for his students. During the second half of the century Joh. Sal. Semler taught in the theological faculty. He was the founder of the critical-historical treatment of the sacred Scriptures.

Of greatest significance, finally, was the philosopher Christian Wolff, who taught in the philosophical faculty at Halle from 1707-1723 and again from 1740-1754, and in the interim at Marburg. His banishment by Frederick William I. and his triumphant restoration by Frederick the Great mark the turn of the times. Wolff's success really indicates the end of the scholastic philosophy; its place was taken by modern philosophy, which, in the form of the Wolffian system, assumed the control of the German universities. The aim of philosophical instruction up to this time had been to inculcate the scholastic Aristotelianism, primarily as a preparation for the study of theology. The new philosophy now defiantly appealed to its own reason. Wolff's *Vernünfftige Gedanken*, the general title of his German works, positively denies the dependence of philosophy upon theology. Basing himself upon the modern sciences of mathematics and physics, he declares that philosophy should seek the truth free from all assumptions, regardless of what may happen to the theologians. Similarly as in the case of theoretical philosophy, the theological basis of practical philosophy was also positively repudiated: law and morals, he declared, must be based upon a rational knowledge of human life and society.

During the eighteenth century the Wolffian philosophy prevailed at all the Protestant universities. Even the higher faculties felt its influence; jurisprudence and theology accepted its "rational notions." At no time was reliance upon reason as the appointed guide in all questions of thought and practice so great as during the second half of the eighteenth century. In developing a new theory of the universe, based on mathematics, in destroying the belief in witch-craft and demoniacal possession by the triumphant conception of nature as controlled by law and reason, in laying the foundation for the mechanical control of the forces of nature, reason seemed to have irrefutably demonstrated its ability to act as the guide of thought and life.

It was with this faith that the new philosophy was welcomed and became dominant.

The reception of the new philosophy and science marks a turning point for the German universities. Through it they were enabled to struggle out of the bog in which they had lain at the close of the seventeenth century; and under the leadership of the Wolffian system they won the ascendancy in the intellectual life of the German people. The reason why the universities of the great neighboring countries west of Germany are of so much less significance in the life of those nations to this day is found in the fact that they did not accept the new philosophy, that they continued to be schools which could not tolerate freedom of thought. In France and England the leaders of thought remained outside of the universities—think of the Encyclopedists—while in Germany, since the day of Wolff and Kant, they have been a part of them. It was not at the Berlin Academy that these two leading spirits exercised their influence, but at two provincial universities. It is an evidence of the change which had taken place since the days of Leibniz, that Wolff, in 1740, refused to go to the Berlin Academy and the court, but preferred the university.

Halle has the honor of being the first modern university: it was the first one founded on the principle of *libertas philosophandi*, of free research and instruction. There was a distinct consciousness of this at Halle. When, in 1711, the university celebrated the birth-day of its founder, Professor Gundling delivered an address: *De libertate Fridericianae*, in which he eulogized the youngest university as the citadel of free thought. Its conclusion was in these words: *Veritas adhuc in medio posita est; qui potest, adscendat, qui audet, rapiat: et applaudemus*. It was a bold declaration, but one which exactly described the great change which had taken place. The older university instruction was everywhere based upon the assumption that the truth had already been given, that instruction had to do with its transmission only, and that it was the duty of the controlling authorities to see to it that no false doctrines were taught. The new university instruction began with the assumption that the truth must be discovered, and that it was the duty of instruction to qualify and guide the student in this task.

By assuming this attitude the university was the first to accept the consequences of the conditions which the Reformation had created.

During the second half of the eighteenth century the university of Halle was confronted by a rival in Göttingen that ultimately surpassed it. At the close of the century Göttingen was looked upon as the fashionable university; here the German counts and barons of the Holy Roman Empire studied politics and law under Schlözer and Pütter. Here Mosheim taught church history and the elegancies of pulpit diction, and J. D. Michaelis oriental languages. Here labored Albrecht von Haller and his successor Blumenbach, in their day the chief representatives of the science of man, or physical anthropology; as well as the celebrated astronomer Tobias Mayer, the brilliant physicist Lichtenberg, and the able mathematician Kästner. Finally, the newly awakened study of antiquity found its first nursery at this university; the philologists, J. M. Gesner and J. G. Heyne, to whom is due the reintroduction of Greek into the university, found a new point of view for the treatment of the classical authors: the study of the classics was no longer to be a useless erudition, nor yet an imitation of Greek and Latin models, but a living, cultural intercourse with the classical authors as the highest patterns of art and taste. This was the viewpoint of the new humanism through which the study of antiquity once more acquired a reasonable and human purpose: the cultivation of a sense and taste for the beautiful and sublime in literature. The new humanism did not stand in opposition to, but came into living reciprocal relation with contemporary German poetry, which was also centered at Göttingen. It is enough to mention Haller's poems, Gesner's German Society, and the *Hainbund*.

