A GENERAL VIEW
OF THE
HISTORY AND ORGANISATION
OF PUBLIC EDUCATION
IN THE
GERMAN EMPIRE

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TRANSLATED FROM THE GERMAN

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PREFATORY NOTE.

The present little book, which is issued only in English, is an extract of a work on German Education, that has been edited by me, in conjunction with a large number of collaborators, for the International Exhibition in St. Louis, at the suggestion and with the support of the Prussian Minister of Education.*) The work is dedicated to His Majesty the Emperor, and treats, in four volumes divided into six sections, of the Universities, the Secondary Schools, Elementary Education, the Technical High Schools, the High Schools for Special Subjects, and the Intermediate and Lower Technical Institutions. For further information on the subject the original work may be consulted.

Some parts are a close translation of the corresponding chapters of Dr. v. Giżycki (A General View of the Elementary Schools) and of those of Professor von Dyck (Technical High Schools).

Göttingen, March 1904.

W. Lexis.

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I. UNIVERSITIES.

1. A Short View of the Historical Development of the German Universities with special Reference to their Connection with Scientific Knowledge.

The following pages are intended to give a brief outline of the development of the German Universities, chiefly with reference to scientific knowledge and methods of instruction, to impart which forms indeed their essential function.

Division of the History of the German Universities. — The division of the History of the Universities, as based on their connection with science and scientific research, presents, naturally, two large sections. The first and larger of these embraces the time of their rise in the 12th century to the beginning of the 17th century; the second comprises the 18th and 19th centuries. During the first period the Universities were, in the first place, schools that were made subservient to the handing down and acquirement of a fixed fund of scientific knowledge. In those schools the ancient philosophy and science, since the 16th century the whole literature and mental culture of classical antiquity, were admitted and digested. In the second period, the Universities, especially those in Germany, have become the chief bearers of the fully and independently developed modern philosophy and science.

Each of those two larger periods falls again into two subdivisions, so that we obtain the following fourfold partition.

First Period. The Middle Ages. — Growing up on the soil of the universal Church and its spiritual life, the Universities, in this period, reduce the western world to the formative discipline of Greek philosophy and science, especially of the Aristotelian system.

Further, they promote the thorough scientific organisation of the church-doctrine and of the ecclesiastical law, and bring about a knowledge of Roman law and ancient medicine.

Second Period. The 16th and 17th Centuries. — This is the period of transition between the Middle Ages and modern times: the 16th century, the time of the Renaissance and Reformation, the 17th century, that of the rise of the modern state and society, and at the same time of modern philosophy and natural science.

In the movements of the 16th century the Universities take a considerable part, not equally so in those of the 17th century: the new philosophy and natural science were not born within their walls. The result was that they remained behind the time and fell into discredit.

Third Period. The 18th Century. — This is the period of the reception of modern philosophy and science by the German University, at the same time the period of transition from the old principle of the obligatory standard of instruction to the principle of liberty of thought and teaching. The incentive to independent thinking and the fructification with philosophical ideas appeared prominently in the teaching as the highest task. The German University, in this period, had obtained the lead, not only in the mental life of the nation, but at the same time in the development of University affairs of the whole European world.

Fourth Period. The 19th Century. — This is the period of the advance of the single branches of learning, and of the organisation of scientific research. The research in the field of natural science and of history is emancipated from all philosophical or theological dogmatism, so as to gather and work up facts by individual labour. In this the German University maintains the lead, it attracts investigators, disciplines the various forces, and organises labour. In its teaching this change appears prominently in the development of the seminary system; to induce the student to take an independent part in the scientific work, is considered to be the chief task of the teacher.

2. A short View of the Present Organisation of the German Universities.

1. The German Universities are exclusively state institutions. It is true, there would be no obstacles in the way of establishing, on the part of municipalities or of private founders, colleges after the model of Universities, but such institutions would not have the prerogatives bestowed on the Universities by law of the States or of the Empire, unless they acquired them by special concession. The granting of academical degrees by no means forms the most important of these rights; it is of far greater significance that for appointments in the Church*), for employment in judicial and the higher administrative and educational functions, for admission as barrister, for the practice of medicine (on the basis of imperial legislation), a course of study at a German University is prescribed as a necessary condition.

The Universities possess the personal legal rights of public law; as is expressly stated in the Prussian common-law, they have the rights of privileged corporations. Their inner administration has been regulated, for each University and its faculties, by sovereign privileges and statutes, dating from very various times, and by supplementary ministerial decrees.

All the Universities possess considerable assets, in the shape of buildings, collections, etc., besides endowments for the purpose of bursaries or for the provision of the families of deceased professors. But only a few, like that of Greifswald, possess property that yields considerable revenues, from which a large part of the costs of maintenance is defrayed. Others receive subsidies from independent public funds, that are devoted to special purposes, as for example Göttingen, from the Hannoverian monastic funds. As their own earnings we may also mention the proceeds arising from the clinical hospitals, and from certain fees or charges. By far the larger portion, however, of the total University expenses, is covered by direct State subsidies.

*) Only for the training of Roman Catholic priests, there are, in addition to the theological faculties, institutions in the enjoyment of rights equal to those of the former.

2. The chief representative of the University is the Rector, or in some Universities the Prorector, especially where the reigning Sovereign, or, as in Göttingen, a Prince of the Royal House occupies the honorary position of Rector magnificentissimus. The Rector or managing Prorector is elected, by a process differing in the various Universities, by the total number of the ordinary professors (in Göttingen by a general meeting embracing also the extraordinary professors). He is chosen from their midst for one year, but the election requires to be confirmed by the ruling Sovereign. The Rector directs the current business and presides at the meetings of the Senate and of the various committees. In most Universities the Senate is composed, in addition to the Rector, of the latter's immediate predecessor, of the Deans of Faculties, of the Senators specially elected for one year by the ordinary professors, and of the University judge.

3. The Universities are divided, according to the chief branches of learning cultivated in them, into Faculties, the number of which, as is well known, was originally four, but is, at the present time, larger in several Universities, whereas Münster exceptionally possesses only three faculties. In four Universities (Bonn, Breslau, Tübingen, Strassburg) Protestant and Roman Catholic theological faculties exist side by side, while in Münster, Munich, Würzburg and Freiburg only Roman Catholic, and in the other Universities only Protestant theological faculties are found. From the philosophical faculty an independent one combining mathematics and natural science has branched off in Tübingen, Strassburg and Heidelberg, and in Tübingen, besides, a faculty of political science. In Munich, likewise, exists a special faculty of political economy. In Strassburg a faculty of law and political science combined was established in 1872, instead of the faculty of law; the same was done in Münster in 1902, and in Würzburg and Freiburg the faculty of law has been transformed into one of law and political science combined.

The faculties, in a narrower sense, are composed of the ordinary professors that belong to them, but, in a wider sense, of the total number of teachers and students of the respective branches of learning. The faculties superintend the instruction in their respective subjects, and are responsible for its regular operation and completeness. In the case of a vacancy of a chair they are allowed, partly by transmitted custom, partly by explicit regulations in their statutes, to propose to the Government persons fit and proper for

the succession. The admission of „Privatdocents", in accordance with the regulations for qualification, is likewise the business of the faculties. Also the bestowal of academical degrees, although it takes place under the authority of the whole University, is exclusively a matter of the faculties. For conducting its business each faculty elects for one year a Dean from its members. The election has to be communicated to the Ministry.

The teaching-staff of the University is composed of ordinary professors, honorary professors, extraordinary professors, „privatdocents", and lecturers (lectors), to whom must be added technical teachers and instructors of bodily exercises. In several Universities also „commissioned teachers" are employed, who do not belong to the academical staff, and, as a rule, are admitted only for such subjects as are not represented in the ordinary curriculum.

4. The ordinary professors are appointed by the reigning Sovereign, on a motion of the Ministry, who, as a rule, take into consideration the proposals of the faculty. They are government officials, but in many respects occupy a special position. They form the real permanent teaching-staff of the University, and, as a rule, they alone have the right of voting, as occasion presents itself. From their midst also proceeds the representative, whom, according to the current constitutional regulations, the Universities delegate to the Diet of their State.

Each ordinary professor receives a teaching commission for a definite subject, but is entitled to deliver lectures on any subject within the scope of his faculty, and according to the statutes of some Universities, also on all branches of study that belong to other faculties. As a rule, he is explicitly bound only to announce a public (gratis) lecture or a gratis series of exercises as a special course (privatissimum) and a private lecture. The public lectures, which in older times formed the chief duty of the professors, are now-a-days delivered mostly in only one or two weekly hours.

The income of the professors, arising from their appointments, is regulated in a manner entirely different from that which prevails for other officials. In addition to a fixed salary they draw a honorarium for their private lectures, and fees for graduation and other examinations. As Rector and as Dean they have, besides, special sources of income.

The payment of the ordinary professors was rearranged in Prussia in the year 1897, on the principle of increase through length

of service. In Berlin the salary starts at 4800 M., in the other Universities at 4000 M., and rises in the former University by six, in the others by five four-yearly stages up to 7200 and 6000 M. respectively. In addition the professors receive an allowance for house-rent, which for Berlin amounts to 900 M., for the other Universities to 600 or 540 M., according to the size of the town. There further exists a fund at the disposal of the Minister, amounting to 175000 M. a year, out of which additional personal payments are made to specially distinguished teachers and investigators, more particularly on the occasion of a call to another University. The so-called normal maximum (in Berlin 9400 M., in the other Universities 7800 M., besides allowance for house-rent) may, however, be exceeded only by royal sanction.

5. With respect to the fees derived from lectures, a reform has been introduced in Prussia in 1897, by which it has been legally enacted that the honororia of the salaried*) (ordinary and extraordinary) professors, in so far as, after deducting the questorial expenses, they exceed 3000 M., in Berlin 4500 M., shall flow into the public treasury to the extent of one half. For professors already in function before that date, this regulation applies only by their own consent. It has been further enacted that these deductions from honoraria shall be collected into a special fund of expenditure, out of which are paid yearly allowances to salaried (ordinary and extraordinary) professors with inconsiderable incidental emoluments. By a clause in the state budget of 1902 the employment of this fund has been more precisely defined to the effect that the honoraria and other incidental emoluments rated under this head — especially graduation fees — shall be supplemented to the amount of 800 M., and that the remaining portion of the fund may be employed for special allowances to professors for a definite time, as a guarantee of fixed receipts of honoraria in the case of calls, and — up to the amount of 20000 M. — for the support of University teachers of every category.

With respect to the amount of the separate fees, it has been enacted, in the year 1898, in Prussia, that the rates hitherto levied (for lectures without experiments usually 5 M. per weekly hour) shall not be exceeded. In most other Universities a maximum has likewise been fixed. Impecunious students are allowed to postpone pay-

*) salaried = etatsmässig, literally „budgetary", whose salary is allowed for in the budget (Note of the translator).

ment of fees for a number of years in some Universities, in the others (in Prussia only in Marburg) payment is remitted entirely, or to the extent of one half.

6. Among the extraordinary professors a distinction is made between salaried and unsalaried*) ones. The former are appointed permanently at a fixed salary, and are employed, partly to complete the instruction in the chief branches of study, partly to represent those subjects for which as yet no ordinary professorship exists in the respective Universities or elsewhere.

The unsalaried extraordinary professors draw no stipend, but some have a teaching commission, and receive in that case a remuneration. Formerly the nomination to an unpaid extraordinary professorship was made as an encouragement and recognition of a „privatdocent" who had proved efficient. In Prussia, however, in more recent times, such nominations have become more and more rare, and successful „privatdocents", as a rule, now simply receive the title of professor.

7. The salaried (ordinary and extraordinary) professors are not subject in Prussia to the regulations for superannuation that apply to other officials, but, in case of incapacity for professional duties, they are dispensed from delivering lectures with continuance of full salary, as well as of allowance for house-rent and of a share in the fees of the faculty. This favoured position is partly due to the fact that a portion of the official income of the professors consists of college fees, which cease with the discontinuance of actual teaching. In Jena and Rostock the professors are in the same position. In Leipzig the professors can be pensioned at their own request, and the amount of pension is, in that case, fixed by an arrangement between the Ministry and the petitioner. In Strassburg a retirement from active teaching takes place, which the professor can demand when he has reached the age of 65, or when he is deprived of the management of his institute. He then retains his proper salary, but with a deduction of the allowance, amounting to one fifth or one sixth. In Bavaria, Württemberg, Baden, and Hessen, the same regulations as to superannuation apply to professors as to other officials. In Bavaria the college fees are, in that case, considered as „additional receipts", and hence the rate of pension is increased in the first official decade by one seventh, in the second by one eigth.

*) *Vide* Note above (Note of the translator).

However, superannuation takes place, as a fact, only at the desire of the person concerned. In the case of Tübingen, in the computation of the pension, 2000 M. are counted in addition to the salary, as a compensation for the college fees, but the pension may not exceed the maximum of 6000 M.

8. With respect to the provision for the families of deceased salaried professors, there still exist, dating from former times, in the Prussian Universities, widow-funds, partly with considerable capital; but since 1889 no further contributions have been levied on members, but the state adds to the revenues of the capital a sum sufficient to allow payment of the fixed pensions of widows and orphans. These pensions, without regard to the duration of office of the deceased, amount for the widow of an ordinary professor to 1650 M., for one of an extraordinary professor to 1300 M., for the eldest child (up to its twenty-first completed year or till marriage) to 480 M., for each successive one to 300 M.; for one orphaned of both parents to 720 M., for each successive one to 480 M.

Also in the other Universities regulations exist for the provision for the families of deceased professors.

9. With respect to their disciplinary relations, the professors of the German Universities are subject to the regulations applicable to other officials in their State.

10. The „privatdocents“ are teachers who, after complying with certain regulations, are admitted to independent function, under the authority of and in the University. They may not only make use of the rooms of the University, but their lectures, attended by students, count for the latter in the same manner as those delivered by an ordinary professor. They also draw college fees in the same way as the professors, but in Prussia, when the amount should exceed the fixed limits, they would of course not be liable to the deduction ordained for the salaried professors. Sometimes they receive a teaching commission and, in that case, also a remuneration, but they have no claim to such a privilege, of which they can again at any time be deprived. In the Prussian and also in some other Universities, „privatdocents“ can also receive bursaries. In the Prussian educational estimates 60000 M. are set apart for this purpose. Each single one shall not receive more than a total of 6000 M., and this sum is, as a rule, spread over five years. When the official labours of the „privatdocent“ prove satisfactory, he receives, in Prussia, from the Minister, after some years, the title of professor, without passing

thereby, as in the case of appointment to unpaid extraordinary professor, into another category of University teachers.

The admission of a „privatdocent", on the basis of the fulfilment of habilitation depends, in Prussia, merely on the faculty. The latter has only to forward a communication to the Minister, and to add particulars as to the career, the course of study, and the scientific labours of the new teacher. The candidate, however, has to accompany his application to the faculty with a certificate from the Curatorium that there are no objections to his habilitation. In other states the nomination rests with the Ministry, or even with the reigning Sovereign. They have nowhere the position of officials, but are nevertheless subject to the disciplinary power of the faculty and other courts, and especially in the case of a breach of duty or reprehensible conduct, they can be deprived of the venia legendi. The regulations as to disciplinary proceedings were formerly also different, according to the statutes of the single faculties of the Prussian Universities; now, however, they are uniformly defined by the law of June the 17th 1898, and in such a manner, namely, that the law of July the 21st 1852, as to the professional breaches of the non-judicial officials, together with the alterations according to the law of April the 9th 1879, in a number of its paragraphs, applies also to „privatdocents", „when they act contrary to the duties imposed on them by their position, or when, by their conduct in and outside their profession, they prove unworthy of the esteem, consideration, or confidence required by their position". The disciplinary penalties are regulatory punishments, and deprivation of the character as „privatdocent". The deciding disciplinary authority in the first instance is the faculty. Against their decision recourse may be had to appeal to the Ministry of State, which can form its resolution only after receipt of the report of the disciplinary court.

When one wishes to habilitate in the Roman Catholic theological faculties, he requires, for this purpose, also the consent of his bishop. With respect to the requirements for habilitation, they consist, fairly uniformly, in the possession by the candidate of the doctor's degree of the faculty concerned, or, as theologian, at least that of the licenciate degree; further in the submission of a scientific essay as subject of habilitation, and in a specimen lecture in the faculty, which is followed by an oral examination in his subject, under the name of colloquium. The application for habilitation is admissible only two or three years after the time prescribed for Uni-

versity studies; the medical faculties demand besides the production of qualification as physician.

The right of the „privatdocent" of delivering lectures extends only to the subjects for which he has qualified himself. In some Universities the „privatdocents" are obliged to announce in each semester a course of lectures or of exercises. In the Prussian Universities this is not the case; here also they do not require, as the professors do, any permission to absent themselves for more than three days from the University town, but they have to give intimation of the fact to the Rector and to the Dean. When the „privatdocent" has announced no lecture for two semesters, after having been called upon to do so, his rights, in the Prussian Universities, are suspended, in others they are cancelled altogether.

11. The lecturers (lectors) are originally teachers of modern languages, who have to impart a more scholastic, practical instruction. In more recent times their functions have frequently assumed a more scientific form, so that they are employed to complete the instruction of the respective ordinary professors. They are appointed by the Minister, not permanently, but mostly only for a short time, with the possibility of continuance, and hence also they receive no salary, but only a remuneration, and also fees for their private lectures. In some Universities there are also teachers of more technical subjects, such as stenography, who are likewise termed lecturers (lectors). Music and drawing are not uncommonly represented by teachers with the rank of extraordinary professors.

The assistants have no independent tutorial functions, but are only subsidiary organs of the professor. Yet, occasionally, they are entrusted, in the seminaries, under the authority of the professor, with conducting exercises for beginners.

As so-called teachers of bodily exercises (Exerzitienmeister) there are, in all the Universities, fencing masters, in most of them also riding and dancing masters.

12. Only those persons who have matriculated are considered as students, properly so called, of the Universities. In addition there are authorised hearers and temporary auditors, who have been admitted by the Rector to attend lectures with the consent of the teacher. The normal qualification for immatriculation is the possession of a leaving-certificate of a higher educational institution with nine classes. Formerly, in most Universities, only those who had obtained a leaving-certificate of a Gymnasium were entitled to full immatricu-

lation. Since 1901, in Prussia, those with leaving-certificates of a German Realgymnasium and of a Prussian Higher Realschule, or of a German one that is on an equal footing with the latter, are admitted, not only to the study of all the branches of higher instruction, but also to enter into the faculty of law, when it is left to their own responsibility to acquire the necessary knowledge of the classical languages. The regulation of the medical examination is an imperial concern, and was lastly effected by a resolution of the Federal Council of May the 28th 1901. According to this, the leaving-certificate also of a German Realgymnasium is recognised for the whole Empire as sufficient for admission to the study of medicine, so that a knowledge of Greek is no longer unconditionally demanded. Those, however, who possess only the leaving-certificate of a Higher Realschule cannot be admitted, without further preliminaries, to the medical examination, nor can they, in Prussia, at once be enrolled in the medical faculties, but they must, in a previous supplementary examination, give evidence of possessing a knowledge of Latin, to the extent required of the pupils of a Realgymnasium. Only for the study of theology, Protestant as well as Roman Catholic, the leaving-certificate of a classical Gymnasium continues to be, also in Prussia, a necessary condition.

In addition to the full immatriculation, there is a so-called „little" immatriculation, for which no leaving-certificate is required, but only some other kind of evidence of the existence of an education sufficient for following the lectures.

Foreigners can matriculate in all the faculties, on showing sufficient previous schooling. Certain classes of persons, namely state and municipal officials, and people engaged in business, cannot matriculate at all, but may be admitted as temporary hearers. In Baden and Bavaria, women in possession of a leaving-certificate can matriculate on an equal footing with the male students.

13. In addition to the fees for private lectures, the students have to pay certain contributions, that flow into the University treasury, such as lecture-room fees, contributions to institutes (to be discharged by those who make use of the government institutes for medicine and natural science), payments for practical experiments (levied for those exercises which, on the part of those that share in them, entail a consumption of materials at the charge of the University). For these (usually moderate) contributions no delay or remission of payment, as in the case of lecture fees, is allowable. For indigent

students there exist bursaries, in many Universities in large numbers, derived from considerable endowments. Boarding establishments for students are found in the Roman Catholic theological faculties, not as actual University institutions, but as episcopal boarding seminaries. In Tübingen there is also a Protestant theological boarding establishment, the celebrated ecclesiastical foundation (Stift).

In order to encourage the students to make scientific investigations of their own, prize-essays are proposed by all the faculties. The prizes are partly provided by the government, partly based on endowments.

The usual exit from the University takes place by exmatriculation, together with the granting of a certificate of leaving. As a penal measure, removal from the University (consilium abeundi) and entire exclusion from University studies (Relegation) are sometimes resorted to. In most Universities a six-monthly voluntary absence from the University town entails loss of academical citizenship. Whoever does not engage himself, in one semester, for at least one private lecture, loses this semester of his course, and can also be struck off the list of students, or removed from the University by disciplinary process.

14. To a certain extent, the obtaining of the academical degree constitutes the theoretical conclusion of the University course. In Germany such degrees have now a practical importance only for those who intend to devote themselves to an academical career, as the examinations appertaining thereto do not possess, as in France and other countries, at the same time, the validity of state examinations for the entrance into a learned profession. One can become a clergyman, a judge, a barrister, a physician, a higher-school teacher, without possessing an academical title. Only in the case of some professions not regulated by the State, as, for instance, in that of a technical chemist, the acquirement of the doctor's degree serves as evidence of scientific schooling. For the rest, the large number of graduations, which still take place every year, is explained by the consideration which the title enjoys of old in public estimation, and by the wide-spread partiality in Germany for titles in general, among physicians also by the endeavour to be marked off from quacks. Only in the theological faculties there are still two academical degrees, the lower one of licenciate, and the higher one of doctor. In the others only the doctor's degree has been retained, and the preliminary grade of „magister liberalium artium", which still occurs in more recent times in the philosophical faculty, has now likewise en-

tirely disappeared. In Bonn, it is true, there still exists an examination for „Magister", side by side with the proper doctor's examination, but it is inseparably connected with the latter, and cannot be passed alone.

The degree of licenciate suffices, in the theological faculties, also for habilitation as „privatdocent". The dignity of doctor is mostly bestowed in them only honoris causa, i. e. without examination or fees, on recognised scholars, or other men of distinguished merit.

Matters of graduation are regulated, partly by the statutes of the separate faculties, partly by dispositions specially sanctioned by the Ministry. Only a few decades ago the abuse existed it some faculties of making the aquirement of the doctor's degree excessively easy, so that the payment of the required fees appeared almost the chief business. In some, graduation „in absentia" was permissible, namely, without oral examination, and merely in virtue of a dissertation that was forwarded, but did not require to be printed. In others only an oral examination was required, others again, it is true, demanded moreover a written essay, but not its publication in print. With reference also to the previous schooling of the candidates, the requirements were partly insufficient. In more recent times essential reforms have been carried out in this respect, especially by the endeavours of the Prussian educational administration, which has brought about agreements with the governments of the other Federal States as to certain minimum requirements for graduation. A doctor's title that has not been obtained in virtue of an oral examination and of a printed dissertation, is not recognised at all in Prussia. These conditions are now also enforced by almost all the faculties outside Prussia, only by a few still with admission of exceptions. Likewise, not only almost all Prussian faculties, but also most of the non-Prussian ones, demand unconditionally the certificate of maturity of a school with nine classes. In recent times, however, the number of admissions from the Realgymnasium and the Higher Realschule, apart from those from the Gymnasium, has continually increased.

The customary formal ceremony of graduation, with public disputation, common in former times, has been abolished in most of the Universities.

3. Statistical Summaries.

1. University of Berlin (Prussia).

(Founded 1809.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Lecturing Members of the Academy of Sciences	Extraordinary Professors	Privatdocents	Lecturers	Commissioned to deliver Lectures
S. 1903	89	25	1	110	212	8	2
S. 1878	65	4	1	61	79	3	—
S. 1850	57	—	5	44	59	4	—
S. 1820	30	—	—	19	24	2	—

Number of Immatriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	5 488	775	W. 1879/80	3 608	222
W. 1902/3	6 654	909	W. 1869/70	2 310	278
S. 1902	5 393	797	W. 1859/60	1 475	—
W. 1901/2	6 471	895	W. 1849/50	1 348	—
S. 1901	5 101	755	W. 1839/40	1 778	—
W. 1900/1	6 321	846	W. 1829/30	1 909	—
S. 1900	4 890	668	W. 1819/20	1 161	—
W. 1889/90	5 547	595			

Students according to Faculties.

Semester	Protestant-Theology	Law	Medicine	Philosophy („Arts“)
S. 1903	256	1 643	903	2 686
W. 1902/3	349	2 355	1 111	2 839
W. 1899/1900	367	2 261	1 265	2 267
W. 1894/95	473	1 617	1 166	1 551
W. 1889/90	830	1 603	1 353	1 761
W. 1879/80	197	1 315	475	1 621
W. 1869/70	335	661	439	875
W. 1859/60	327	423	313	412
W. 1849/50	174	616	212	346

Number of others admitted to Attendance on Lectures.

Semester	Total	Women among them
S. 1903	1 087	296
W. 1902/03	1 535	531
S. 1902	1 131	356
W. 1901/02	1 557	610
S. 1901	1 032	304
W. 1900/01	1 300	425

Total of Receipts of the University in Marks.

Financial Year	From private Property and Endowments	From private Earnings (Hospitals, etc.)	State-Allowance	Total
1903	12 342	489 827,50	2 904 745	3 406 914,50
1890	5 107	323 725	2 005 640	2 334 472
1878	990	117 877	1 334 696	1 453 563
1865	483	22 671	567 207	590 361

Total of Ordinary Expenditure in Marks.

Financial year	Salaries and Remunerations to Professors and other Teachers	Allowances for House-rent to Teachers and Officials	For Institutes and Collections	For Boarding-Seminaries, Financial Aid and Bursaries	Administrative and other Expenses
1903	818 850	198 480	1 998 745,50	8 270	382 569
1890	653 100	152 160	1 274 959	1 270	252 983
1878	549 300	110 940	693 011	1 050	99 262
1865	307 200	—	210 690	1 050	71 421

Extraordinary Expenditure 1879—1903: 17 445 391 M.

2. University of Bonn (Prussia).

(Founded 1818.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S. 1903 . .	73	4	29	70	5
S. 1878 . .	55	0	25	20	3
S. 1850 . .	40	0	15	19	7
S. 1820 . .	30	0	10	7	1

Number of Immatriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903 . .	2501	67	S. 1890 . .	1409	59
W. 1902/3 .	2234	70	S. 1880 . .	1070	—
S. 1902 . .	2412	68	W. 1869/70 .	899	—
W. 1901/2 .	2091	62	S. 1860 . .	820	—
S. 1901 . .	2283	56	W. 1850 . .	908	—
W. 1900/1 .	1837	49	W. 1840 . .	623	—
S. 1900 . .	2179	56	W. 1830 . .	941	—
S. 1895 . .	1707	47	S. 1820 . .	551	—

Number of Students in the

Semester	Prot.-theol. Faculty	Cathol.-theol. Faculty	Law-Faculty	Medical Faculty	Philosophical Faculty
S. 1903 . .	74	311	752	243	1121
W. 1902/3 .	82	264	649	241	998
S. 1900 . .	89	298	618	307	867
S. 1895 . .	81	239	419	320	648
S. 1890 . .	130	160	302	396	421
S. 1880 . .	84	88	345	154	428
W. 1869/70 .	62	177	188	203	269
S. 1860 . .	60	227	138	134	261
W. 1850 . .	47	215	293	116	200

Number of others admitted to hear Lectures.

Semester	Total	Women among them
S. 1903 . .	178	91
W. 1902/3 .	214	117
S. 1902 . .	153	84
W. 1901/2 .	197	106
S. 1901 . .	170	81
W. 1900/1 .	201	106

Total of Receipts of the University.

Financial Year	From private Property and Endowments M.	From private Earnings M.	State Subsidy M.	Total M.
1903	21 779	264 022	1 156 185	1 441 986
1890	22 524	190 689	868 464	1 081 686
1878	16 975	90 342	712 594	819 911
1872	86 276		454 942	541 218
1868	71 849		413 332	485 181

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations M.	Allowance for House-rent M.	Institutes and Collections M.	Boarding Seminaries and Bursaries M.	Administrative Expenses M.
1903	471 910	73 824	722 251	14 055	60 825
1890/1	392 360	61 044	492 394 .	10 429	41 246
1878/9	360 660	45 900	332 601	10 368	33 532
1872	255 282	—	213 953	11 850	28 758
1868	237 732	—	174 787	9 900	27 267

Extraordinary Expenditure 1876 to 1902: 4 796 463 M.

3. University of Breslau (Prussia).

(Founded originally 1702, reconstituted 1811.)

Number of Teachers

Semester	Ordinary Professors	Ordinary Honorary Professors	Extra-ordinary Professors	Privat-docents	Lecturers [1]) (Lectors)
S. 1903 . .	69	4	33	59	8
S. 1878 . .	51	2	24	24	2
S. 1850 . .	41	1	12	20	5
S. 1820 . .	37	—	4	9	10

Number of Matriculated Students.

Semester	Total	Fo-reign-ers among them	Semester	Total	Fo-reign-ers among them	Semester	Total	Fo-reign-ers among them
S. 1903	1794	30	W.1900/1	1610	23	W. 1860	766	33
W.1902/3	1740	30	S. 1900	1636	27	W. 1850	823	22
S. 1902	1813	34	W. 1890	1216	39	W. 1840	631	7
W.1901/2	1750	31	W. 1880	1281	15	W. 1830	1129	28
S. 1901	1746	27	W. 1870	892	25	W. 1820	655	?

Semester	Number of Students of				
	Protestant Theology	Rom. Cath. Theology	Law	Medicine	the Philo-sophical Faculty
S. 1903 . .	61	299	523	204	707
W. 1902/3 .	63	251	558	204	664
W. 1900 . .	64	266	537	222	521
W. 1895 . .	98	267	388	320	309
W. 1890 . .	162	162	229	305	353
W. 1880 . .	95	81	303	249	553
W. 1870 . .	65	120	181	202	324
W. 1850 . .	95	157	124	111	279
W. 1850 . .	57	240	272	86	168

[1]) Inclusive of one for Dentistry and one commissioned to deliver Lectures.

Number of others admitted to hear Lectures:

S. 1903:	157	61[1])	W. 1901/2:	188	79[1])
W. 1902/3:	243	114[1])	S. 1901:	141	46[1])
S. 1902:	154	65[1])	W. 1900/1:	177	69[1])

Financial Year	Total of Receipts of the University:			
	From private Property and Endowments	From private Earnings (Hospitals, etc.)	State Allowance	Total
1903	84 174	322 129	1 209 272	1 615 575
1890	68 425	79 353	884 709	1 042 487
1878	75 331	28 030	616 120	719 483
1865	63 867	31 037	270 933	365 937
1850	35 413	25 160	239 560	300 133

Financial Year	Total of Ordinary Expenses:				
	Salaries and Remunerations	Allowance for House-rent of Professors and Officials	For Institutes and Collections	For Boarding Seminaries, Financial Aid and Bursaries	Administrative and other Expenses
1903	644 079	69 012	722 845	67 930	111 714
1890	561 340	49 193	265 294	59 682	98 369
1878	376 469	34 020	213 988	47 663	47 343
1865	181 008	—	110 705	45 349	28 875
1850	170 514	—	78 289	31 183	20 599

Extraordinary Expenses 1879 to 1903: 7 931 591 M.

4. University of Göttingen (Prussia).

(Founded 1737.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S. 1903	66	4	25	41	2
S. 1875	57	1	22	17	—
S. 1855	45	1	21	28[2])	1
S. 1840	30	1	13	41	2
S. 1810	32	—	10	29	1
S. 1780	37	—	3	21	1

[1]) Including women.

[2]) The theological private tutors (Repetenten) are not included.

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	1 446	104	S. 1865	728	54
W. 1902/3	1 333	91	S. 1860	716	44
S. 1902	1 390	96	S. 1840	693	?
W. 1901/2	1 350	93	S. 1830	913	—
S. 1901	1 415	105	S. 1823	1 547(max.)	—
W. 1900/1	1 333	116	S. 1818	1 158	—
S. 1900	1 359	86	S. 1810	633	—
S. 1895	874	65	S. 1800	688	—
S. 1890	929	62	S. 1790	844	—
S. 1880	985	49	S. 1780	945	—
S. 1870	795	47			

Number of Students.

Semester	Protestant Theology	Law	Medicine	Philosophical Faculty
S. 1903	101	403	148	794
W. 1902/3	89	420	148	676
S. 1900	136	434	216	573
S. 1895	153	231	219	271
S. 1890	247	196	216	270
S. 1885	199	179	204	435
S. 1875	85	376	122	479
S. 1865	147	190	196	222
S. 1855	129	223	187	134
S. 1840	172	250	197	74
S. 1830	232	354	176	151

Number of others admitted to hear Lectures:

S. 1903: 98; W. 1902/3: 135; S. 1902: 85; W. 1901/2: 88; S. 1901: 111; W. 1900/1: 88.

Women among these:

S. 1903: 45; W. 1902/3: 48; S. 1902: 38; W. 1901/2: 32; S. 1901: 35; W. 1900/1: 37.

Ordinary Receipts and Expenditure of the University.

Financial Year	Receipts			
	State Subsidy	From special Funds and private Property[1]	From private Earnings (Hospitals, Fees, etc.)	Total
	M.	M.	M.	M.
1903	634 954	560 741	211 459	1 407 154
1895	369 706	613 404	145 824	1 128 974
1890	377 118	611 402	118 328	1 106 848
1885	326 228	607 168	74 838	1 008 227
1880	276 366	607 276	51 162	934 804
1875	208 324	610 840		819 164
1868	127 954	417 836		545 790

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Teachers and Officials	Institutes and Collections	University Administration	Bursaries and Financial Aid
	M.	M.	M.	M.	M.
1903	432 395	55 440	729 330	53 494	43 455
1895	389 295	51 444	520 676	48 101	43 423
1890	420 954	55 008	470 233	35 552	39 529
1885	394 395	50 400	415 455	32 513	39 636
1880	376 095	48 780	363 303	33 693	39 521
1875	372 840	49 140	277 914	41 868	39 582
1868	246 975	—	180 977	36 735	39 422

Extraordinary Expenditure 1876 to 1902: 6 627 166 M.

5. University of Greifswald (Prussia).

(Founded 1456.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S. 1903	46	1	25	23	2
S. 1878	37	—	12	10	—
S. 1853	25	—	8	10	1

[1] Chiefly from the Hanoverian monastic fund.

Number of Matriculated Students.

Semester	Number of Immatriculated Students	Foreigners among them	Semester	Number of Immatriculated Students	Foreigners among them
S.-S. 1903	795	37	S.-S. 1900	788	20
W.-S. 1902/3	694	31	S.-S. 1890	875	23
S.-S. 1902	815	25	S.-S. 1880	591	4
W.-S. 1901/2	717	23	S.-S. 1870	395	9
S.-S. 1901	802	23	S.-S. 1860	279	?
W.-S. 1900/1	713	23	S.-S. 1853	204	?