Halle and Göttingen were the recognized leading universities in the eighteenth century, Halle with its 1000-1500 students having (besides Jena and Leipzig) the largest attendance, while the more exclusive Göttingen did not go beyond the first thousand. Under their leadership a complete reformation of the entire German university system was brought about, at first only in the Protestant north, then also in the Catholic south. Austria and Bavaria as well as the Franconian and Rhenish

bishoprics, unable to withstand the pressure of the triumphant enlightenment, and under the influence of both the political and military superiority of the "philosophical" King, determined to follow suit; and by the middle of the century a thoroughgoing reform of the entire university and school systems in all these countries had taken place. At the close of the eighteenth century the German people regarded its universities as institutions from which, particularly, it expected to receive its impulses toward progress in all the departments of life, the same institutions which only a century before had called forth the derisive laughter of polite society.

I call attention to still another fact. The rise of the German universities in the eighteenth century was primarily due to the rise of the philosophical faculty from servitude to leadership. If before this time it had, to adopt an expression of Kant, as *ancilla theologiae* borne the train of the mistress, it now carried the torch before her, as well as before the faculties of law and medicine. It is, however, worthy of remark, that its preservation was due to its former relation to theology. If the theological faculties had not maintained themselves as living parts of the universities in the Protestant territories, it is to be presumed that philosophy and the philosophical faculties could not have done so either. The case becomes clear when we contrast the development in Germany with that of France. In France, after the Council of Trent and the establishment of the episcopal seminaries for the education of the clergy, the theological faculties lost their students, and practically ceased to exist as educational establishments, and only the ghostly shadow of a degree, or rather title-conferring institution remained. At the same time the old faculties of arts, although they continued as corporate parts of the universities, became transformed into independent lower schools (*collèges*) which had no essential connection with the higher faculties, and no vital relation to the literature and culture, philosophy and science of the day. The result was that the juridical and medical faculties alone were retained, as independent professional schools, however; and as such they were finally legally organized during the Empire. In Germany, on the other hand, the education of the clergy continued to be a function of the universities, more especially in

the Protestant, but to a considerable extent also in the Catholic countries. And on that account the theological faculty, during all of the sixteenth and seventeenth centuries the most important and best attended, kept the philosophical faculty alive as its preparatory school, for without philosophical and philological studies there could be no scientific theological education. Thus, in this respect also, the German university is most closely connected with the Reformation.

2. *Changes in University Instruction.* They can be summed up as follows:

(1) Modern philosophy with its principle of the independence of human reason and based upon the modern sciences, especially mathematics and physics, superseded the Aristotelian-scholastic philosophy.

(2) The principle of freedom in research and instruction took the place of a hard and fast form of instruction.

(3) A corresponding change occurred in the method of instruction: the systematic lecture superseded the old form of exposition of canonical texts. In connection with this came the division into semesters, which made transfers from one university to another easy. Halle and Göttingen were foremost after Wittenberg in having a rapidly changing student body drawn from all parts of Germany.

(4) The disputations began to decline with the scholastic philosophy; in their stead the university seminars came into favor, among which the philological seminars of Gesner and Heyne at Göttingen, and F. A. Wolf at Halle, were the leading ones.

(5) The dead old-humanistic imitation of the ancient languages was superseded by the living new-humanistic study of the ancients, especially the Greeks. In this the university came into the closest relationship with youthful German literature and the entire new culture influenced by it.

(6) The German language became the vehicle of instruction instead of Latin. This was an important event; for the first time a living and quickening language obtained an entrance into the universities, which could never have made a deep and broad impression on the general culture with the stiff and lifeless scholastic Latin. To anyone, however, still regretting the

passing of Latin as the "language of science," or even dreaming of its possible restoration, I should like to commend the following from Döllinger, a Catholic theologian who knew and used the Latin in his lectures: "Nothing could be more desirable and convenient for the mediocre and weak teacher, who has only the traditional to impart, than the use of the Latin language. His own lack of clearness of thought and meagreness of ideas can be admirably disguised in the well-worn ruts and impoverished idioms of this language in its modern form. Commonplaces which would be unbearable when clothed in German always sound somewhat more respectable in a Latin disguise." (*Die Universität sonst und jetzt*, page 16.)