Semester	Number of Students in the			
	Prot. theol. Faculty	Law Faculty	Medical Faculty	Philosophical Faculty
S.-S. 1903	117	240	194	244
W.-S. 1902/3	103	204	183	204
S.-S. 1900	184	191	269	144
S.-S. 1895	255	127	404	92
S.-S. 1890	274	84	419	98
S.-S. 1880	57	82	274	178
S.-S. 1870	26	35	251	83
S.-S. 1860	30	28	139	82
S.-S. 1853	25	57	81	41

Number of others admitted to hear Lectures:

S.-S. 1903 . . . 45	W.-S. 1902/03 54	S.-S. 1902 . . . 33
W.-S. 1901/02 46	S.-S. 1901 . . . 26	W.-S. 1900/01 29

Number of Women admitted (hitherto exclusively as temporary hearers):

S.-S. 1903 . . . 6	W.-S. 1902/03 11	S.-S. 1902 . . . 3
W.-S. 1901/02 2	S.-S. 1901 . . . 8	W.-S. 1900/01 15

Total of Receipts of the University.

Financial Year	From private Property and Endowments M.	From private Earnings (Hospitals, etc.) M.	State Subsidy M.	Total M.
1903	337 847	209 259	493 821	1 040 927
1890	330 651	63 860	262 572	657 084
1878	328 085	70 821	135 684	534 590
1865	255 000	2 400	—	257 400

Total of Ordinary Expenditure.

Financial Year	Salary and Remuneration of Professors and other Teachers	Allowance for House-rent	For Institutes and Collections	For Financial Aid and Bursaries	Administrative and other Expenses
1903	328 050	42 408	535 339	20 834	114 297
1890	255 100	33 192	309 594	18 882	40 316
1878	217 500	24 552	239 250	16 443	36 845
1865	128 361	—	96 741	11 178	21 120

Total of Extraordinary Expenditure during the last 25 years: 3 772 387 M.
Of this for the last four years since 1900: 2 127 038 M.

6. University of Halle (Prussia).

(Founded 1694.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (of languages)
S. 1903	56	4	29	43	3
S. 1883	48	—	24	22	3
S. 1863	36	—	16	15	1

Number of Students.

Period	Matriculated Students	In Theology	In Law	In Medicine	In Philosophy („Arts“)
1775—1800	949	582	319	48	—
1817—1821	709	395	186	85	43
1822—1831	1101	758	212	68	63
1832—1841	782	443	112	110	66
1841—1851	681	400	120	99	62
1851—1861	672	419	111	54	88
1861—1871	788	354	51	108	275
1871—1881	988	234	124	144	489
1881—1891	1525	576	119	278	552
1891—1896	1403	518	216	231	438
1896—1901	1624	356	382	229	623
1901—1902	1731	366	425	192	748
1902	1739	352	454	200	733
1902—1903	1749	338	447	189	775
1903	1741	329	436	180	796

The number of temporary hearers varied in more recent years between 130 and 230, including some female students.

Total of Receipts of the University.

Financial Year	From private Property and Endowments	From private Earnings (Hospitals, etc.)	State Allowance	Other Receipts	Total
1902/03 . .	93 837	550 189	1 141 492	76 342	1 861 860
1891/92 . .	79 821	380 129	939 563	19 005	1 418 518
1875 . . .	75 255	51 874	614 499	7 246	748 874
1865 . . .	63 179	24 411	309 244	3 020	399 854
1845 . . .	36 900	9 534	243 228	1 808	291 470
1825 . . .	16 841	?	209 604	996	227 441

Total of Ordinary Expenditure.

Financial Year	Salaries & Remunerations of Professors and other Teachers	Allowance for House-rent of Professors and Officials	For Institutes and Collections	For Boarding Seminaries, Financial Aid, and Bursaries	Other Administrative Expenses
1902/03 . .	385 260	59 275	1 027 015	140 254	147 223
1891/92 . .	420 796		791 377	120 302	74 255
1875 . . .	317 050		384 371	96 053	52 512
1865 . . .	170 185		93 786	67 130	37 225
1845 . . .	131 397		72 554	59 351	37 263
1825 . . .	140 613		47 715	44 988	42 924

Extraordinary Expenditure during the last 25 Years: 8 253 061 M.

7. University of Kiel (Prussia).

(Founded 1665.)

Number o Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S. 1903	51	1	16	48	2
S. 1878	39	0	9	17	2
S. 1850	24	0	9	13	3
S. 1820	18	0	8	4	?
S. 1750	13	0	1	?	?

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	1 096	18	S. 1860	154	?
W. 1902/3	914	7	S. 1850	132	?
S. 1902	1 207	17	S. 1840	237	?
W. 1901/2	870	10	S. 1830	321	?
S. 1901	1 079	25	S. 1820	253	?
W. 1900/1	808	13	S. 1800	151	?
S. 1900	1 081	20	S. 1780	187	?
S. 1890	640	12	S. 1760	?	?
S. 1880	301	14	S. 1740	?	?
S. 1870	170	5			

Number of Students according to Faculties.

Semester	Protestant Theology	Jurisprudence (Law)	Medicine	Philosophy („Arts“)
S. 1903	41	344	327	384
W. 1902/3	33	258	326	297
S. 1900	65	260	495	261
S. 1895	71	151	402	135
S. 1890	106	74	356	104
S. 1880	55	34	99	113
S. 1870	58	13	61	38
S. 1860	28	57	38	31
S. 1850	30	46	30	26

Number of others admitted to hear Lectures:

S. 1903 70	S. 1902 63	S. 1901 49
W. 1902/3 63	W. 1901/2 78	W. 1900/1 74

Number of Women admitted:

Women are not allowed to matriculate.

Had Permission to attend:

S. 1903 23	S. 1902 13	S. 1901 11
W. 1902/3 14	W. 1901/2 23	W. 1900/1 22

Total of Receipts of the University.

Financial Year	From private Property and Endowments	From private Earnings (Hospitals, etc.)	State Allowance	Total
1903	15 722	261 371	943 590	1 220 683
1890	16 939	163 549	561 788	742 276
1878	22 947	135 614	478 778	637 339
1865	13 528 ℔ 7 ß	?	239 028 ℔ 12 1/4 ß	253 557 ℔ 3 1/4 ß
1850	10 881 ℔ 10 ß	10 273 ℔ 2 ß	137 460 ℔	158 614 ℔ 12 ß

The Hamburg Mark (℔) = 16 Shillings (ß) = 1,20 M.

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Professors and Officials	For Institutes and Collections	For Boarding Seminaries, Financial Aid, and Bursaries	Administrative and other Expenses
1903	319 290	50 172	701 502	5 237	48 130
1890	240 640	38 136	377 682	1 737	29 620
1878	214 140	34 212	324 783	1 737	20 435
1865	105 678 ℔ 12 ß	0	41 440 ℔	1 260 ℔	86 492 ℔ 8 ß
1850	115 895 ℔	0	19 389 ℔	10 321 ℔ 4 ß	13 009 ℔ 8 ß

Extraordinary Expenditure during the last 25 Years: 6 087 525 M.

8. University of Königsberg (Prussia).

(Founded 1544.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S. 1903	58	—	27	41	7
S. 1878	46	—	19	17	2
S. 1850	30	—	7	17	1

Number of Matriculated Students.[1])

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	948	75	S. 1890	777	17
W. 1902/3	977	79	W. 1880/1	788	23
S. 1902	967	—	W. 1870/1	494	19
W. 1901/2	911	59	W. 1860/1	407	21
S. 1901	923	—	W. 1850/1	332	5
W. 1900/1	874	48	W. 1840	392	—
S. 1900	878	—			

[1]) Where a year is mentioned only once, the more numerous Semester is given.

Number of Students according to Faculties.

Semester	Protestant Theology	Jurisprudence (Law)	Medicine	Philosophy („Arts")
S. 1903	82	329	196	341
W. 1902/3	85	357	204	331
S. 1900	93	284	245	256
S. 1895	109	216	242	170
S. 1890	185	156	271	165
W. 1880	83	165	145	395
W. 1870	77	120	151	146
W. 1860	131	74	101	102
W. 1850	46	131	59	97

Other Persons admitted to hear Lectures.

Semester	Women	Men	Semester	Women	Men
S. 1903	33	63	S. 1901	21	43
W. 1902/3	59	85	W. 1900/1	24	51
S. 1902	41	40	S. 1900	15	38
W. 1901/2	41	40			

Receipts of the University.

Financial Year	From private Property and Endowments	From private Earnings	State Allowance	Total
	M.	M.	M.	M.
1903	19 393,26	177 398,74	1 042 933,—	1 239 725,—
1890	41 311,55	102 186,24	777 908,—	901 405,79
1878	17 686,91	44 891,09	668 621,—	731 199,—
1865	12 705,—	2 706,—	281 580,—	296 991,—
1850	20 800,—	2 191,16	217 830,—	240 821,26

Expenditure.

Financial Year	Salaries of Professors, etc.	Allowance for House-rent of Teachers and Officials	For Institutes and Collections	Boarding Seminaries, Bursaries	Administrative and other Expenses	Total
	M.	M.	M.	M.	M.	M.
1903	384 090,—	57 384,—	662 762,50	34 782,—	100 706,50	1 239 725,—
1890	310 729,32	42 480,—	455 577,32	31 271,30	61 348,—	901 405,79
1878	297 388,36	42 300,—	316 531,30	31 312,54	43 666,80	731 199,—
1865	120 663,—	15 362,—	102 531,—	25 761,—	34 674,—	296 991,—
1850	105 807,—	10 459,13	73 340,26	22 659,89	28 355,—	240 821,26

Extraordinary Expenditure during the last 25 Years: 4 616 142 M.

9. University of Marburg (Prussia).

(Founded 1527.)

Number of Teachers.

S.-S.	Ordinary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
1903	49	16	32	2
1878	42	10	16	—
1865	33	4	12	—
1850	28	10	14	—
1823	28	6	4	—
1794	29	4	—	—
1764	14	—	—	—

Number of Matriculated Students.

Total	Foreigners among them	Total	Foreigners among them
S.-S. 1903 . . . 1305	51	S.-S. 1865 . . . 285	13
W.-S. 1902/03 . . 1096	45	S.-S. 1860 . . . 229	4
S.-S. 1902 . . . 1362	88	S.-S. 1850 . . . 287	4
W.-S. 1901/02 . . 1054	62	S.-S. 1840 . . . 287	1
S.-S. 1901 . . . 1200	78	S.-S. 1831 . . . 370	2
W.-S. 1900/01 . . 1047	71	S.-S. 1823 . . . 305	3
S.-S. 1900 . . . 1153	63	W.-S. 1807/08 . . 180	?
S.-S. 1890 . . . 941	33	about 1787/92 above 300	?
S.-S. 1880 . . . 587	12	about 1760 . 100—150	?
S.-S. 1870 . . . 418	7	about 1740 . 200 – 250	?

Total of Receipts of the University in Marks.

Financial Year	From private Property and Endowments	From private Earnings (Hospitals, etc.)	State Allowance	Total
1903	92 957	137 987	786 630	1 017 545
1890	95 945	78 908	565 799	740 652
1878	50 547	17 239	430 376	498 163
1865	44 109	1 629	186 591	239 451
1850	131 385	1 095	139 401	271 985

Number of Students in

Semester	Protestant Theology	Law	Medicine	Philosophical Faculty
S.-S. 1903	129	357	176	643
W.-S. 1902/03	94	299	164	539
S.-S. 1900	113	371	239	461
S.-S. 1895	122	273	245	312
S.-S. 1890	201	140	273	327
S.-S. 1880	74	92	134	287
S.-S. 1870	82	23	178	135
S.-S. 1860	81	30	60	58
S.-S. 1850	75	83	57	72
S.-S. 1823	98	124	55	28

Women cannot matriculate. Admitted to Lectures by permission of the Rector: S.-S. 1903 9, W.-S. 1902/03 20, S.-S. 1902 4, W.-S. 1901/02 9, S.-S. 1901 6, W.-S. 1900/01 6.

Total of Ordinary Expenditure in Marks.

	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Teachers and Officials	For Institutes and Collections	For Boarding Seminaries, Personal Grants, and Bursaries	Administrative, Building, and other Expenses
1903	311 950	40 716	517 405	18 687	128 785
1890	258 500	35 232	336 666	17 681	92 571
1878	221 194	26 268	173 396	18 091	59 213
1865	103 784	—	44 584	10 213	50 921
1850	85 951	—	42 240	6 080	41 355

Extraordinary Expenditure in Marks.

1878/79—1890/91 (13 years) 2 204 800, yearly 170 000,
1891/92—1903 (13 years) 3 022 800, yearly 232 500.

10. University of Münster (Prussia).

(Founded 1786, as University 1902.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary and Extraordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S.-S. 1903	38	2	14	12	6
S.-S. 1878	17	—	7	4	—
S.-S. 1850	10	—	2	3	1
S.-S. 1844	11	—	1	2	1

Number of Matriculated Students.

S.-S. 1903	1200	S.-S. 1890	384
W.-S. 1902—03	1143	S.-S. 1880	271
S.-S. 1902	869	W.-S. 1870—71	439
W.-S. 1901—02	781	W.-S. 1860—61	529
S.-S. 1901	793	W.-S. 1850—51	325
W.-S. 1900—01	733	W.-S. 1844—45	224
S.-S. 1900	688		

Number of Students according to Faculties.

Semester	Roman Catholic Theological Faculty	Faculty of Law and Political Science	Faculty of Philosophy („Arts") and Natural Science
S.-S. 1903	299	280	621
W.-S. 1902—03	346	229	568
S.-S. 1900	325	—	363
S.-S. 1890	219	—	165
S.-S. 1880	75	—	196
W.-S. 1870—71	224	—	215
W.-S. 1860—61	281	—	248
W.-S. 1850—51	187	—	138
W.-S. 1844—45	156	—	82

Number of Hearers admitted:

S.-S. 1903	72	W.-S. 1901—02	27
W.-S. 1902—03	60	S.-S. 1901	20
S.-S. 1902	30	W.-S. 1900—01	20

Number of Female Students admitted:

none.

Total of Receipts.

Financial Year	From private Property and Endowments	State Allowance	Total
1903	166 086	370 508	2 036 594
1890	83 743	156 645	240 388
1878	70 125	102 439	172 564
1865	51 645	6 750	58 395
1851	41 832	3 750	55 582

Total of Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Professors and Officials	For Institutes and Collections	Financial Aid and Bursaries	Administrative and other Expenses
1903	211 650	34 224	99 028	5 854	16 979
1890	133 900	23 052	60 299	2 550	6 330
1878	98 550	15 984	46 752	2 700	4 530
1865	38 400	8 310	15 789	1 500	1 290
1851	29 388	2 040	13 224	—	930

Extraordinary Expenditure from 1876 to 1902: 1 279 668 M.

11. University of Munich (Bavaria).

(Founded 1472 at Ingolstadt, transferred to Munich 1826.)

Number of Teachers.

Semester	Ordinary Professors	Extra-ordinary Professors	Privatdocents with title and rank of Extra-ordinary Professors	Honorary Professors	Privat-docents	Lecturers (Lectors)
Summer 1903	76	24	29	9	64	2
„ 1878	65	14	—	10	33	1
„ 1850	50	17	—	8	21	2
„ 1828	38	15	—	6	21	—
1750	23 *)					

Number of Matriculated Students.

Semester	Germans	Foreigners	Total
Summer 1903	4 439	257	4 696
Winter 1902/3	4 020	259	4 279
Summer 1902	4 171	259	4 430
Winter 1901/2	3 934	269	4 203
Summer 1901	4 154	237	4 391
Winter 1900/01	3 938	246	4 184
Summer 1900	3 810	239	4 049
Summer 1890	3 375	176	3 551
Winter 1880/81	1 765	125	1 890
	Bavarians	Non-Bavarians	Total
Summer 1870	1 097	179	1 276
Winter 1860/61	1 086	226	1 312
Whole Year 1849/50	1 725	199	1 924
„ 1839/40	1 191	149	1 340
„ 1829/30	1 662	192	1 854
„ 1826/27	—	—	1 622
1771	—	—	about 600

*) Of these 5 in Theology, 5 in Law, 3 in Medicine, and 10 (?) in the Philosophical Faculty (chairs in this occupied by Jesuits). The Program of Lectures for 1780/81 mentions 5 Ordinary Professorships in the Theological Faculty, 5 in that of Law, 5 in that of Medicine, 6 in the Philosophical Faculty; besides 2 Lecturers, and Teachers of Riding, Fencing, and Dancing. (Extraordinary Professorships are mentioned 1781/82: 1 for Law, 1 for Cameralistics, 1 for Medicine.)

Number of Students according to Faculties.

Semester	Theology	Law	Political Economy incl. Forestry	Medicine incl. Dentistry	Philosophical Faculty Section I	Philosophical Faculty Section II	Pharmacy
Summer 1903	161	1 630	139	1 067	921	565	213
Winter 1902/3	155	1 390	142	1 057	802	533	200
Summer 1900	159	1 383	196	1 220	687	545	201
Summer 1895	139	1 202	114	1 227	432	284	264
Summer 1890	150	1 393	104	1 105	302	221	276
Winter 1880/81	89	571	120	464	319	203	124
Summer 1870	102	462	19	270	316	36	71
Winter 1860/61	151	469	45	179	412		56
Whole Year 1850/51	279	809	39	212	439		39

Number of Others admitted to attend Lectures.

Summer 1903	241	Winter 1901/2	227
Winter 1902/3	214	Summer 1901	184
Summer 1902	253	Winter 1900/1	198

Number of Women admitted to hear Lectures.

Summer 1903	33	Winter 1901/2	29
Winter 1902/3	33	Summer 1901	26
Summer 1902	22	Winter 1900/1	32

By Ministerial decision of September the 21st 1903, in force from Winter-Semester 1903/04, female students in possession of a leaving-certificate of a German humanistic Gymnasium or of a German Real-Gymnasium, are matriculated.

Summary of Receipts of the University.

Financial Year	From private Property and Endowments	From private Earnings (Hospitals etc.)	State-Allowance	Total
	Mark	Mark	Mark	Mark
1902	306 521,77	64 994,46	1 002 216,69	1 373 732,92
1890	264 057,07	17 887,91	791 857,83	1 073 802,81
1878	240 853.52	5 264,70	485 787,37	731 905,59
	Florins	Florins	Florins	Florins
1865/66	72 011	3 346	62 400	137 758
1850/51	87 749	3 287	42 400	133 437

12. University of Würzburg (Bavaria).

(Founded 1402, renewed 1582.)

Number of Teachers.

Semester	Ordinary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S. S. 1903	44	18	25	1
„ 1878	40	5	19	1
„ 1850	31	5	6	—
„ 1830	27	4	4	—
W. S. 1785	21	8	—	—
1604	15	—	—	—

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Non-Bavarians among them
S. S. 1903	1 300	54	S. S. 1831	585	184
W. S. 1902/3	1 306	58	S. S. 1817	478	120
S. S. 1902	1 198	64	W. S. 1816/17	504	115
W. S. 1901/2	1 194	51	W. S. 1815	276	unknown
S. S. 1901	1 108	45	S. S. 1806	413	
W. S. 1900/1	1 164	54	W. S. 1805/6	486	
S. S. 1900	1 126	48	W. S. 1804/5	730	
W. S. 1890/1	1 544	75	S. S. 1804	631	
W. S. 1880/1	921	62	W. S. 1803/4	554	
W. S. 1870/1	673	72	W. S. 1802/3	363	157
W. S. 1860/1	687	51			
W. S. 1850/1	657	49			
W. S. 1840/1	443	21	1582	80	—

Number of Others admitted to hear Lectures.

S. S. 1903	21	W. S. 1901/2	19
W. S. 1902/3	26	S. S. 1901	18
S. S. 1902	18	W. S. 1900/1	19

Number of Women admitted.

S. S. 1903	45	W. S. 1901/2	41
W. S. 1902/3	58	S. S. 1901	28
S. S. 1902	19	W. S. 1900/1	27

Number of Students in the Several Faculties.

Semester	Roman-Catholic Theology	Law and Political Economy	Medicine	Philosophical Faculty	
				Section I	Sektion II
S. S. 1903	113	425	437	142	183
W. S. 1902/3	105	410	461	144	186
W. S. 1900/1	107	250	599	136	172
W. S. 1895/6	136	238	738	99	154
W. S. 1890/1	148	306	907	183	
W. S. 1880/1	160	157	407	197	
W. S. 1870/1	118	81	205	140	
W. S. 1860/1	95	134	315	143	
W. S. 1850/1	95	195	264	103	

Ordinary Receipts of the University.

Financial Year	From private Property and Endowments M.	From private Earnings (Hospitals, etc.) M.	State Subsidy M.	Total M.
1903	342 017	79 142	598 604	1 019 763
1890	311 839	47 761	441 800	801 400
1878	310 433	7 029	340 777	658 239
1865	275 196	2 878	85 715	363 789
1850	211 361	19 241	54 441	285 043

Ordinary Expenditure.

Financial Year	Salaries of Professors M.	Salaries of Assistents and Servants M.	Allowances M.	Institutes M.	Pensions, Aid, Bursaries, etc. M.	Administrative Expenses M.	Total M.
1903	376 485	117 663	20 572	368 206	81 373	55 464	1 019 763
1890	309 699	66 670	34 309	248 072	93 462	49 688	801 400
1878	300 109	52 284	18 491	140 881	89 991	56 483	658 239
1865	162 699	30 518	206	74 690	51 441	44 535	368 789
1850	104 769	14 883	—	72 627	32 999	59 765	285 043

Extraordinary Expenses during the last 25 years (1878—1903) 4 804 950 M.

The Property of the University amounted at close of 1902 to 20 731 425 „

Of which is productive: 12 155 343 M. a) immovable property . 6 641 485 „
b) movable property . 5 013 857 „

Of which is unproductive: 8 576 082 M. a) immovable property . 5 897 240 „
b) movable property . 2 678 842 „

13. University of Erlangen (Bavaria).

(Founded 1743.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extra-ordinary Professors	Privat-docents	Lecturers (Lectors)
S. 1903 . . .	40	—	13	13	—
„ 1878 . . .	33	—	11	11	—
„ 1850 . . .	25	2	13	5	—
„ 1820 . . .	21	—	4	?	—
„ 1750 . . .	15	—	3	?	—

Number of Matriculated Students.
Number of Foreigners in brackets.

S. 1903 = 937 (29)	S. 1890 = 1006 (39)	S. 1830 = 416[1]
W. 1902/03 = 964 (26)	„ 1880 = 464 (18)	„ 1810 [1]
S. 1902 = 1004 (29)	„ 1870 = 344 [1]	„ 1800 [1]
W. 1901/02 = 1004 (34)	„ 1860 = 501 [1]	„ 1780 [1]
S. 1901 = 977 (30)	„ 1850 = 387 [1]	„ 1760 [1]
W. 1900/01 = 967 (31)	„ 1840 = 311 [1]	„ 1740 [1]
S. 1900 = 974 (23)		

Number of Students.

Semester	Protestant Theology	Law	Medicine	Philo-sophical Faculty Section I	Philo-sophical Faculty Section II	Pharma-ceutists	Den-tists
S. 1903 . .	155	316	201	64	131	70	—
W. 1902/03 .	145	301	221	65	137	85	—
S. 1900 . .	178	253	265	64	148	60	6
„ 1895 . .	314	234	332	58	132	57	27
„ 1890 . .	290	213	339	30	59	56	19
„ 1880 . .	206	47	94	56	32	29	—
„ 1870 . .	163	66	74	10	11	20	—
„ 1860 . .	312	77	64	29		19	—
„ 1850 . .	169	148	46	19		5	—

Number of others admitted to attend lectures: S. 1903: 21, W. 1902 to 1903: 25, S. 1902: 29, W. 1901/02: 13, S. 1901: 16, W. 1900/01: 24.

Number of women admitted as hearers: S. 1903: 9, W. 1902/03: 10, S. 1902: 8, W. 1901/02: 4, S. 1901: 4, W. 1900/01: 2.

[1]) No figures available.

Receipts of the University in Marks.

Financial Year	From private Property and Endowments	From private Earnings(Hospitals, etc.)	State-Allowance	Total
1902 . . .	60 735	252 553	912 758	1 226 046
1890 . . .	53 959	161 499	628 124	843 582
1878 . . .	59 525	62 597	552 915	675 037
1865 . . .	52 401	12 116	223 868	288 385
1850 . . .	42 878	31 777	133 655	179 710

Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Retiring Allowances, Pensions etc.	For Institutes and Collections	Bursaries, etc.	Administrative and other Expenses	Total
1902	270 075	40 146	791 799	14 066	36 343	1 152 426
1890	233 015	27 831	526 373	11 611	27 617	826 449
1878	211 354	24 866	378 629	10 917	26 352	652 118
1865	121 253	7 168	124 096	8 296	17 447	278 260
1850	75 483	15 163	58 505	6 939	10 462	166 452

Single and extraordinary expenses in the 25 years from 1878 to 1902:

For new buildings 3 807 193 M., other extraordinary expenses 272 275 M., total 4 079 468 M.

14. University of Leipzig (Saxony).

(Founded 1409.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S. 1903	66	7	33	56	4
S. 1878	62	9	53	43	1
S. 1850	43	—	33	26	2
S. 1820	33	—	20	25	4

Number of Matriculated Students.

Winter 1830	1262	Summer 1900	3269
„ 1840	935	Winter 1900/01	3586
„ 1850	902	Summer 1901	3517
„ 1860	874	Winter 1901/02	3748
„ 1870	1762	Summer 1902	3608
„ 1880	3326	Winter 1902/03	3764
„ 1890	3458	Summer 1903	3605

Number of Others admitted to attend Lectures.

S. 1903	520	W. 1901/02	399
W. 1902/03	534	S. 1901	207
S. 1902	439	W. 1900/01	329

Number of Students in

Semester	Protestant Theology	Law	Medicine	Philosophical Faculty	Dentistry
S. 1903 . .	262	1110	433	1764	36
W. 1902/03 .	260	1221	496	1754	33
W. 1900 . .	—	—	—	—	—
W. 1890 . .	359	981	667	980	32
W. 1899 . .	565	1090	913	859	37
W. 1880 . .	474	1022	465	1365	—
W. 1870 . .	407	519	237	605	—
W. 1860 . .	259	267	194	154	—
W. 1850 . .	181	410	210	101	—

Number of Women admitted.

S. 1903: 58 W. 1902/03: 67 S. 1902: 53 W. 1901/02: 73 S. 1901: 69.

Receipts.

Financial Year	From Private Property and Endowments M.	From Private Earnings (Hospitals etc.) M.	State Allowance M.	Total M.
1902	1 128 693	232 888	2 008 248	3 369 829
1890	1 080 895	— *)	1 192 073	2 272 968
1878	842 421	— *)	694 673	1 537 094
1865	559 598	— *)	280 411	840 009
1850	413 641	— *)	103 047	516 688

*) Could not be accurately ascertained, for want of sufficient data.

Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers M.	For Institutes and Collections M.	For Boarding Seminaries, Personal Grants, and Bursaries M.	Administrative and other Expenses M.
1902	643 271	1 399 243	609 125	676 551
1890	529 939	609 038 after deduction of private receipts	597 036	501 942
1878	462 009	367 718 item	438 785	205 306
1865	285 870	131 438 item	246 288	114 164
1850	154 183	39 073	168 512	99 830

Extraordinary Expenses in the last 25 Years (1878—1902): 14 169 174,81 M. for University Buildings, of which 11 337 706,57 M. were defrayed by the State Treasury, and 2 831 468,24 M. from University funds.

15. University of Tübingen (Württemberg).

(Founded 1477.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary-Professors	Extra-ordinary Professors	Privat-docents	Lecturers [1]) (Lectors)
S. 1903 . . .	54	6	23	15	—
„ 1878 . . .	48	—	15	8	—
„ 1850 . . .	36	—	12	21	—
„ 1820 . . .	35	—	6	2	—
„ 1750 . . .	20	—	—	—	—

[1]) The „Lectors" were always at the same time Privat-docents or Professors.

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them	Semester	Total
S. 1903 . .	1506	30	S. 1890 . .	1422	46	S. 1830 . .	852
W. 1902/3 .	1301	31	„ 1880 . .	1223	34	„ 1820 . .	709
S. 1902 . .	1496	43	„ 1870 . .	834	—	„ 1800 . .	242
W. 1901/2 .	1371	40	„ 1860 . .	713	—	„ 1780 . .	229
S. 1901 . .	1489	46	„ 1850 . .	800	—	„ 1760 . .	312
W. 1900/1 .	1350	39	„ 1840 . .	724	—		
S. 1900 . .	1544	40					

Number of Students in

Semester	Protestant Theology	Roman-Cath. Theology	Law	Medicine	Philo-sophical Faculty	Faculty of Natural Science	Faculty of Political Science
S. 1903 . .	290	191	379	207	120	149	170
W. 1902/3 .	230	195	300	181	90	137	168
S. 1900 . .	329	168	403	279	83	137	145
„ 1895 . .	298	167	279	215	53	73	156
„ 1890 . .	432	162	272	262	61	52	181
„ 1880 . .	298	147	285	175	116	106	96
„ 1870 . .	261	80	90	144	102	56	101
„ 1860 . .	207	132	66	146	70	—	81
„ 1850 . .	154	162	205	111	105	—	63

Number of others admitted te hear Lectures: S. 1903: 40, W. 1902/03: 40, S. 1902: 28, W. 1901/02: 37, S. 1901: 32, W. 1900/01: 26.

Number of Women admitted: S. 1903: 5, W. 1902/03: 3, S. 1902: 2, W. 1901/02: 2, S. 1901: 4, W. 1900/01: 1.

Total of Receipts of the University.

Financial Year	From private Property	From private Earnings (Hospitals, etc.)	State-Subsidy	Total
	M.	M.	M.	M.
1903	56 000	201 000	1 395 000	1 652 000
1890	58 000	77 000	926 000	1 061 000
1878	61 000	19 000	759 000	839 000
1865	60 000	15 000	404 000	479 000
1850	61 000	2 000	285 000	348 000

Total of Ordinary Expenditure.*)

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowane for House-rent of Teachers and Officials	For Institutes and Collections	For Boarding Seminaries, Aid and Bursaries	Administrative and other Expenses
	M.	M.	M.	M.	M.
1903 . . .	469 000	25 000	862 000	249 000	47 000
1890 . . .	372 000	—	421 000	229 000	39 000
1878 . . .	331 000	—	250 000	221 000	37 000
1865 . . .	174 000	—	136 000	140 000	29 000
1850 . . .	115 000	—	86 000	126 000	21 000

*) The expenditure for building and repairs has not been taken into account. It is defrayed from an item in the budget, destined for state buildings generally in so for as the expenses mentioned in the last column do not serve for this purpose.

Extraordinary Expenditure 1879—1903: 4 019 000 M.

16. University of Heidelberg (Baden).

(Founded 1386.)

Number of Teachers.

Semester	Ordinary Professors	Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
Sommer 1903	48	10	55	28	1
„ 1878	42	3	24	29	—
„ 1850	31	1	15	21	—
„ 1820	29	1	11	9	1
„ 1804	26	—	8	3	—

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total
Summer 1903 . . .	1671	197	Winter 1870/71 . .	370
Winter 1902/3 . .	1352	134	Summer 1870 . .	822
Summer 1902 . . .	1640	184	„ 1860 . . .	600
Winter 1901/2 . .	1271	138	Winter 1850/51 . .	557
Summer 1901 . . .	1464	158	Summer 1850 . . .	522
Winter 1900/01 . .	1280	143	„ 1840 . . .	658
Summer 1900 . . .	1583	174	Winter 1830/31 . .	887
„ 1890 . . .	1089	136	Summer 1830 . . .	820
„ 1880 . . .	809	122	„ 1820 . . .	491

Number of Students in

Semester	Theological Faculty	Faculty of Law	Medical Faculty	Philosophical Faculty	Faculty of Natural Science
S. 1903 . .	62	572	311	359	367
W. 1902/3 .	52	408	235	300	357
S. 1900 . .	52	564	301	269	367
S. 1895 . .	73	472	275	163	269
S. 1890 . .	91	327	350	321	
S. 1880 . .	24	405	122	258	
S. 1870 . .	52	460	110	200	
S. 1860 . .	105	264	105 (incl.Chemist.)	126	

Non-matriculated Persons entitled to hear Lectures.

a) Men:

S. 1903 151, W. 1902/3 140, S. 1902 129, W. 1901/2 141, S. 1901 121, W. 1900/1 121.

b) Women:

S. 1903 62, W. 1902/3 42, S. 1902 54, W. 1901/2 27, S. 1901 40, W. 1900/1 21.
Among those matriculated in Summer 1903 were 30 Women.

Yearly State dotation for Ordinary Expenditure.

1850 98.023 Fl. (= 168 040 M.), 1865 135 723 Fl. (= 232 668 M.), 1878 614 267 M., 1890 677 906 M., 1903 911 560 M.

Total of Receipts of the University.

Year	From Private Property M.	From Private Earnings (Fees, Proceeds of Hospitals) M.	State Dotation M.	Other Receipts M.	Total M.
1903	14 536	612 930	911 560	26 104	1 565 130
1890	10 060	393 854	677 906	16 380	1 098 200

Of the Total of Ordinary Expenditure are devoted to:

Year	Salaries M.	Allowance for House-rent M.	Institutes M.
1903	495 745	87 060	321 452
1890	359 810	42 406	254 769

The Extraordinary State Expenditure on the University for the 10 years from 1894 to 1903 incl. amounted together to 2 792 872 M.

17. University of Freiburg (Baden).

(Founded 1457.)

Number of Teachers.

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S. 1903	47	6	42	19	8
S. 1878	36	—	8	6	3
S. 1850	28	—	1	9	4

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	1962	128	S. 1900	1766	109
W. 1902/3	1271	107	S. 1890	1254	81
S. 1902	1861	121	S. 1880	528	35
W. 1901/2	1321	131	S. 1870	225	—
S. 1901	1766	140	S. 1860	302	—
W. 1900/1	1218	115	S. 1850	359	—

Number of Students according to Faculties.

Semester	Rom.-Cath. Theology	Law and Pol. Science	Medicine and Pharmacy	Philosophy („Arts“)
S. 1903	205	791	485	481
W. 1902/3	190	395	335	451
S. 1900	257	625	509	375
S. 1895	233	448	512	219
S. 1890	203	305	453	293
S. 1880	47	159	212	110
S. 1870	113	35	41	36
S. 1860	192	12	49	49
S. 1850	151	67	75	39

Numbers of Others admitted to hear Lectures.

Semester	Total	Women among them
S. 1903	117	22
W. 1902/3	191	17
S. 1902	88	18
W. 1901/2	99	17
S. 1901	81	12
W. 1900/1	77	—

Total of Receipts of the University.

Financial Year	From private Property and Endowments	From private Earnings (Fees)	State Subsidy	Total
1902	54 289	47 376	713 081	814 747
1890	65 401	15 077	436 970	517 448
1878	107 747	3 602	195 861	307 211
1865	68 766 fl.	3 398 fl.	35 800 fl.	107 964 fl.
1850	60 278 fl.	7 450 fl.	31 325 fl.	99 053 fl.