IV. THE NINETEENTH CENTURY. THE DOMINANCE OF SCIENTIFIC RESEARCH.

1. *New Foundations.* At the beginning of this period we likewise have two important new foundations. The first one is the university of Berlin, established in 1809, amid the most memorable circumstances, at the capital of Prussia. It was founded to off-set the loss of Halle by the treaty of Tilsit, and to demonstrate "that Prussia, instead of surrendering the function it had so long practised, that of striving above all else for a higher intellectual culture as the source of its power, proposed to begin anew; that Prussia—and this is doubtless equally important—would not allow itself to be isolated, but desired, rather, in this respect also, to remain in living union with the whole of natural Germany." Thus Schleiermacher, in the *Gelegentliche Gedanken über Universitäten* (p. 145), in which he drafts the intellectual charter of the new university, interprets the idea and the historical and national vocation of the new university of Berlin. Almost immediately after this occurred the removal of the old *Viadrina* from Frankfort-on-the-Oder to Breslau, where it was combined with the local institution and transformed into a great new university (1811). After the treaty of peace a new university on a large scale was established for the western provinces at Bonn (1818). The Kingdom of Bavaria also provided itself with a great central university at Munich (1826), in which the old territorial university of Ingolstadt, which had been removed to Landshut in

1800, continued to exist. A long line of prominent scholars from Middle and North Germany was called to Munich during the reigns of the first three Bavarian kings and did much to assist in planting the sciences in a field which had been, up to this time, controlled by the ecclesiastical orders. The Austrian universities, to mention this here, were not aroused from the torpor into which they had relapsed after the great reforms of the eighteenth century under Maria Theresa and Joseph II., until the storms of 1848, when they were brought into living relations with the German institutions by personal contact. The close of the period was marked by the revival of the old university of Strassburg by the new German Empire (1872).

On the other hand, a large number of German universities, some of which had been languishing for a long time, finally went under about the end of the eighteenth and the beginning of the nineteenth centuries during the storms of the French revolution and the subsequent reconstruction of the German States. Among them are some celebrated names: Erfurt, Wittenberg, and Helmstädt; and, among the Catholic institutions, Köln, Mainz, and Dillingen. Thus the political fate of states can be traced by the changes suffered by the universities.

The founding of the university of Berlin was in every respect a most important achievement of the Prussian state, which had been so cruelly conquered and had so bravely rehabilitated itself. This event was of especial significance because it showed the determination to hold fast to the old form of the university as an independent educational institution. Occurring contemporaneously with the reorganization of the French university system by Napoleon I., the new foundation was expressly organized in opposition to the French plan. Since the fate of the German university ideal was decided in those days, it will be profitable to dwell somewhat further upon this subject.

To supply the vacancy left by the revolution Napoleon I. had established, in 1808, the *université impériale*, an independent administrative body into which all the schools of every kind and grade, from the university to the primary school, with

their directorates, were incorporated. In the place of the old universities, which had been swallowed up by the revolution, there arose independent and thoroughly organized professional schools, particularly for legal and medical instruction. The theological faculty disappeared, and the philosophical faculty, organized as a *faculté des sciences* and *faculté des lettres*, remained quite insignificant, often degenerating into a mere bureau of examinations for the baccalaureate. The juridical and medical faculties were organized after a military-clerical pattern, not for original scientific research, which had its place at the great laboratories in Paris, but to prepare available and reliable officials for the imperial service. Strict study-regulations and prescribed curriculums and examinations controlled the entire system, and the professors were nothing more than official state-instructors whose task it was to prepare the matriculated students for the examinations, which were held by the faculty as the official examining board.

At this time Prussia placed Wilhelm von Humboldt at the head of its school-system. His selection in itself gave evidence of the fact that Prussia had no inclination to imitate the conqueror in these matters. Humboldt's name, the name of a man in whom were combined to an unusual degree the qualities of a great scholar and of a statesman of high ideals, stood for a program: not military organization and discipline, but respect for science and its vital principle of freedom. It may safely be asserted that the new University of Berlin was expressly organized in direct contrast to the higher schools of the military Dictator. Its principle was to be, not unity and subordination, but freedom and independence. The professors were not to be teaching and examining state-officials, but independent scholars. Instruction was to be carried on not according to a prescribed order, but with a view to liberty of teaching and learning. The aim was not encyclopedic information, but genuine scientific culture. The students were not to be regarded as merely preparing for future service as state officials, but as young men to be trained in independence of thought and in intellectual and moral freedom by means of an untrammelled study of science. It was for this reason that the civil-service examinations were separated from the universi-

ties, and organized as special state examinations, having no connection with the academic examinations for degrees.

I cannot refrain from quoting a few sentences from the sketch of a memorial address in which Wilhelm von Humboldt, on assuming office, outlined his conception of the principles that should control the organization of a university. Von Massow, his predecessor, had, out of the "fullness of his heart," expressed the view that, instead of the antiquated and anomalous universities, "there should be only gymnasia on the one hand, and academies for physicians, lawyers, etc.," on the other, or preparatory schools and professional schools. In decided opposition to him, Humboldt wishes to preserve the universities in their old form as independent scientific institutions at which research and instruction shall both have their place. "Science is the fundamental thing, for when she is pure, she will be correctly and sincerely pursued, in spite of exceptional aberrations. Solitude and freedom are the principles prevailing in her realm." The state really has no other duty than to supply the necessary means and select the right men; it should never meddle with the university's internal affairs: "it should always bear in mind that it does not and cannot do her work and always becomes a hindrance when it interferes." The function of teacher and pupils is to cooperate in the promotion of knowledge. "The former is not for the latter, both are for science; his occupation depends upon their presence, and without them it could not thrive; if they did not voluntarily gather around him, he would seek them out in order more readily to achieve his goal by combining a practised mind, which is on that very account apt to be more one-sided and less active, with one which, though weaker and still neutral, bravely attempts every possibility."