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Teachers and Officials	For Institutes and Collections	Administrative and other Expenses
1902	279 560	77 176	185 739	205 089
1890	192 360	39 760	129 454	107 197
1878	133 191	26 048	53 951	63 282
1865	71 514 fl.	—	15 585 fl.	10 223 fl.
1850	51 190 fl.	—	12 176 fl.	33 241 fl.

18. University of Giessen (Hesse).

(Founded 1607.)

Semester	Number of Students in						
	Prot. Theology	Rom.-Cath. Theology	Law	Medicine	Veterinary Science among these	the Philosophical Faculty	Architecture among these
S. 1903	74	—	198	335	169	485	—
W. 1902/3	62	—	203	351	175	402	—
S. 1902	67	—	206	333	176	410	—
W. 1901/2	63	—	197	328	146	409	—
S. 1901	60	—	206	292	134	358	—
W. 1900/1	61	—	189	284	126	313	—
S. 1900	68	—	190	264	110	333	—
S. 1895	64	—	157	137	28	210	—
S. 1890	106	—	96	167	40	221	—
S. 1885	105	—	65	139	33	230	—
S. 1880	33	—	78	79	12	184	—
W. 1874/5	8	—	74	73	7	185	3
S. 1870	27	—	65	76	13	123	21
S. 1860	56	—	42	102	7	156	8
S. 1850	72	33	120	97	8	116	6
S. 1840	69	50	87	86	12	112	8
S. 1831	100	20	139	100	6	113	—
S. 1823	88	—	149	53	—	21	—

Number of Others admitted to hear Lectures.

Summer 1903 . . . 52	Summer 1902 . . . 42	Summer 1901 . . . 31
Winter 1902/3 . . . 60	Winter 1902/1 . . . 49	Winter 1900/1 . . . 69

The Women admitted to the University are divided into those „received as temporary visitors", treated like ordinary non-matriculated students, and „hearers", the number of whom has been included in the last mentioned figures.

The Number of those „received as temporary visitors" was:

Winter 1902/3 . . . 4	Summer 1903 4
„ 1901/2 . . . 2	„ 1902 3
„ 1900/1 . . . 2	„ 1901 3

The number of women „hearers" was:

Summer 1903 13	Winter 1902/3 15
„ 1902 6	„ 1901/2 16
„ 1901 2	„ 1902/1 24

Receipts and Expenditure of the University of Giessen 1882—1903.

Financial Year	Ordinary Receipts	Ordinary Expenditure			Additional Ordinary Expenditure defrayed by State subsidy
		on Persons	on Material Objects	Together	
	M.	M.	M.	M.	M.
1882/83	156 736	238 592	240 349	478 941	322 205
1885/86	161 356	248 310	254 041	502 351	340 995
1890/91	222 224	259 482	427 578	687 060	464 836
1895/96	247 703	314 926	573 817	888 743	641 040
1900/01	316 656	387 991	737 227	1 125 218	808 561
1903/04	334 300	443 387	723 013	1 166 400	832 100

Amount of State Subsidy, 1828 58 100 M., 1864 140 900 M., 1879 270 000 M.

Ordinary and Extraordinary State Expenditure for larger new buildings and alterations, exclusive of costs of current maintenance:

from 1882/83 to 1903/4 : 5 962 529 M.

19. University of Jena (Saxe-Weimar and Saxon Duchies).

(Founded 1558.)

Semester	Ordinary Professors	Ordinary Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers and special Teachers
S.-S. 1902	40	10	38	20	2
S.-S. 1878	29	7	18	19	1
S.-S. 1850	26	10	20	11	1
W.-S.1832/3[1])	23	8	18	19	—

[1]) For the time before W.-S. 1832/33 the number of Teachers cannot be ascertained.

Number of Matriculated Students

Semester	Total	Foreigners among them[1])	Semester	Total	Foreigners among them
S.-S. 1903	842	80	S.-S. 1880	523	28
W.-S. 1902/3	709	68	S.-S. 1870	377	[2])
S.-S. 1902	768	73	S.-S. 1860	479	—
W.-S. 1901/2	707	56	S.-S. 1850	385	—
S.-S. 1901	780	60	S.-S. 1840	485	—
W.-S. 1900/1	690	53	S.-S. 1830	609	—
S.-S. 1900	768	71	S.-S. 1827	617	—
S.-S. 1890	658	59	W.-S. 1826/7	585[3])	—

[1]) S. e. outside German States.

[2]) Cannot be stated for earlier years.

[3]) For the time before W.-S. 1826/7, the number of Students in general cannot be ascertained.

Semester	Number of Students in			
	Protestant Theology	Law	Medicine	Philosophical Faculty
S.-S. 1903	50	193	136	463
W.-S. 1902/3	37	160	133	379
S.-S. 1900	44	217	190	317
S.-S. 1895	68	185	195	290
S.-S. 1890	115	104	230	209
S.-S. 1880	91	107	99	226
S.-S. 1870	90	77	79	131
S.-S. 1860	117	94	72	189
S.-S. 1850	97	101	72	115

Number of Others admitted to hear Lectures.

S.-S. 1903 68	S.-S. 1895 49	S.-S. 1870 25
W.-S. 1902/3 . . . 65	S.-S. 1890 31	S.-S. 1860 18
S.-S. 1900 69	S.-S. 1880 23	S.-S. 1850 10

Number of Women admitted.

S.-S. 1903 23	W.-S. 1902/3 . . . 18	S.-S. 1902 11

Total of Receipts of the University.

Financial Year	From Private Property and Endowments M.	From Private Earnings(Hospitals etc.) M.	State Allowance M.	Total M.
1903	201 120,86	359 904,49	414 603,01	975 628,36
1890	113 871,16	221 575,10	338 853,94	674 300,20
1878	64 365,77	90 505,27	284 099,39	438 970,43
1865	56 262,46	100 465,34	169 469,02	326 196,82
1850	45 147,46	41 898,97	109 895,44	196 941,87

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors M.	For Institutes and Collections M.	For Boarding Seminaries and Bursaries M.	Administrative and other Expenses M.
1903	391 858,25	472 650,81	32 259,63	78 859,67
1890	284 617,55	306 523,02	31 890,14	51 269,49
1878	201 923,08	161 222,10	30 238,99	45 586,26
1865	140 397,13	123 150,71	23 534,36	39 114,62
1850	107 881,89	46 663,52	19 138,32	23 258,14

Extraordinary Expenditure during the last 25 years: 2 129 695 M.

20. University of Rostock (Mecklenburg-Schwerin).

(Foundet 1419.)

Number of Teachers.

Semester	Ordinary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S. 1903 . .	37	11	13	2
S. 1878 . .	30	2	7	1
S. 1850 . .	23	4	12	2

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	520	14	W. 1900/1	512	14
W. 1902/3	547	19	S. 1900	495	10
S. 1902	551	17	W. 1890	371	9
W. 1901/2	552	18	W. 1880	200	3
S. 1901	549	18	W. 1870	122	1

Semester	Number of Students in			
	Protestant Theology	Law	Medicine	Philosophical Faculty
S. 1903	42	81	121	276
W. 1902/3	36	97	132	282
W. 1900	33	96	125	258
W. 1895	36	108	98	184
W. 1890	56	55	136	124
W. 1880	37	46	41	76
W. 1870	36	42	27	18
W. 1860	30	47	22	20
W. 1850	16	49	20	17

Female Students admitted.

Admitted as Hearers: S. 1903: 22. W. 1902/3: 23. S. 1902: 14. W. 1901/2: 27. S. 1901: 24. W. 1900/1: 24.

Total of Receipts of the University.

Financial Year	From Private Property and Endowments	From Private Earnings (Hospitals etc.)	State Allowance	Total
	M.	M.	M.	M.
1903	2 580	281 250	457 668	741 498

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent	Institutes and Collections	Boarding Seminaries, Personal Grants and Bursaries	Administrative and other Expenses
	M.	M.	M.	M.	M.
1903	233 432	—	160 000	7 000	11 257

21. University of Strassburg (Elsass-Lothringen).

(Founded 1567, renewed 1872.)

Numbers of Teachers.

	Ordinary Professors	Honorary Professors	Extraordinary Professors	Privat-docents	Lecturers (Lectors)
S.-S. 1903	63 (6 em.)	3	36 (1 em.)	33	3
S.-S. 1873	50	1	17	4	2

Number of Matriculated Students.

	Total	Foreigners among them		Total	Foreigners among them
S.-S. 1903	1121	66	W.-S. 1900/1	1132	81
W.-S. 1902/3	1193	82	S.-S. 1900	1145	92
S.-S. 1902	1132	79	S.-S. 1890	902	111
W.-S. 1901/2	1133	78	S.-S. 1880	781	108
S.-S. 1901	1118	79			

	Number of Students in				
	Protestant Theology	Law and Political Economy	Medicine	Philosophical Faculty	Faculty of Mathematics and Natural Science
S. S. 1903	73	318	237	216	277
W. S. 1902/3	70	343	259	241	280
W. S. 1900/1	83	333	296	196	224
W. S. 1895/6	101	295	312	118	178
W. S. 1890/1	121	203	329	127	167
W. S. 1885/6	85	173	210	148	206
W. S. 1880/1	62	184	161	181	157
W. S. 1875/6	50	197	191	143	96

Number of others admitted to attend Lectures:

S. S. 1903 . . . 70	S. S. 1902 . . . 76	S. S. 1901 52
W. S. 1902/3 . . 198	W. S. 1901/2 . . 123	W. S. 1901/1 . . . 66

Number of Female Students admitted:

S. S. 1903 30	S. S. 1902 29	S. S. 1901 20
W. S. 1902/3 . . . 66	W. S. 1901/2 . . . 33	W. S. 1900/1 . . . 16

Total of Ordinary Expenditure:

Financial Year	Salaries of Professors M.	For Institutes and Collections M.	For Personal Grants and Bursaries M.	Administrative and other Expenses M.
1903	523 200	393 430	27 440	173 080
1890	518 000	289 250	24 260	127 080
1876	512 600	240 810	19 425	99 865

Total of Receipts of the University:

Financial Year	Private Receipts	Imperial Allowance	State Allowance
1903	106 400	400 000	610 750
1890	64 090	400 000	494 500
1876	47 437	400 000	425 303

Total Number of Students according to Faculties in all the (22) Universities of the German Empire*).

Semester	Protestant Theology	Rom. Cath. Theology	Law	Medicine	Philosophical Faculty	Total
1830/31 . .	4 267	1 809	4 502	2 355	2 937	15 870
1835,36 . .	2 672	969	3 173	2 312	2 804	11 930
1840/41 . .	2 232	933	3 302	2 036	3 064	11 567
1845/46 . .	2 063	1 108	3 623	1 721	3 510	12 052
1850/51 . .	1 615	1 391	4 386	1 932	3 102	12 426
1855/56 . .	1 859	1 287	3 745	2 114	3 059	12 064
1860/61 . .	2 550	1 269	2 501	2 148	3 976	12 444
1865/66 . .	2 334	1 209	3 211	2 566	4 565	13 885
1870 (S.) .	2 087	899	3 178	3 140	4 853	14 157
1870/71 . .	1 827	884	2 593	2 600	4 350	12 256
1871/72 . .	1 953	901	3 475	3 606	5 292	15 227
1875/76 . .	1 519	710	4 537	3 333	6 525	16 642
1878/79 . .	1 769	681	5 105	3 535	7 950	19 040
1881/82 . .	2 786	706	5 297	4 779	9 295	22 863
1884/85 . .	4 108	975	4 834	7 011	9 297	26 225
1887/88 . .	4 581	1 123	5 742	8 109	8 521	28 076
1890/91 . .	4 190	1 232	6 670	8 381	7 886	28 359
1893/94 . .	3 175	1 341	7 033	7 620	7 857	27 026
1896/97 . .	2 676	1 487	7 890	7 689	9 734	29 467
1899/1900 .	2 352	1 546	9 259	7 433	12 244	32 834
1903 (S.) .	2 197	1 580	11 747	6 948	15 205	37 677

*) Including Braunsberg (Prussia).

4. Other Public Academical Institutions.

1. Roman Catholic Theological Institutions. — In Prussia there exists, under the name of „Lyceum Hosianum“ in Braunsberg, a Roman Catholic theological faculty, with the addition of a philosophical faculty, as a State institution, chiefly for the purpose of training the Roman Catholic clergy of the diocese of Ermland. The institution was established in its present form in 1818. The theological faculty has now four ordinary professors, one ordinary honorary professor, one extraordinary professor, and three privatdocents. To the philosophical faculty belong three ordinary professors, one extraordinary professor, and one lecturer for the Polish language. The professors have the rank and salary of University professors, but no

honoraria for lectures; nor have the faculties the right of conferring degrees. The number of students averages about 50, the yearly estimates of expenditure amount to 62 321 M.

Further there exist in Prussia seven Episcopal Seminaries (in Fulda, Paderborn, Pelplin, Posen, Trier, Limburg, Osnabrück), that have the character of Roman Catholic theological faculties, and in which the clergy of the respective dioceses can carry on their studies. Outside Prussia such „Clerical Seminaries" are found also in Mainz and Metz.

In Bavaria, besides the two Rom. Cath. theological faculties in Munich and Würzburg, there are five (formerly six) governmental and one episcopal Rom. Cath. theological Lyceum.

2. The „Kaiser-Wilhelms-Academy" in Berlin is devoted to the training of army-surgeons. The number of students admitted into the institution is 300. They receive free lodging and a monthly allowance; they attend the lectures in the University, like other medical students, but receive in addition repetitive instruction in the most important subjects.

3. The „Royal Academy" in Posen, opened in 1903, is not intended specially for the tuition of young people, but arranges lectures and exercises for a wider circle, besides scientific extension-courses for physicians, lawyers, officers, etc. For the winter semester of 1903/04, 1148 hearers were enrolled, with a total of 88 weekly hours of lecturing.

4. Scientific Institutions and Lectures in Hamburg. — The directors of the Hamburg scientific institutions (town library, botanical garden, observatory, government chemical laboratory, government physical laboratory, museum of natural history, museum of art and industry, collection of Hamburg antiquities, ethnological museum, botanical museum, and laboratory for analysing mercantile wares) are obliged to deliver regular lectures on scientific subjects. Since 1896 this obligation has also extended to the assistants in these institutions. Besides, means are granted to the chief school authorities for the appointment of scholars charged with the delivery of permanent lectures, or with conducting courses of various length. Thus, in the winter semester of 1902/03, 119 courses in all branches of science were conducted by 97 teachers, with a total number of 58 428 hearers. These lectures are delivered gratis, with a few exceptions (such as those of the extension-courses for physicians, and the courses in the pharmaceutic institution).

5. The Royal Institute of Experimental Therapeutics in Frankfort on the Main has in the first place the task of testing and developing the more recent therapeutic methods, but further also the obligatory control of the various kinds of curative serum (for diphtheria, tetanus, etc.). However, the institution can also, within certain limits, serve as a teaching establishment, by arranging courses for a restricted number of physicians. For this purpose negotiations have been entered into with the town of Frankfort.

6. The Academy of Practical Medicine in Cologne, in connection with the local hospitals, is devoted to the further scientific training of physicians, and especially to affording also young medical men an additional opportunity to complete, after the passing of their State examination, the one year's practice prescribed by the regulation of 1901. A similar institution will shortly be opened also in Düsseldorf and, in course of time, probably in other towns.

7. In this place may still be mentioned the learned Societies that have the character of State institutions, and are in closer connection with the Universities, at least in so far as the preponderating majority of their ordinary members are at the same time professors at the Universities of the towns in which they have their seats. Such are the Royal Academies of Science in Berlin and in Munich, and the Royal Societies of Science in Göttingen and in Leipzig.

8. Among private institutions and foundations the following may still be mentioned here.

In Berlin: the Association for Extended Instruction in Political Science, destined chiefly for the further training of officials and lawyers.

The Humboldt-Academy, a popular high-school for both sexes.

The Berlin University Teachers' Union for Popular Courses pursues aims similar to those of the „University Extension" in England. Also other Universities have arranged such courses.

The Lessing High School, founded in 1901 by the Lessing Society, and the Free High School, established in 1902, have likewise the aims of a people's University.

In Frankfort on the Main: the Senckenberg Foundation, established in 1763 by the physician doctor Senckenberg, owns an important pathologic-anatomical institute, a botanic garden, and a

scientific library. In winter, lectures and demonstrations are held for physicians, who also find constant opportunities for scientific work in the institute. Lectures on botany are delivered in winter and in summer.

The Senckenberg Society of Natural Science, and the Physical Union are learned societies which, at the same time, arrange for lectures and practical courses. Also the Free German Higher Collegiate Foundation (Freies Deutsches Hochstift) organises courses and single lectures.

In Dresden, the Gehe Foundation, established and richly endowed by F. S. Gehe, a merchant who died in 1882, extends its educational sphere of action chiefly to political economy and political science. Three teachers are permanently appointed, and besides every winter several single lectures are delivered by scholars from elsewhere.

II. SECONDARY SCHOOLS.

1. The Higher Educational Institutions in Germany.

The name of „Higher Educational Institutions“ is, in Prussia, bestowed on those schools that form the connecting link between the elementary schools on the one hand, and the universities and other higher colleges on the other. In the south German states these institutions, corresponding to the French „écoles secondaires“, are often called „middle-class schools“, whereas in Prussia by middle-class schools are understood higher elementary schools. There are three kinds of complete higher educational institutions, viz. Gymnasia, Realgymnasia, and Higher Realschulen, and to these correspond three kinds of incomplete institutions viz. Progymnasia, Realprogymnasia, and Realschulen. The complete institutions have nine classes, the Latin names of which — sexta, quinta, etc. up to prima, still recall the original existence of only six classes. But long before, the two upper classes of the Gymnasia had a two-years' course, and thus arose a lower and upper prima and a lower and upper secunda. Since the fifth decade of the last century a partition also of the tertia into a lower and an upper division was generally introduced, and thus the number of classes was increased to nine. In Württemberg it even amounts to ten. Besides in all the federal states these schools have preparatory classes.

The Gymnasia owe their origin to the old Latin schools, and have gradually developed themselves, since the time of the Reformation, so as to acquire their present shape. Down to most recent

times they were the only institutions that possessed the right of preparing for University studies. The teaching in them always laid the main stress on the two classical languages, yet, in the course of the nineteenth century, a position of their own was assigned to the so-called practical subjects.

In the second half of the eighteenth century there arose Realschulen or „Higher Burgherschools", as educational institutions originally not for the learned professions, but only for civil and commercial life. The classical languages were replaced in them by French and English, and special stress was laid on mathematics and natural science. The course was at first a much shorter one than that of the Gymnasium, but gradually institutions were developed with a larger number of classes, in which instruction was also given, to a moderate extent, in Latin, but not in Greek. These schools received in Prussia, in 1832, a more definite organisation, and at the same time a leaving or final examination was introduced into them, by which admission to certain higher studies was obtained.

These schools then received a new regulation in the year 1859, and the complete institutions with nine classes were designated „Realschulen of the first order". Beside these there were also Realschulen of the second order, some of which had no Latin in their curriculum. This system of Realschulen without Latin was then further developed, and in the year 1882 on schools of this kind, with nine classes, the designation was bestowed, in Prussia, of „Higher Realschulen". They sprung from the „industrial" schools, but are essentially distinguished from the latter by the fact that they are not technical professional schools, but institutions for general culture by means of instruction in languages, history, mathematics, and natural science.

In 1882, the Realschulen of the first order, with teaching of Latin, received generally, in Prussia, the name of Realgymnasia, a designation that had already before occurred in other federal states.

The incomplete institutions are without the three upper classes; for the rest their curriculum corresponds to that of the six lower classes of the complete institutions. The course is arranged in such a manner as to afford, to some extent, a well-rounded education.

The time-tables established in the year 1901, and now in force in Prussia, are the following:

I. Time-table of the Gymnasia.

The brackets indicate the admission of a temporary shifting of the number of hours within the several groups of subjects.

	VI	V	IV	L III	U III	L II	U II	L I	U I	Total
Religion	3	2	2	2	2	2	2	2	2	19
German, and Historical Tales	3 1 4	2 1 3	3	2	2	3	3	3	3	26
Latin	8	8	8	8	8	7	7	7	7	68
Greek	—	—	—	6	6	6	6	6	6	36
French	—	—	4	2	2	3	3	3	3	20
History	—	—	2	2	2	2	3	3	3	17
Geography	2	2	2	1	1	1				9
Arithmetic and Mathematics	4	4	4	3	3	4	4	4	4	34
Natural Science	2	2	2	2	2	2	2	2	2	18
Writing	2	2	—	—	—	—	—	—	—	4
Drawing	—	2	2	2	2	—	—	—	—	8
Total	25	25	29	30	30	30	30	30	30	259

II. Time-table of the Realgymnasia.

	VI	V	IV	L III	U III	L II	U II	L I	U I	Total
Religion	3	2	2	2	2	2	2	2	2	19
German, and Historical Tales	3 1 4	2 1 3	3	3	3	3	3	3	3	28
Latin	8	8	7	5	5	4	4	4	4	49
French	—	—	5	4	4	4	4	4	4	29
English	—	—	—	3	3	3	3	3	3	18
History	—	—	2	2	2	2	3	3	3	17
Geography	2	2	2	2	2	1				11
Arithmetic and Mathematics	4	4	4	5	5	5	5	5	5	42
Natural Science	2	2	2	2	2	4	5	5	5	29
Writing	2	2	—	—	—	—	—	—	—	4
Drawing	—	2	2	2	2	2	2	2	2	16
Total	25	25	29	30	30	30	31	31	31	262

To the Realschulen applies the Time-table of the Higher Realschulen (see III.) from VI to L. II inclusively. Their III corresponds to the L. III, their II to the U III, and their I to the L. II of the Higher Realschulen.

According to local requirements this time-table may, within certain limits, be modified, at the discretion of the supervising authorities, but without an increase in the number of hours. One of the possible forms of such is time-table shown in IV.

III. Time-table of the Higher Realschulen.

	VI	V	IV	LIII	UIII	LII	UII	LI	UI	Total
Religion	3	2	2	2	2	2	2	2	2	19
German, and Historical Tales	4 1 5	3 1 4	4	3	3	3	4	4	4	34
French	6	6	6	6	6	5	4	4	4	47
English	—	—	—	5	4	4	4	4	4	25
History	—	—	3	2	2	2	3	3	3	18
Geography	2	2	2	2	2	1	1	1	1	14
Arithmetic and Mathematics	5	5	6	6	5	5	5	5	5	47
Natural Science	2	2	2	2	4	6	6	6	6	36
Writing	2	2	2	—	—	—	—	—	—	6
Free-hand Drawing	—	2	2	2	2	2	2	2	2	16
Total	25	25	29	30	30	30	31	31	31	262

IV. Time-table of the Realschulen.

	VI	V	IV	III	II	I	Total
Religion	3	2	2	2	2	2	13
German, and Historical Tales	5 1 6	4 1 5	5	5	4	4	29
French	6	6	6	5	4	4	31
English	—	—	—	5	4	4	13
History	—	—	3	2	2	2	9
Geography	2	2	2	2	2	2	12
Arithmetic and Mathematics	4	4	5	5	5	5	28
Natural Science	2	2	2	2	5	5	18
Writing	2	2	2	—	—	—	6
Free-hand Drawing	—	2	2	2	2	2	10
Total	25	25	29	30	30	30	169

The leaving or final examination, which takes place when the pupil has passed through the upper prima, forms the completion of the course of instruction in each of the three kinds of higher-class schools.

The leaving examination is conducted by written papers and orally.

The written examination comprises, for all the schools, a German essay and the working of four mathematical questions, each dealing with a different branch; further:

a) for the Gymnasia: a translation from German into Latin, and another from Greek into German. Those pupils who take Hebrew, have to give in a German translation of an easier passage from the Old Testament with grammatical explanations;

b) for the Realgymnasia: a translation from Latin into German; according to the curriculum of each separate institution, a French or an English piece of work, and namely either an essay or a translation from German; and the treatment of a question in physics;

c) for the Higher Realschulen: a French and a English piece of work, and namely in one of these two languages an essay, in the other a translation from German; and the treatment of a question in physics or in chemistry.

The oral examination comprises, for all the schools, Christian religious teaching, history, mathematics, and further:

a) for the Gymnasia: Latin, Greek, and according to the curriculum of each separate institution, either French or English;

b) for the Realgymnasia: Latin, French, and English; and physics or chemistry;

c) for the Higher Realschulen: French and English, and physics or chemistry.

The requirements correspond with the program of instruction of the prima. So, e. g., for

Greek, in the Gymnasium: Reading: Homer's Iliad, Sophocles (also Euripides), and Plato; besides, Thucydides, Demosthenes, and other prose valuable on account of its subject-matter; also appropriate specimens of Greek lyric poetry.

Grammar, revisals and recapitulations of the whole subject, as found necessary.

Practice in unseen translation. Written translations from and into Greek.

Latin, in the Gymnasium: Reading 5 hours: Orations of Cicero (e. g. in Verrem IV or V, pro Plancio, pro Sestio, all with omissions, pro Murena), selections from Cicero's philosophical and rhetorical writings, also from his letters; Tacitus' Germania (at least till Chapt. 27), also Agricola or parts of the Dialogus, selections from the Annales (especially the sections referring to Germany) and from the Histories; selections from Horace, learning by heart of some of

the Odes. Occasionally, unseen translation. Private reading, especially also of writers read in previous classes, is to be encouraged and fostered, but is not required as obligatory.

Grammar 2 hours: revisals with special attention to the more important and difficult syntactical rules; recapitulating explanations of specially prominent stylistic peculiarities.

Translation into Latin, written class and home exercises.

Latin, in the Realgymnasium: Reading: easier Orations of Cicero (e. g. pro Sex. Roscio, in Catilinam, de imperio Cn. Pompei); select sections from Livy; passages of Virgil's Aeneid in a selection presenting complete pictures and allowing a view of the whole work; in U. I also easier Odes of Horace, and sections of Tacitus' Germania.

Grammar: wherever its treatment is required in the course of reading.

Every three or four weeks a written translation into German.

French, in the Gymnasium: Reading occupies a central position in the whole course. Study of sterling modern prose writings in different departments, if possible also of a classical tragedy and a modern comedy, but in any case of one of the greater of Molière's comedies.

Revisal and completion of the syntactical material, with oral and written exercises. Study of synonyms, style, and metre, as required, in connection with the reading.

Conversational exercises, not merely in connection with the reading, every hour; likewise revisal and extension of the stock of words and phrases previously acquired.

French, in the Realgymnasium: The reading, which, as in the Gymnasium, occupies a central position, is treated more extensively and intensively than in the latter, so that the pupils may acquire a wider notion of the special qualities of French literature in the last centuries, as well as some knowledge of the national culture and character.

Revisal and completion of the more important sections of the grammar. An outline of the laws of versification. The indispensable essentials of synonymy and of the laws of style. Extension of the vocabulary, including also technical and scientific terms.

Written and oral exercises. Guidance in essay-writing, from frequent brief reproduction of what has been read, up to a freer treatment of definite concrete subjects. Conversational exercises in

every hour, not merely in connection with the reading and incidents of daily life, but also on history, literature, and culture of the French nation.

French, in the Higher Realschule: In these schools the teaching aims at imparting a knowledge of the more important French writings of the last three centuries, insight into the grammatical system of the language, some knowledge of the most important sections of French literary and social history, and practice in speaking and writing.

English, in the Gymnasium: Generally, the teaching aims at sureness of pronunciation, based on a firm command of the forms, at a knowledge of the more essential syntactical rules, and at a sufficient vocabulary, all based on practice in the oral and written use of the language; also at understanding some of the easier writers.

The practical knowledge thus acquired is intended to serve as a basis for further study. The chief syntactical rules are to be treated inductively according to a brief compendium, everything else to be discussed in connection with the reading. At first a „reader" may be used, but at least during the last year an appropriate author is to be read.

English, in the Realgymnasium: Here the aim is the understanding of the most important writings since Shakspere, as well as the oral and written use of the language.

Reading occupies a central position during the whole course. It comprises sterling modern prose writings in various departments, also specimens of oratory, and appropriate poems, especially select Shaksperean dramas. Special attention is to be paid to the pupil acquiring an idea of the particular character of English literature since Shakspere in its chief forms. Study of synonyms, style, and metre, as required, in connection with the reading.

English, in the Higher Realschule: The aims of the teaching are here essentially the same as in the Realgymnasium. The larger amount of available time has to be devoted to a stricter grammatical training, to more comprehensive reading, and to more extended oral and written exercises; the latter may be, more so than in the Realgymnasium, of an imitative character, and moreover extend to concrete technical subjects, letters, etc. Special stress should be laid on pointing out the peculiarities of the English idiom, and on the acquirement of a more extensive, also technical, vocabulary.

The grammatical exercises comprise revisal, enlarging and deepening of previous grammatical practice, all in connection with the reading and the written work.

Arithmetic and Mathematics, in the Gymnasium:

Arithmetic: Arithmetical Progression of the first Order and Geometrical Progression, Compound Interest and Annuities. Elements of the theory of Combinations and its more immediate application to the theory of Probability. The Binomial Theorem for Positive Integral Exponents. Repetitive continuation of the arithmetical course (extension of the notion of numbers by algebraical operations, from the positive integral to the complex number). Equations, also of the higher degree, that may be reduced to quadratics.

Continuation of the exercises in Trigonometry and in solving questions in Planimetrical constructions.

Stereometry and its application to mathematical geography and astronomy. Instruction in perspective drawing of objects in space.

The theory of Coördinates. Elements of Conic Sections.

Revisal, recapitulation, and exercises in all branches of the subject taught in previous classes.

Arithmetic and Mathematics, in the Realgymnasium and Higher Realschule:

Arithmetic: theory of Combinations, and application to the theory of Probability. The Binomial Theorem for any Exponents, and the simplest Infinite Series. Repetitive continuation of the arithmetical course (extension of the notion of numbers by algebraical operations, from the positive integral to the complex number). Cubic equations. Elementary exercises in Maxima and Minima.

Spherical Trigonometry with application to mathematical geography and astronomy.

Geometry: elements of Descriptive Geometry. The most important problems in Conic Sections in elementary-synthetical treatment. Analytical Plane Geometry.

Revisal, recapitulation, and excercises in all branches of the subject taught in previous classes.

In the incomplete institutions, at the end of the sixth yearly course, a final examination is held, by which it is ascertained whether the pupil has reached the degree of maturity requisite for the Upper Secunda of the corresponding complete institution.

In Prussia, according to a rescript of the Emperor William II, of November the 26th 1900, the education imparted in the three kinds of institutions is considered as of equal value. Hence the former preference enjoyed by the leaving-certificate of the Gymnasium, which alone entitled the possessor to admission to University studies, has, at least in Prussia, been almost entirely abolished. Only for the study of theology the previous schooling of the Gymnasium is still exclusively required; to the study of medicine also the holders of leaving-certificates of a Realgymnasium are admitted; to the study of law and to the course for higher-class teachers, in Prussia, not only those, but also the pupils of the Higher Realschulen. The necessary knowledge of Latin they must acquire by private study. If they wish to study medicine, they must previously pass a special examination in Latin. This special provision for medicine is based on the fact that the regulation of the medical examination is, as is not the case with that for law students, a matter for the Empire, and not for the separate States. The other Federal States, however, have as yet not followed the example of Prussia with reference to the complete equalisation of the three kinds of institutions.

The higher educational institutions are partly State, partly communal establishments. Many of the latter, however, receive subsidies from the State treasury. The teachers have the character of direct or — at the communal institutions — of indirect state-officials. Hence, when once appointed, they can be discharged only by sentence of a disciplinary court, and have a claim to retiring pension and to provision for the family they leave behind.

The permanently appointed, academically trained teachers are called „Oberlehrer“ (senior masters), a number of them also have the title of „Professor“. Before their definite appointment they are employed as „Hülfslehrer“ (assistant masters). He who wishes to become senior master, must have studied at least three years in a University (in reality the time of study mostly lasts four years or longer), and have passed a State examination. According to the Prussian regulations for examination of 1898, he must acquire the qualification, for at least one subject, for the three higher classes, and the qualification for two other subjects for the middle classes (up to lower secunda inclusively). After passing the examination, the candidates must employ one year in actual teaching, in a higher-class school, as „seminarists“, and another year as „Probekandidaten“ (probationary assistants).

The salary of the senior masters starts, in Prussia, at 2700 M., and rises, by seven three-yearly stages, to 6000 M. In addition, they receive an allowance for house-rent, which, in the larger towns, amounts to 660 M., and in Berlin to 900 M. The salary of the rectors of institutions rises to 7200 M. Besides they mostly have a free house or a corresponding compensation for rent.

2. Statistical Summaries.

I. Prussia.

1. Number of Secondary Educational Institutions.

Year	Gymnasia	Pro-Gymnasia	Real-gymnasia (Real- and Higher Burgher-schools, Realschulen of the 1st Order)	Real-Pro-Gymnasia (Higher Burgher-schools 1859 to 1882)	Higher Real-schulen	Real-schulen (Real-schools of the 2nd Order, Higher Burgher-schools)	Total
1818	91	.	.	.	.	.	91
1820	96	.	.	.	.	.	96
1825	104	.	.	.	.	.	104
1830	109	.	.	.	.	.	109
1835	112	24	12	.	.	.	148
1840	114	23	37	.	.	.	174
1845	116	24	41	.	.	.	181
1850	118	25	50	.	.	.	193
1855	124	28	54	.	.	.	206
1860	139	31	32	3	.	26	231
1865	154	25	59	36	.	6	280

Year	Gymnasia	Pro-Gymnasia	Real-gymnasia (Real- and Higher Burgher-schools, Realschulen of the 1th Order)	Real-Pro-Gymnasia (Higher Burgher-schools 1859 to 1882)	Higher Real-schulen	Real-schulen (Real-schools of the 2nd Order, Higher Burgher-schools)	Total
After the Annexation of the new Provinces:							
1870	204	35	75	73	.	13	400
1875	228	33	80	91	.	17	449
1880	249	36	84	99	3	19	490
1885	259	38	89	86	14	36	522
1890	268	47	87	86	9	53	550
1895	273	45	86	74	24	73	575
1900	295	59	76	21	37	138	626
1902	315	45	87	19	42	144	652
Febr., 12, 1903	315	43	87	20	42	145	652

2. Number of Teachers and Pupils at the Gymnasia.

Year	Number of Gymnasia	Number of Teachers					
		Rectors and Senior Masters	Science Assistant-Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers
1.	2.	3.	4.	5.	6.	7.	8.
1832 (Summer)	110			1263			1263
1853 (Winter)	121			1702			1702
1860	139	1325	222	67	99	250	1963
1865	151	1529	253	108	105	283	2278
1870	203	2175	294	173	124	381	3147
1875	230	2517	276	179	145	409	3526
1880	250	2955	331	203	167	446	4102
1885	259	3027	539	371	177	573	4687
1890	269	3327	673	104	178	575	4857
1895	273	3402	467	134	189	578	4770
1900	295	3913	243	108	224	652	5140
1901	303	4070	201	124	232	706	5333
1902	315	4296	178	135	264	734	5607