"When only the function of teaching and disseminating knowledge is assigned to the university and its promotion to the Academy, injustice is manifestly done the former. Knowledge has certainly been as much, and in Germany even more, enriched by university teachers than by academicians. And it was precisely because of their position as teachers that these men were able to make such progress in their departments. For the unhampered oral lecture before

an audience, in which there will always be a considerable number of independent thinkers, is certainly apt to enthuse one as much as the lonely desert of authorship, or the loose connection of an academic society."¹

Seldom has the result, that great arbiter in historical matters, decided so unequivocally between these two principles of organization of university instruction. In France the outcome was: the centralization of scientific life at Paris; the intellectual impoverishment of the provinces; the destruction of the philosophical faculty, the nursery of true scholarship; the transformation of the universities into professional state-schools with hard and fast instruction and without the scientific spirit. In Germany, on the contrary, there was an abundance of flourishing, independently developing seats of learning and scientific instruction, which competition constantly brought to greater efficiency, as well as an intellectual life well distributed throughout the entire country. Yes, even for the political life of the German people the free, non-political universities became important, immeasurably more so than the Napoleonic state-schools which every new government sought to exploit as a means for its own preservation. The German universities, as a whole, are the incarnation of the political instinct, one might say, of the good genius of the nation.

All this also in a measure explains the fact that the German universities of the nineteenth century have again achieved something of the old universality characteristic of the first universities; not, however, upon the basis of medieval church unity, but rather upon the basis of the unity of human civilization and scientific work, the unity based on the modern ideal of humanity. The confessional character of the old territorial university was completely repudiated. The territorial character was also surrendered, and the university became an institution for the free inquiry after truth, unhampered by restrictions of

¹The address, which was never completed, is printed in A. Harnack's *Geschichte der Berliner Akademie der Wissenschaften*, vol. ii., pp. 361 ff. Compare B. Gebhardt's *W. von Humboldt als Staatsmann*, vol. i., pp. 118 ff. R. Köpke gives an excellent account of the founding of the University of Berlin and the events leading up to it, in his *Die Gründung der Universität Berlin*, 1860.

church or state. And, as a matter of fact, the old international character also came back, for just as in the Middle Ages students from every country sought the French and Italian institutions, so now strangers from the far west and the farthest east come to the German universities for scientific training. Truly, Wilhelm von Humboldt's assertion, addressed to the King in the general report upon the University of Berlin (May 23, 1810), has been justified beyond expectation. "The state, like the private citizen, always acts wisely and politically," he wrote, "when, in times of misfortune, it uses its efforts to establish something looking to future good and connects its name with such a work."

2. *Intellectual Forces and Tendencies.* In its influence upon the entire intellectual life, as well as upon the pursuit of knowledge and the form of instruction, the philosophical faculty stands foremost in the nineteenth century. It has, perhaps, more known and celebrated names in its roster than the other three faculties combined, and surpasses the others in the number of its teachers.

At the beginning of the period we are considering, philosophy stood in the foreground as the leading science. This was due to Kant, whose system, even before the close of the eighteenth century, had won the leadership at the universities from the Wolffian philosophy. As a matter of fact, Kant's central thought is not different from that of the Wolffian philosophy; the independence and autonomy of reason is the absolute demand of both. Kant and Wolff also meet in the belief in the rationality of reality, although Kant bases it on different grounds: in the categories of the reason we have also the fundamental principles of the world of phenomena; and in the ideas of reason we have the indispensable postulates for the construction of reality itself. Kant was followed by the speculative philosophy, which, too, was absolutely controlled by faith in reason, with its claim that the actual was objectified reason and therefore could be apprehended by it. Jena, Weimar's neighbor, was the first center of the new philosophy; here Fichte, Schelling, and Hegel began their important labors as academic teachers. Then the new university of Berlin took the lead, with Fichte among its intellectual founders and its

first rector, and, subsequently, with Hegel, as its foremost teacher for more than a decade. Hegel exerted an important influence upon the entire Prussian educational system. Indeed, his philosophy might be described as the philosophy of the Prussian state during the second and third decades of the century, and that in a double sense: on the one hand it was the officially recognized philosophy of the government, at least of the Altenstein ministry; on the other, Hegel was the philosophical interpreter of the state as objectified reason. This condition came to an end with the accession of Frederick William IV., who hated the Hegelian rationalism and called the aged Schelling from Munich to Berlin to counteract it. He met with poor success, however. Along with Fichte and Hegel, Schleiermacher also exercised an important influence, both through his theological and his philosophical lectures. Herbart, as the representative of a different tendency in philosophy, was active at Göttingen and Königsberg. His positivistic tendency for a time gained considerable repute, after the decline of the Hegelian school, especially at the Austrian universities.