Year	Number of Pupils in Class								
	U I	L I	U II	L II	U III	L III	IV	V	VI
1.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1832 (Summer)	2547		3301		4268		4 849	4 692	3 867
1853 (Winter)	3943		5466		6787		6 139	5 842	4 859
1860	4323		6215		8387		6 846	6 877	6 260
1865	4803		7141		10 198		7 762	8 171	7 790
1870	5615		9651		13 931		9 821	10 488	9 951
1875	6627		11 051		15 597		10 476	10 984	11 216
1880	8046		13 064		17 797		11 787	12 216	11 646
1885	3673	5025	6030	8 835	9 313	10 531	11 603	12 142	11 717
1890	3754	5045	6103	8 908	9 280	10 370	11 079	11 221	10 945
1895	4613	5503	6677	9 220	9 466	10 479	10 554	10 025	10 398
1900	5140	6011	7178	10 030	10 498	11 939	12 616	12 292	12 662
1901	5184	6061	7476	10 100	10 993	12 125	13 103	12 639	12 742
1902	5256	6213	7788	10 603	11 502	12 676	13 503	12 724	13 390
12. II. 1903	4998	5965	7450	10 255	11 263	12 352	13 253	12 615	13 209

Year	Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Protestant	Roman Catholic	Jewish	Natives from Locality of School	Natives from elsewhere	Foreigners
1.	18.	19.	20.	21.	22.	23.	24.
1832 (Summer)	23 524	.	.	.	.	.	.
1853 (Winter)	33 036	.	.	.	.	.	.
1860	38 908	25 333	11 304	2271	21 616	16 891	401
1865	45 865	29 799	12 503	3563	26 269	19 068	528
1870	59 457	40 371	14 003	5076	34 756	23 899	802
1875	65 951	45 030	14 562	6350	39 684	25 115	1152
1880	74 556	52 059	14 410	8073	46 556	26 781	1219
1885	78 869	54 727	16 392	7634	50 580	26 930	1359
1890	76 705	51 599	18 103	6852	50 196	25 117	1392
1895	76 935	49 619	20 793	6397	50 151	25 525	1259
1900	88 366	55 094	26 232	6919	57 706	29 229	1431
1901	90 423	56 074	27 221	7002	59 109	29 886	1428
1902	93 655	57 086	29 535	6918	60 884	31 289	1482
12. II. 1903	91 360	55 763	28 659	6866	58 393	31 418	1549

3. Number of Teachers and Pupils at the Realgymnasia.

Year	Number of Realgymnasia	Number of Teachers						Number of Pupils in Class									Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Rectors and Senior Masters	Science Assistant Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers	U I	L I	U II	L II	U III	L III	IV	V	VI		Protestant	Roman Catholic	Jewish	Natives: from Locality of School	Natives: from elsewhere	Foreigners
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1860	33	310	73	12	36	70	501	449		1535		2324		2365	2393	2350	11 416	8 902	1414	1100	8 482	2772	162
1865	57	571	85	33	47	121	857	584		2223		4127		3756	3629	3473	17 792	14 039	2138	1615	12 307	5224	261
1870	76	794	109	51	51	149	1154	1033		3487		5525		4539	4329	4051	22 964	18 289	2742	1914	15 519	6950	495
1875	80	914	106	63	54	159	1296	1446		4000		7120		4996	4799	4411	26 772	21 244	3143	2369	17 986	8124	662
1880	85	982	110	69	66	186	1413	1917		4358		6981		4670	4538	4220	26 684	21 538	2962	2166	18 985	7032	667
1885	89	967	154	147	71	235	1574	572	831	1211	2684	3009	3653	3981	4175	4276	24 392	19 136	2936	2201	18 493	5430	469
1890	87	1021	226	34	71	242	1594	585	760	1218	2997	3312	4246	4210	4234	4207	25 769	20 095	3198	2381	19 734	5459	576
1895	86	962	153	39	61	214	1429	843	1082	1682	3153	3320	3790	3695	3577	3699	24 841	19 304	3291	2155	18 616	5751	474
1900	76	842	49	20	43	175	1129	781	981	1467	2516	2826	3251	3068	3001	3365	21 256	16 884	2584	1729	16 212	4644	400
1901	80	905	42	20	48	197	1212	782	955	1446	2597	2976	3603	3303	3261	3558	22 481	17 810	2803	1805	17 092	4978	411
1902	87	963	29	21	50	228	1291	801	1000	1551	2735	3189	3990	3599	3484	3848	24 197	19 051	3136	1939	18 198	5516	483
12. II. 1903	87	.	.	.	.	.	.	759	926	1444	2621	3083	3866	4286	4197	4546	25 728	20 275	3424	1975	19 430	5885	413

4. Number of Teachers and Pupils at the Higher Realschulen.

Year	Number of Higher Realschulen	Number of Teachers						Number of Pupils in Class									Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Rectors and Senior Masters	Science Assistant Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers	U I	L I	U II	L II	U III	L III	IV	V	VI		Protestant	Roman Catholic	Jewish	Natives: from Locality of School	Natives: from elsewhere	Foreigners
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1880	3	52	6	5	1	15	79	58		250		449		338	273	295	1 663	1 556	38	63	1 305	334	24
1885	14	165	38	23	18	62	306	39	58	112	482	592	706	908	962	1020	4 879	3 801	760	303	3 798	991	90
1890	9	131	43	4	10	38	226	22	49	101	416	506	640	799	834	762	4 129	3 257	542	310	3 292	762	75
1895	24	365	78	16	28	99	586	167	232	460	1118	1239	1580	1838	1872	1924	10 430	7 738	1990	649	8 002	2155	273
1900	37	561	29	11	39	148	788	348	458	849	1564	1777	2112	2477	2571	2811	14 967	11 485	2558	829	11 225	3395	347
1901	40	594	28	11	45	158	836	398	514	970	1716	1917	2274	2591	2718	3001	16 099	12 291	2857	859	12 048	3666	385
1902	42	637	34	12	47	183	913	426	625	1128	1768	2016	2450	2731	2974	3308	17 426	13 267	3105	951	12 898	4042	486
12. II 1903	42	.	.	.	.	.	.	405	599	1022	1697	1959	2383	2573	2805	3072	16 515	12 656	2888	927	12 189	3995	331

5. Number of Teachers and Pupils at the Progymnasia.

Year	Number of Progymnasia	Number of Teachers						Number of Pupils in Class							Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Rectors and Senior Masters	Science Assistant Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers	U II	L II	U III	L III	IV	V	VI		Protestant	Roman Catholic	Jewish	Natives		Foreigners
																			from Locality of School	from elsewhere	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14	15	16.	17.	18.	19.	20.	21.	22.
1865	25	108	27	—	25	36	196	259		480		513	611	617	2480	991	1348	141	1325	1126	29
1870	32	164	40	—	32	38	274	387		749		720	857	937	3650	1519	1839	292	2099	1516	35
1875	34	167	36	—	27	33	263	393		737		711	838	945	3624	1685	1550	389	2171	1412	41
1880	35	193	27	—	28	32	280	557		899		827	840	872	3995	2040	1595	360	2199	1713	83
1885	39	214	35	10	22	46	327	181	477	493	602	722	849	948	4272	2404	1522	340	2510	1715	47
1890	46	270	52	2	38	57	419	229	610	627	810	865	1063	980	5184	2526	2255	395	3087	2058	39
1895	45	273	26	1	40	59	399	—	541	606	719	909	907	926	4608	2069	2203	333	2769	1790	49
1900	59	352	27	1	52	98	530	—	703	923	1028	1286	1380	1652	6972	3291	3325	350	4244	2708	20
1901	52	306	17	3	46	80	452	—	660	759	937	1119	1281	1403	6159	2883	2913	361	3872	2271	16
1902	45	257	15	7	33	79	391	—	506	584	838	993	1087	1202	5210	2752	2161	296	3244	1951	15
12. II. 1903	43	.	.	.	.	.	.	—	495	574	754	883	952	1048	4706	2638	1774	293	2731	1958	17

6. Number of Teachers and Pupils at the Realprogymnasia.

Year	Number of Realprogymnasia	Number of Teachers						Number of Pupils in Class							Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Rectors and Senior Masters	Science Assistant Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers	U II	L II	U III	L III	IV	V	VI		Protestant	Roman Catholic	Jewish	Natives		Foreigners
																			from Locality of School	from elsewhere	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1860	3	17	3	1	2	2	25	35		68		79	45	49	276	249	18	9	199	64	13
1865	24	141	19	—	11	29	200	11	252	421		614	775	916	2 989	2 207	593	189	2135	807	47
1870	57	344	51	—	25	66	486	70	865	1507		1740	1995	2073	8 250	6 335	1392	516	5962	2190	98
1875	92	502	83	1	49	106	741	180	1357	2583		2753	2942	3267	13 082	10 354	2030	695	9169	3613	300
1880	100	553	70	—	54	112	789	149	1476	2791		2735	2978	3075	13 204	9 972	2465	763	9432	3538	234
1885	86	427	46	30	39	126	668	218	930	953	1428	1569	1857	1912	8 867	6 935	1474	432	5796	2895	176
1890	86	409	53	2	33	123	620	196	961	1109	1527	1577	1665	1704	8 739	6 953	1253	498	5791	2726	222
1895	72	313	31	2	30	97	473	—	834	850	1133	1230	1264	1282	6 593	5 436	849	284	4409	2118	66
1900	21	91	7	2	4	31	135	—	267	266	310	352	331	324	1 850	1 404	359	77	1268	554	28
1901	20	82	7	2	1	28	120	—	214	251	298	325	337	385	1 810	1 316	410	76	1242	551	17
1902	19	70	1	1	1	23	96	—	200	228	292	268	290	317	1 595	1 266	254	65	1080	496	19
12. II. 1903	20	.	.	.	.	.	.	—	175	213	320	278	279	311	1 576	1 310	199	62	1038	518	20

7. Number of Teachers and Pupils at the Realschulen.

Year	Number of Realschulen	Number of Teachers						Number of Pupils in Class						Number of Pupils in general	Confession of the Pupils			Home of the Pupils		
		Rectors and Senior Masters	Science Assistant Masters	Probationary Teachers	Local Clergymen	Technical and other Teachers	Total of Teachers	I (L II)	II (U III)	III (L III)	IV	V	VI		Protestant	Roman Catholic	Jewish	Natives		Foreigners
																		from Locality of School	from elsewhere	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1860	26	194	39	6	17	50	306	231	707	1182	1286	1345	1184	5 935	5 129	413	393	3852	1964	119
1865	20	77	12	4	6	16	115	70	208	383	560	423	425	2 069	1 769	107	193	1626	420	23
1870	14	130	20	9	5	33	197	167	358	558	743	864	833	3 523	2 648	216	659	2753	657	113
1875	17	178	41	12	4	48	283	298	648	882	1101	1099	1161	5 189	3 975	345	867	3985	974	230
1880	19	192	36	9	11	52	300	430	543	863	1029	1115	1113	5 093	3 898	387	808	4110	810	173
1885	38	310	56	22	30	146	564	750	972	1487	1922	2446	2598	10 175	6 722	2089	1324	8321	1662	192
1890	55	486	136	5	37	220	884	1339	1723	2641	3596	3893	4168	17 360	12 609	2934	1747	14194	2705	461
1895	73	566	112	8	35	239	960	1656	2367	3229	4263	4133	4155	19 803	15 616	2364	1747	15868	3416	519
1900	139	938	62	13	76	380	1469	2734	3487	4435	6079	6422	6905	30 062	24 317	3475	2158	22997	6477	588
1901	141	992	53	15	79	405	1544	2854	3597	4837	6355	7011	7439	32 093	25 962	3860	2142	24436	7063	594
1902	144	1030	44	14	74	423	1585	2959	3938	5145	7028	7262	7874	34 206	27 923	3993	2145	26070	7556	580
12. II. 1903	145	—	—	—	—	—	—	2806	3810	4961	5985	6327	6775	30 664	25 106	3558	1907	23161	6961	542

8. Expenditure for the Secondary Schools in Prussia 1849 to 1902.

Year	Total	Salaries and Remunerations	The Expenses are covered			
			by State Funds Allowance	by Local means	by Endowments and Foundations	by private means of the Institutions
	M.	M.	M.	M.	M.	M.
1849	2 331 328	1 694 660	843 587	—	1 487 741	
1855	3 191 733	2 121 936	921 926	—	2 269 807	
1860	3 446 569	2 613 957	710 039	—	2 736 530	
1865	4 013 684	3 118 492	784 735	—	3 228 949	
1870	6 730 399	5 257 417	1 429 253	—	5 301 146	
1875	19 415 750	16 424 477	3 767 805	—	15 647 945	
1880	23 362 536	19 100 112	4 450 756	—	6 154 313	12 757 467
1885	26 261 612	21 906 479	4 433 964	6 206 856	1 488 010	14 132 782
1890	29 253 710	24 358 893	5 142 083	7 200 547	1 320 468	15 590 612
1895	37 412 519	31 131 682	7 557 604	10 232 722	1 545 880	18 076 313
1900	46 377 294	39 148 402	11 763 557	13 188 118	1 449 820	19 975 799
1902	50 249 121	42 580 653	12 516 481	14 960 714	1 451 626	21 320 300

II. Secondary Schools in the Kingdom of Bavaria.

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers
		in general	Confessions				
			Prot.	Rom. Cath.	Jewish	others	
I. In the Year 1884/85							
Humanistic Gymnasia	33	14 069	4206	9 183	643	37	820
Latin Schools public	44	3 089	1572	1 338	176	3	467
Latin Schools private	10						
Realgymnasia	4	426	220	156	46	4	60
Realschulen public	46	8 135	3346	3 746	1011	32	775
Realschulen private	10						
Total	147	25 719	9344	14 423	1876	76	2122

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers
		in general	Confessions				
			Prot.	Rom. Cath.	Jewish	others	
II. In the Year 1894/95							
Humanistic Gymnasia	37	16 488	4375	11 394	661	58	983
Latin Schools public	41	3 745	1648	1 873	221	3	526
Latin Schools private	7						
Realgymnasia	4	633	345	219	66	3	65
Realschulen public	51	13 523	5708	6 722	1031	62	942
Realschulen private	7						
Total	**147**	**34 389**	**12076**	**20 208**	**1979**	**126**	**2516**
III. In the Year 1898/99							
Humanistic Gymnasia	42	16 045	4234	11 033	724	54	1081
Progymnasia and Latin Schools public	38	3 272	1476	1 635	158	3	483
Progymnasia and Latin Schools private	6						
Realgymnasia	4	789	375	311	89	14	78
Realschulen public	51	12 283	5307	6 228	683	65	971
Realschulen private	4						
Total	**145**	**32 389**	**11392**	**19 207**	**1654**	**136**	**2613**
IV. In the Year 1902/03							
Humanistic Gymnasia	43	17 100	.	.	.	.	1120
Progymnasia and Latin Schools public	41	3 274	.	.	.	.	472
Progymnasia and Latin Schools private	6	.	.	.	.	.	.
Realgymnasia	4	1 113	.	.	.	.	84
Realschulen public	52	13 675	.	.	.	.	935
Realschulen private	8	.	.	.	.	.	.
Total	**154**	**35 162**	.	.	.	.	**2611**
		without the Pupils and Teachers of the Private Schools					

	Humanistic Gymnasia	Real-Gymnasia
	M.	M.
I. In the Year 1884/85: State Expenditure	1 801 850	181 143
Amount of this for Salaries and Remunerations of Officials	1 228 264	141 498
II. In the Year 1889/90: State Expenditure	2 138 046	195 066
Amount of this for Salaries and Remunerations of Officials	1 721 995	160 958
III. In the Year 1894/95: State Expenditure	2 812 513	223 928
Amount of this for Salaries and Remunerations of Officials	2 081 238	181 396
IV. In the Year 1898/99: State Expenditure	3 173 453	225 539
Amount of this for Salaries and Remunerations of Officials	2 441 106	179 179
V. In the Year 1902/03: State Expenditure	3 647 284	286 471
Amount of this for Salaries and Remunerations of Officials	2 709 122	211 197

III. Secondary Schools in the Kingdom of Saxony.

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers	Total Expenditure in Marks	Expenditure for Teachers' Salaries in Marks	State Contribution to the Total Expenditure in Marks
		in general	Confessions							
			Protestant	Roman Catholic	Jewish	others				
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
I. In the Year 1884/85										
Gymnasia	16	5 481	5 224	85	158	14	392	1 749 713	1 210 574	572 711
Realgymnasia	11	2 788	2 702	43	36	7	246	713 016	556 952	161 134
Realschulen	20	3 057	2 952	48	51	6	241	723 753	519 459	218 643
Total	**47**	**11 326**	**10 878**	**176**	**245**	**27**	**879**	**3 186 482**	**2 286 985**	**952 488**
II. In the Year 1899/1900										
Gymnasia	17	5 897	5 616	146	127	8	436	2 591 497	1 948 075	1 167 982
Realgymnasia	10	3 778	3 630	77	63	8	270	1 235 011	946 127	353 268
Realschulen	28	8 329	8 025	124	143	37	472	1 980 415	1 363 901	269 100
Total	**55**	**18 004**	**17 271**	**347**	**333**	**53**	**1 178**	**5 806 923**	**4 258 103**	**1 790 350**
III. In the Year 1902/03										
Gymnasia	18	6 497	.	.	.	.	439	.	.	1 965 278
Realgymnasia	11	4 889	.	.	.	.	301	.	.	
Realschulen	29	8 579	.	.	.	.	470	.	.	
Total	**58**	**19 965**	.	.	.	.	**1 210**	.	.	**1 965 278**

IV. Secondary Schools in the Kingdom of Württemberg.

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers' Situations
		in general	Confessions				
			Prot.	Rom. Cath.	Jewish	others	
I. In the Year 1885/86							
Lower Evangelical Seminaries	4	194					
Gymnasia	10	3487					218
Lyceums	5	981					
Realgymnasia	2	1194	6325	2005	402	18	73
Reallyceums	3	521					
(Lower) Latin Schools	68	2373					127
Total of these Colleges	**92**	**8750**	**6325**	**2005**	**402**	**18**	**418**
Higher Realschulen	3	1763					
Realschulen with upper Courses	10	2415	6043	1074	340	11	281
Realschulen with fewer than 6 Courses	62	3290					
Total of these Schools	**75**	**7468**	**6043**	**1074**	**340**	**11**	**281**
Total of all Higher Schools	**167**	**16 218**	**12 368**	**3079**	**742**	**29**	**699**
II. In the Year 1895/96							
Lower Evangelical Seminaries	4	183					
Gymnasia	12	3683					239
Lyceums	3	492					
Realgymnasia	2	1041	5914	2182	269	11	
Reallyceums	4	745					82
(Lower) Latin Schools	66	2232					126
Total of these Colleges	**91**	**8376**	**5914**	**2182**	**269**	**11**	**447**
Higher Realschulen	5	2976					
Realschulen with upper Courses	9	2072	7547	1281	318	15	328
Realschulen with fewer than 6 Courses	67	4113					
Total of these Schools	**81**	**9161**	**7547**	**1281**	**318**	**15**	**328**
Total of all Higher Schools	**172**	**17 537**	**13 461**	**3463**	**587**	**26**	**775**
III. In the Year 1902/03							
Lower Evangelical Seminaries	4	160					12
Gymnasia	14	4 144					232
Lyceums	1	126					6
Realgymnasia	3	1 605	6 026	2777	271	13	61
Reallyceums	5	780					37
(Lower) Latin Schools	64	2 272					128
Total of these Colleges	**91**	**9 087**	**6 026**	**2777**	**271**	**13**	**476**
Higher Realschulen	8	4 527					170
Realschulen with upper Courses	14	3 234	9 620	2136	299	20	117
Realschulen with fewer than 6 Courses	66	4 314					135
Total of these Schools	**88**	**12 075**	**9 620**	**2136**	**299**	**20**	**422**
Total of all Higher Schools	**179**	**21 162**	**15 646**	**4913**	**570**	**33**	**898**

State Contributions in the Year 1902/03.

a. for Salaries of Teachers in the Humanistic schools	628 434 M.
b. for other Expenditure in the Humanistic Schools	45 965 „
c. to Local Authorities for Expenditure in the Realschulen	311 950 „
d. for Old Age Pensions and Rise of Salaries of Teachers in all the different Kinds of Schools	792 746 „
Total . . .	**1 779 095** M.