The new humanistic classical studies come next in importance among the intellectual forces of this period. F. A. Wolf, who quickly won first place from the aged Heyne at Göttingen, taught first at Halle, and later at the University of Berlin, which from its inception was intended as a chief seat of the classical studies, and has remained true to its purpose to this day. Here taught Boeckh, Lachmann, Haupt, Curtius, Mommsen, and others. Trendelenburg, the reviver of the Aristotelian philosophy, for many years an influential teacher, combined philosophy with the study of philology. Along with Berlin Bonn came into prominence as a nursery of philology; here Niebuhr, Welcker, Brandis, and Ritschl taught. Leipzig maintained its old reputation through Gottfried Herrmann; Otfried Müller labored at Göttingen, and Fr. Thiersch at Munich.

Important, also, was the rise of new branches of philological investigation. Particularly worthy of mention is the establishment of Germanic philology by the brothers Jacob and Wilhelm Grimm, who lived and labored first at Göttingen, then at Berlin. Following closely upon this came the study of Ro-

mance philology, founded by Diez, at Bonn. The study of the languages and literatures of the Orient also received a mighty impulse: it will suffice to recall the names of Bopp, the founder of comparative philology, of Lepsius, the Egyptologist, both at Berlin; and of F. Rückert, the great linguist and poet, of whom Erlangen may be proud.

Of great significance, furthermore, was the wonderful advance of historical research. Here must be mentioned, first of all, the beginning of that great enterprise, the *Monumenta Germaniae*, in which Freiherr von Stein had such an important share, a work suited to satisfy both the sentiments of patriotism and the impulse to widen the confines of historical knowledge. This undertaking, which continues to grow and flourish even to this day, has become the standard of careful work for German historical investigation. Among the university teachers of the older period Niebuhr, at Bonn, and Ranke, at Berlin, must be mentioned above all others. They were followed by a long line of prominent pupils in the paths which they had marked out for the criticism and investigation of original sources. Somewhat later G. Waitz organized his historical seminar, in which a large number of the younger historians were trained. It may be added, also, that the historical instruction offered at the universities, and the historical literature of this entire period, very materially affected the political views of the leaders of the nation, and played an important part in the reconstruction of the political life in the new German Empire; I mention the names of Dahlmann, Häusser, Droysen, von Sybel, and von Treitschke. It was not by accident that so many historians, among them the venerable E. M. Arndt, played such conspicuous parts in the diets and parliaments in 1848-50: the German people had become accustomed to look up to them as their political leaders. Finally, C. Ritter, of Berlin, may here be mentioned, who raised geography to a science and added it to the university curriculum, where it now forms an important link between the natural and historical sciences.

Since the end of the second decade of the century the mathematical-natural sciences began to flourish along with the philological-historical studies. Gauss, the mathematician, and

Weber, the physicist, taught at Göttingen. At Giessen, Liebig founded, with modest equipment, his chemical laboratory, the mother-laboratory of all those great laboratories which have secured for Germany the leadership in the domain of chemical research and technology. Johann Müller, who taught at Berlin, was the founder of the new school of physiology, which has produced so many prominent men. The triumph of the principle of the purely scientific explanation of the phenomena of life, as opposed to the natural-philosophical speculative explanation, was the work of Müller and his school; it placed medicine upon a scientific basis.

Thus the first half of the century was distinguished by a long succession of pathfinders and by epoch-making work. The second half was characterized more by a lateral growth. This is true of both the great fields of investigation, the philological-historical and mathematical-physical. A great mass of splendid energy was set in motion, and an infinite amount of efficient specialistic work was done. The accompanying phenomenon was the ever-increasing specialization of the fields of investigation, as illustrated by the constant multiplication of departments and chairs in the universities. Everywhere the number of professorships in the philosophical faculty was as much as doubled and trebled in the course of the century. Berlin began with twelve full professorships. It now has more than fifty in this department.

In the third decade of the century the interest in philosophy was repressed by the great rise of natural-scientific research. The speculative tendency, originating with Kant, but going beyond the limits he had fixed for it, and which with great boldness and even arrogance, undertook to construct nature and history *a priori* in the form of a logically necessary system, fell into contempt. As a matter of fact, for more than a generation philosophy stood under the ban of distrust and disdain, the result of the failure of its flighty enterprises. Only during the last decades did this contempt gradually disappear and philosophy again achieve a peaceful and fruitful relation with the sciences; the sciences themselves have begun to reflect upon their universal, philosophical presuppositions, and philosophy recognizes the obligation so to formulate its

thoughts that the sciences can accept them either as their first principles or their ultimate results.

If we should here attempt to outline the internal development of the other three faculties also, that of the theological faculty might be described somewhat as follows. At the beginning of the century theology was most closely connected with philosophy. The rationalistic theology depended first upon either the Wolfian or Kantian system, and later came under the controlling influence of the speculative philosophy. Schleiermacher occupied a unique position. On the one hand he was himself a philosophical thinker; on the other hand he sought to free religion from intellectualism and the philosophical admixture which he found both in the orthodox and rationalistic philosophies, by regarding it as a peculiar function of the human spirit; he recognized it as a creation rather of the heart than of the head. During the second third of the century the philosophical treatment of theology was thrust into the back-ground by two new mutually antagonistic tendencies. The first was the so-called positive theology, represented in Protestantism by Hengstenberg, of Berlin. It was the ecclesiastical concomitant of the great political reaction against the revolutionary period. In the Catholic Church this reaction found expression in the mighty restoration movement which came to a head in the dogma of papal infallibility in 1870, which represents the logical consequence of the idea of an authoritative unity of doctrine both in philosophy and theology. The other tendency was the historical-critical theology as it was represented by Baur and the Tübingen school within, and by David Strauss outside of the faculties. It is the thorough application of the strictly scientific treatment of the Sacred Scriptures as the literary remains of the history of religion. During the last third of the century a tendency emanating from Ritschl, at Göttingen, came into prominence in the theology of the faculties. It is characterized by its alliance with the critical philosophy of Kant, by its anti-intellectual and anti-metaphysical attitude, and by its corresponding inclination toward a practical Christianity, a Christianity of sentiment and deeds.

The development of jurisprudence might, perhaps, be simi-

larly outlined. At the beginning of the century we have here also the preponderating influence, first, of the Wolffian and Kantian, and then of the speculative philosophies, in the old theory of natural rights, and later in the new philosophical conception of law and the state. During the second third of the century, the philosophical treatment of law was checked by the interest in historical investigation, and the historical school, represented by von Savigny at Berlin and Eichhorn at Göttingen, won the leadership. Along with it arose a "positivism" which had a leaning toward theological-churchly positivism; in the university world this was represented by J. Stahl, of Berlin. More recently a tendency to return to the philosophical view seems to be making itself felt. Under the influence of the new social sciences, which were in turn vitalized by the socialistic criticism of society and the evolutionistic biology, interest in universal and fundamental questions concerning the origin and purpose of the state and law has been revived in jurisprudence, and the old theory of natural rights which was supposed to be dead and buried is beginning again to bestir itself, though in new forms. And here also the endeavor for a practical reform goes hand in hand with the teleological conception. I mention only the names of Lorenz Stein and R. Jhering.

The medical faculty too came under the controlling influence of the speculations of natural philosophy at the beginning of the century. With the close of the third decade these paths were, however, abandoned, and strictly natural-scientific investigation came in under the leadership of J. Müller. Represented by a long succession of brilliant names, of which I mention Schönlein, Dubois-Reymond, Helmholtz, Langenbeck, and Virchow, the new movement led to that astonishing progress which reinstated the medical faculty in the respect of the scientific world. The medical profession, which during the eighteenth century continued to be allied with the guild of cuppers and barbers, through the surgeons, secured the position in society which it still maintains. At the same time, owing likewise to the rapidly increasing financial prosperity of the population, there occurred an extraordinary growth of the medical departments. At the close of the eighteenth century

statistics show them to have been merely insignificant appendages to the theological and juridical faculties, while at present they are beginning to assume a position entirely equal and often superior to them, both in the size of their teaching corps and the numbers of their students. And in the budgets of the universities the institutes (laboratories) and clinics of these faculties, next to the scientific laboratories, everywhere constitute the chief items of expense. It was in them that the new methods of investigation were perfected which have made such astonishing progress possible in the discovery of the nature and causes of disease, and with which, in turn, the astonishing progress in therapeutics has gone hand in hand. It can perhaps be said that the great discoverers and inventors in medicine are the best known and most celebrated men among the university teachers of the present day. Not the names of the originators of new philosophical systems, nor those of the masters in the domain of philological or historical criticism, but the names of the discoverers of new causes of disease and methods of cure are now in everybody's mouth. In these latter days, indeed, a change seems to be impending in medicine as in other fields. It may be described as a return to the philosophical view, for the one-sided physical view of the phenomena of life, to which physiology has so long inclined, is beginning to give way to a more comprehensive and philosophical conception under the influence of biological studies and theories. The belief is waning that it is possible to reduce all the riddles of life, both of body and soul, to a mere mechanics of atoms. A conception of the world is coming to the front which points through Fechner to Schelling and Goethe, and, further back still, to Spinoza.

3. *External Organization.* The new universities were well established at the beginning of the nineteenth century, and no vital changes have since been effected. Only a few survivals of old customs have died out. The academic jurisdiction, which had been retained through the eighteenth century, though as an expiring bit of medievalism, has finally disappeared. Its value as a means of preserving order was, doubtless, never great; and after the medieval scholar had been transformed into the modern student the academic tribunals

were often totally helpless against the exuberance of the young gentlemen, and the fear of diminishing the attendance by a strict exercise of discipline gave them the finishing stroke. At present the student is an ordinary citizen like everyone else, except that the academic authorities still have certain disciplinary rights. The other medieval survivals have also died out. With a few exceptions the *convicta* have disappeared. Neither are there any longer any *pensions* in the homes of professors. The student is now thrown entirely upon his own resources as a free individual. Evidently, the fact that the average age of the students has constantly increased owing to the steady improvement and expansion of the gymnasia has had something to do with this. Twenty is now the average age at the first immatriculation. For men of 20 to 25 scholastic regulations and forms of instruction are impossible.

With respect to the division into faculties, the general scheme has been retained essentially unchanged to the present day, the occasional doubts concerning this "medieval" arrangement having been happily removed by the establishment of the Berlin university. At a few universities, however, the number of faculties has been increased, either by the addition of a second theological faculty to represent another creed, or by the separation of a faculty of natural science, or even a faculty of political science, from the philosophical faculty.¹

An important change has taken place in the relations of the faculties to each other. The philosophical faculty, whose task had been general preparation for professional study in one of the three "higher" faculties, has acquired a new position in the course of this century, without, however, entirely losing its former one. On the one hand, as already indicated, this faculty has become the real exponent of purely scientific research in all departments. On the other hand, it has assumed the task

¹Tübingen led (1863) and Strassburg followed in the establishment of a separate natural-scientific faculty; in general, the preponderant inclination to preserve the old union has prevented further division, with the exception that sections have been formed within the faculty in Munich and Würzburg. A thorough discussion of the question is given by A. H. Hofmann, *Die Frage der Teilung der philos. Fakultät*, Berlin, 1880.

of professional training for a particular calling, that namely of the higher class of teachers. As late as the eighteenth century teaching in the higher schools was merely an adjunct to the clerical calling; candidates for orders usually engaged in teaching, unless, indeed, a private tutorship in a family happened to prove more attractive, before they entered upon their spiritual duties. Teaching has now become an independent, permanent profession. Since the middle of the century transfers to the clerical calling have been extremely rare. The reverse is more often true; candidates for orders frequently determine, for personal or other reasons, to take up the career of the teacher. The introduction of a special examination for teachers (the *examen pro facultate docendi*) in 1810, marked, in Prussia, the beginning of a radical separation of the two hitherto combined professions. The idea was to develop a class of *gymnasial* teachers trained for the duties of their calling, and inspired with a sense of professional pride. The necessary condition for the realization of this goal was the emancipation of the spirit of the times from theology and theological conceptions, and a devotion to humanistic ideals, the greatest exponents of which were Goethe in the world of general culture, and F. A. Wolf in classical philology.

4. *Instruction.* The general trend of development may be summed up in a few words: from the practical-dogmatic to the theoretic-academic. First of all, the conception of the university teacher's function which had begun to obtain during the eighteenth century was consistently carried out: not the mere transmission of a definite body of accepted truths, but rather the independent acquisition and augmentation of knowledge is now the goal. Even the students are to be trained as independent thinkers, and, whenever possible, as coöperating scholars. The old expression, *tradere*, has survived in our announcements of lecture-courses, but even the youngest *private docent*, and he, perhaps, most of all, would regard it as an insult if anyone were to take him literally.

The increasing specialization of subjects is a necessary consequence of this change. The number of chairs has constantly grown, and the field which one man can compass as an investigator and teacher is steadily becoming narrower. The union

of such extensive and more or less heterogeneous subjects as took place everywhere in the eighteenth and even in the first half of the nineteenth centuries, especially in medicine and the natural sciences, but also in history, appears impossible and well-nigh incredible to us. Equally impossible seem the transfers from one professorship to another which frequently occurred, even in the eighteenth century, in the form of promotions from the poorer to the better endowed positions, but especially from the philosophical professorships to the more distinguished ones in the "higher" faculties.

In connection with all this another change took place; the attitude of the university professors toward practical occupations became different. It had hitherto been the rule for theological professors to hold ecclesiastical positions; the philologists frequently served as teachers or directors of schools; the jurists often became members of some board of justice (this entire faculty often enjoyed a respectable practice as a court of arbitration); and, finally, the medical professors, as a matter of course, were practising physicians. All these customs still survive in part, more especially in the medical faculty, but as a rule the university teacher has gradually forsaken active practice for the pursuit of pure science.

The result is that university instruction has become more and more purely theoretical. This is especially true of the philosophical faculty, but also of the medical, in which training in methods of investigation has become most important. The same must also be said, finally, of the two faculties which at an earlier period partook more of the character of professional schools, namely the juridical and theological faculties, and in which the accentuation of historical and critical study is now particularly characteristic. During the eighteenth century the essential thing was a dogmatic-practical course which bore directly upon the calling of the preacher or judge. But at present training in historical studies, and, when possible, scientific research including the investigation and criticism of sources, are considered most important.

The development of the theoretical or academical character of the university shows itself as much in the student as in the teacher. It is no longer considered the student's business

merely to acquire necessary professional knowledge from a few lectures and text-books, but to learn how to do independent scientific work. This change is reflected in the progressive improvement of the seminars and laboratories. During the eighteenth century, and even during the first half of the nineteenth, to study meant to attend dogmatic lectures in order to acquire, with their aid, an encyclopedic knowledge of one's subject. In the nineteenth century, the seminary system developed as a second great form of academic instruction, its purpose being to train the student in any given department sufficiently to pursue an independent methodical investigation of a problem. The extension of the period of residence at the university is a result of this higher goal. Another result is that the necessity for special practical preparation has gradually made itself felt in all the faculties. While formerly the university course was intended and shaped as a direct preparation for a profession, the distance between the purely scientific work of the university and the demands of the professions has become so great that the introduction of a transition stage has become indispensable.

All this will be referred to again. I merely remark, here, that the theoretical character of the university is most clearly revealed by the faculty of philosophy, in which research, above all else, is the controlling purpose. In the other faculties the dogmatic transmission of professional knowledge plays a greater rôle, and their exercises, such as the clinics of the medical, the homiletics of the theological, and the *practica* of the law faculties, are all, in the last analysis, technical in their nature. The philosophical faculty, on the contrary, is purely theoretical. Its teachers are the true exponents of scientific research and its students are the scholars of the future. Hence the entire instruction is of a purely theoretical kind. In the lectures and exercises there is scarcely anything to show that the hearers are destined for any other calling than that of the scholar. That, as a matter of fact, most of them intend to take up teaching as a profession, scarcely comes into consideration at all. The conviction prevails that the first and essential requisite for this profession is thorough scholarship. The examinations are of the same character,

aiming almost exclusively at theoretical training and taking the form of special research. Hence the German gymnasial teacher looks upon himself wholly as a scholar, at least at the beginning of his career when university memories are most keenly alive in him. And the ablest and most active teachers preserve this spirit through life, more thoroughly than do the preachers and judges, the state-officials and physicians. These are almost entirely occupied with the practical demands of their profession, but the gymnasial teacher remains a scholar also in his profession.

And so it must, by all means, continue, if our gymnasia, our philosophical faculties, and even our universities, are to remain what they are. If the gymnasial teacher should cease to be a scholar and become simply a professional teacher, the philosophical faculty would likewise gradually degenerate into a mere professional school. And when this faculty ceases to be a nursery of pure science, the character of the entire university will undergo a change, because it is this faculty which constantly inclines it to the theoretical side. It is not by chance that the learned Academies are throughout Germany a kind of appendage to a philosophical faculty. And it also seems worthy of remark that the great universities of the United States, which were patterned after the German universities, are really identical with the philosophical faculties of the latter.

In concluding this retrospect I must not fail to call attention to the fact that of recent years a counter-current to this development, an undercurrent of hostility to the scientific activity of our universities, has made itself felt in many ways. Something like disappointment is perceptible because scientific research does not seem to redeem its promise to supply a complete and certain theory of the universe and a practical world-wisdom grounded in the very necessity of thought. Former generations had been supplied with such conceptions by religion or theology. Philosophy inherited this place in the eighteenth century. With what hopeful joy the generation of Voltaire and Frederick looked up to it. Hegel was the last heir of pure reason. Then a new generation, as distrustful of reason as the former had been of faith, turned to science with the expectation

that exact research would place us upon a sure footing and supply us with a true theory of the world. But that science cannot do. It is becoming more and more evident that it does not realize such an all-comprehensive world-view that will satisfy both feeling and imagination. It only discovers thousands of fragmentary facts, some of them tolerably certain, especially in the natural sciences, which at least supply a basis for practice; some of them forever doubtful, forever capable of revision, as in the historical sciences. The result is a feeling of disappointment. Science does not satisfy the hunger for knowledge, nor does it supply the demand for personal culture. It demands the investment of one's full strength and offers but scant rewards. Such disappointment is widespread. The chief bond uniting the followers of Nietzsche is after all this unbelief in science; periods of doubt are always the easiest prey of charlatans. But a feeling of resignation from time to time takes possession even of scientific circles, as may be seen from the concluding remarks of Harnack's *Geschichte der Berliner Akademie* (Volume I., pp. 791, 977).

Is it, as a few think, the premonitory symptom of the bankruptcy of science, its abdication in favor of faith? Or is it rather a natural demand for ideas, the long suppressed demand for philosophy that is coming to life again, but is not yet quite sure of its path and goal?