V. Secondary Schools in the Grand Duchy of Baden.

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers	State Contributions to the Expenses in Marks
		in general	Confessions					
			Protestant	Rom. Cath.	Jewish	others		
I. In the Year 1885/86								
Gymnasia	14	5 050	2172	2363	498	17	284	318 200
Progymnasia	2	253	114	133	6	—	26	
Realgymnasia . . .	2	1 012	586	300	120	6	50	190 068
Realprogymnasia . .	2	203	19	110	74	—	12	
Higher Realschulen .	—	—	—	—	—	—	—	
Realschulen	5	1 846	928	768	146	4	94	
Higher Bürgerschulen	23	2 062	1044	811	206	1	185	
Total	**48**	**10 426**	**4863**	**4485**	**1050**	**28**	**651**	**508 268**
II. In the Year 1901/02								
Gymnasia	14	4 714	2020	2390	293	11	329	660 010
Progymnasia	2	245	125	117	3	—	25	
Realgymnasia . . .	4	1 429	729	551	145	4	89	638 870
Realprogymnasia . .	4	302	221	58	23	—	29	
Higher Realschulen .	7	3 897	2028	1616	211	42	225	
Realschulen	17	3 194	1540	1353	298	3	212	
Higher Bürgerschulen	10	943	338	514	91	—	97	
Total	**58**	[1]) **14 724**	**7001**	**6599**	**1064**	**60**	**1006**	**1 298 880**

[1]) Including 377 female Pupils.

VI. Secondary Schools in the Grand Duchy of Hesse.

Kinds of Schools	Number of Schools	Number of Pupils	Number of Teachers	Total Expenditure in Marks	Expenditure for Salaries and Remunerations of Teachers in Marks	State Contribution to the Total Expenditure in Marks
I. In the Year 1885/86						
Gymnasia	7	3376	159	317 503	291 730	128 260
Realgymnasia	4	2823	122			
Higher Realschulen	—	—	—	465 170	420 730	142 725
Progymnasia	2	1647	98			
Realschulen	13					
Total	**26**	**7846**	**379**	**782 673**	**712 460**	**270 985**
II. In the Year 1902/03						
Gymnasia	12	2876	242			
Realgymnasia	3	1142	115			
Higher Realschulen	4	2015	27	1 977 979	1 840 111	859 220
Progymnasia	3	201	140			
Realschulen	12	2229				
Total	**34**	**8463**	**524**	**1 977 979**	**1 840 111**	**859 220**

VII. Secondary Schools in the Free and Hanseatic City of Hamburg.

Kinds of Schools	Number of Schools	Number of Pupils					Number of Teachers
		in general	Confessions				
			Protestant	Roman Catholic	Jewish	others	
I. In the Year 1885/86							
Gymnasia	2	940	.	.	.	.	58
Realgymnasia	1	851	.	.	.	.	38
Realschule (Hansaschule)	1	146	.	.	.	.	10
Higher Bürgerschule	1	650	.	.	.	.	24
Total of State Schools	**5**	**2587**	.	.	.	.	**130**
Endowed and „authorised" Private Schools: a) Realschulen, b) Higher Bürgerschulen	10	4400	.	.	.	.	184
Total of State and Private Schools	**15**	**6987**	.	.	.	.	**314**
II. In the Year 1902							
Gymnasia	2	967	800	18	145	4	58
Realgymnasia	1	913	835	26	48	4	43
Higher Realschule	1	799	700	10	84	5	38
Progymnasia	2	3968	3795	63	100	10	149
Realschulen	7						
Total of State Schools	**13**	**6647**	**6130**	**117**	**377**	**23**	**288**
Endowed and „authorised" Realschulen	6	2467	1623	58	780	6	115
Total of State and Private Schools	**19**	**9114**	**7753**	**175**	**1157**	**29**	**403**

I. In the Year 1885/86:

Total Expenditure for State Schools (inclus. of 61 665 M. for Retiring Allowances) . . . . . 626 865 M.
Receipts from School Fees . . . . . 378 210 „

II. In the Year 1902:

Total Expenditure for State Schools (inclus. of 84 800 M. for Retiring Allowances) . . . . . 1 716 246 M.
Receipts from School Fees . . . . . 912 679 „

VIII. Secondary Schools in the „Reichsland" of Elsass-Lothringen.

Kinds of Schools	Number of Schools	Number of Pupils in general	Confessions: Protestant	Confessions: Roman Catholic	Confessions: Jewish	Number of Teachers
1.	2.	3.	4.	5.	6.	7.
I. In the Year 1881:						
Gymnasia	11	3899	2261	1212	426	196
Realgymnasia	4	341	82	224	35	23
Progymnasia	2	80	1	70	9	3
Realprogymnasia	6	820	338	401	81	56
Realschulen	11	1690	900	570	220	101
		1963 Pupils of „Vorschulen"[1]				
Total . .	**34**	**8793**	**3582**	**2477**	**771**	**379**
II. In the Year 1899:						
Gymnasia	17	5348	2408	2481	459	340
Higher Realschulen	3	1577	744	654	179	81
Progymnasia	3	342	102	209	31	26
Realschulen	10	1108	585	404	119	68[2]
		67 Pupils of „Vorschulen"[1]				
Total . .	**33**	**8442**	**3839**	**3748**	**788**	**519**
III. In the Year 1902/03:						
Gymnasia	17	5436	.	.	.	382
Higher Realschulen	3	1624	.	.	.	90
Progymnasia	3	324	.	.	.	29
Realschulen	10	1178	.	.	.	77
Total . .	**33**	**8562**	.	.	.	**578**

Total Expenditure in the Year 1899 . . . . . 1 912 404 M.
Receipts from School Fees . . . . . 596 373 „

[1]) Vorschulen = Preparatory classes.
[2]) Including 4 Teachers of Preparatory classes.

IX. Number of Pupils in the Secondary Schools in the German Empire, 1902.

German States — German Empire	Number of Pupils						
	in the Gymnasia	in the Real-gymnasia	in the Higher Real-schulen	in the Progym-nasia	in the Real-progym-nasia	in the Real-schulen	in the Higher Schools in general
Prussia							
At the Beginning of the Winter-Semester	92 465	24 012	17 202	5 209	1 587	33 992	174 467
Average for both Semesters	93 655	24 197	17 426	5 210	1 595	34 206	176 289
Bavaria	17 100	1 113	—	2 488	—	13 675	34 376
Saxony	6 497	4 889	—	—	—	8 579	19 965
Württemberg	4 304	1 605	4 527	296	780	3 234	14 746
Baden	4 714 inclusive of 1 Real-progym.	1 429 without the Pupils of 1 Realgym.	3 897 incl. of 1 Realgym.	245 incl. of 1 Real-progym.	[302]	3 194	13 781
Hesse	2 876	1 142	2 015	201	—	2 420	8 654
Mecklenburg-Schwerin	1 802 incl. of 1 Realschule	1 281 incl. of 1 Realschule	—	—	234	[718]	4 035
Saxe-Weimar	861	591	—	—	—	294	1 746
Mecklenburg-Strelitz	745 incl. of the Realdiv. of a Gymn.	—	—	—	124	108	977
Oldenburg	983	—	389	—	—	184	1 556
Brunswick	1 980	300	500	150	—	216	3 146
Saxe-Meiningen	249	310	—	—	—	356	915
Saxe-Altenburg	362	333 incl. of 1 Realschule	—	—	—	.	695
Saxe-Coburg and Gotha	415	110	396	130 incl. of 1 Realschule	—	442	1 493
Anhalt	973	480	—	—	33	174	1 660
Schwarzburg-Sondersh.	289	—	—	—	—	360 incl. of Commercial division	649
Schwarzb.-Rudolstadt	231	—	—	—	169	—	400
Waldeck and Pyrmont	146	—	—	—	104	87	337
Reuss, Elder Line	327 incl. of 1 Real-proggym. and 1 Prep. School	—	—	—	.	—	327
Reuss, Younger Line	330	488	—	—	—	—	818
Schaumburg-Lippe	199	—	—	—	85	—	284
Lippe	351	—	—	—	—	325	676
Lübeck	326	145	—	—	–	471	942
Bremen	1 194 incl. of 1 Real-progym.	222	793	—	.	862	3 071
Hamburg	967	627	557	.	—	2 568 incl. of 2 Progym.	4 719
Elsass-Lothringen	3 987	—	1 431	288	—	1 746	7 452
German Empire	**144 673**	**39 077**	**31 707**	**9 007**	**3 418**	**74 005**	**301 887**

3. Cadet-Schools.

For the general scientific training of future officers, there are in Prussia, Bavaria, and Saxony a number of Cadet-schools. Three of them are higher educational institutions, with boarding establishments, and with the curriculum of the Realgymnasia, combined with military practice. The pupils can withdraw at any time, and have in that case the qualificatations attached to the class through which they have passed. On finishing the upper secunda (the third highest class), all the cadets have to present themselves for the ensign examination, and when successful, they can enter either the active military service, or the prima (the highest class), so as afterwards to pass the final examination; this latter alternative has certain advantages combined with it. In addition to the two highest classes (upper and lower prima), the chief institution for cadets in Grosslichterfelde has also an extra class, which is arranged as a military school. There are also several military schools forming independent institutions, and all ensigns must complete a nine months' course in one of these, and pass a further examination, before they can be promoted to the rank of lieutenant. Besides the chief institution for cadets in Grosslichterfelde (near Berlin), there are in Prussia eight preparatory institutions with classes sexta to upper tertia, whereas in the chief institution are found also the middle and upper classes. The number of pupils in the chief institution is 1000, in the preparatory institutions altogether 2470. There is free schooling for 135 pupils, and besides a large number of vacancies with very small payments of fees. The teaching staff consists partly of officers, partly of civil instructors. The total expenditure of the Prussian Cadet-schools, according to the estimates of 1903/04, amounted to 3 109 392 M. The Bavarian Cadet-School in Munich has 210, the one in Saxony, in Dresden, 226 pupils who pay no fees.

Only a minority of officers, however, proceed from the Cadet-schools. For the admission to the ensign examination it suffices if the candidate has passed successfully through the lower prima (the second highest class) of any secondary school.

III. GIRLS' SCHOOLS.

1. Organisation of the Higher Girls' Schools.

The elementary teaching of girls in the primary schools is organised, in Germany, in exactly the same manner as that of boys. For girls also compulsory education begins at the age of six, and continues, in most of the Federal States, to the age of fourteen, in some only to the end of the thirteenth year. In addition to the ordinary primary schools, there are also for girls, in many towns, Higher Elementary Schools, so-called Middle-class Schools. Further particulars on these are found also in the section dealing with Elementary education, to which the reader is referred. But the present section will treat of the Higher Girls' Schools and other special branches of the education of women.

The establishment and management of Higher Girls' Schools, in Germany, was for a long time left exclusively to private enterprise, and in the Roman Catholic parts of the country they were prevailingly in the hands of conventual institutions. Not till the third decade of the last century were public Higher Girls' Schools established as municipal institutions, but still in comparatively small numbers. State regulations as to the organisation, course of instruction, and inspection of these schools have been issued in more recent times, and are in general less incisive than those applying to boys' schools. Three quarters of the Higher Girls' Schools are still under private management. As a rule, the Higher Girls' Schools that are not exclusively boarding-schools, supply also elementary education. The children

enter the lowest class, or the lowest of the preparatory school, at their sixth year, and pass through a nine or ten years' course. In Prussia the normal duration of the course is nine years, but with the addition of an extra class with optional subjects. According to the Prussian regulations of 1894, the time-table is the following.

Class	Lower Division			Middle Division			Upper Division			Total
	IX	VIII	VII	VI	V	IV	III	II	I	
1. Religion . .	3	3	3	3	3	3	2	2	2	24
2. German . .	10	9	8	5	5	5	4	4	4	54
3. French . .	—	—	—	5	5	5	4	4	4	27
4. English . .	—	—	—	—	—	—	4	4	4	12
5. Arithmetic .	3	3	3	3	3	3	2	2	2	24
6. History . .	—		—	—	2	2	2	2	2	10
7. Geography .	—	—	2	2	2	2	2	2	2	14
8. Natural Science . .	—	—	—	2	2	2	2	2	2	12
9. Drawing . .	—	—	—	—	2	2	2	2	2	10 (8)
10. Writing . .	—	3	2	2		—	—	—	—	7 (9)
11. Needlework .	—	—	2	2	2	2	2	2	2	14
12. Singing . .	2	2	2	2	2	2	2	2	2	12 (18)
13. Gymnastics .				2	2	2	2	2	2	18 (12)
Total	18	20	22	28	30	30	30	30	30	238

Two pedagogical points of view have specially determined the arrangement of the curriculum. In the selection and treatment of the whole of the subjects of instruction stress is to be laid on what is practical and stimulating. Hence, particularly, and more so than had been the case before, the circumstances of the present time are to be considered. Summaries with a number of names and dates, that have no personal or stimulating interest, and that can be received by the memory only in a mechanical way, are most strictly to be avoided. This applies especially to the teaching of history, the principal features of which are the following.

In classes IV and V: episodes from German history down to modern times, German sagas. In class III: the main facts of Greek and Roman history, with particular attention to intellectual life, as much as possible in the form of object-lessons, especially in connection with Greek art during the Periclean, with Roman civilisation during the Augustan, age. Romans and Germans. In class II: German history

to the Peace of Westphalia, special stress being laid on what refers to intellectual matters, and to the manner of life of women in Germany. In class I: continuation of German history, from the Peace of Westphalia down to modern times, with increased attention to Brandenburg-Prussian history (Frederick William I, the time of Frederick the Great, the period of the French Revolution, of Napoleonic rule, of the Wars of Liberation, the struggles of 1864, 1866, 1870—71, the unification of Germany, the new Empire and its development). Short views of the history of England, France, Italy, Austria, and the United States.

For the two foreign languages the aims in view are as follows.

The immediate object of the teaching of the foreign languages is that of enabling the pupil to understand an easier French or English writer, to grasp readily the meaning when English and French are spoken, and to use the foreign language with some facility, both orally and in writing, when applied to the simple forms of everyday intercourse. The more indirect aim of the teaching is that of introducing the pupils to an appreciation, as far as possible, of the mental and material development, and of the manners and customs, of the two foreign nations.

Reading occupies a central position during the whole course. Grammar is not taught systematically from the beginning, but is deduced from the reading, and gradually built up from concrete observations. Practice in speaking plays a great part from the outset. The whole method presupposes in the teacher both perfect facility in the handling of the language, and a certain amount of phonetic schooling, together with the ability of deriving practical help in the teaching from the results of historical linguistic study. The extent of a pupil's acquirements is estimated very much less by the greater or slighter facility in translating a German text into the foreign language, than by the ease and rapidity with which the meaning of a foreign text is grasped.

The male teachers in the Higher Girls' Schools are partly academically trained senior masters (Oberlehrer), with qualification to teach in secondary schools, partly taken from among the elementary teachers, but in that case they must have passed the examination for the intermediate schools. But in the majority of the institutions, especially in the private ones, female teachers are employed. Also for the latter examinations are prescribed, for which the necessary

knowledge is acquired mostly in teachers' seminaries, many of which, however, are not government establishments, but under municipal or private control. According to the regulations in force in Prussia, the examination of the elementary female teachers is distinguished from that of the teachers in the intermediate and higher Girls' Schools, by the fact that for the latter the acquirements in history and German literature extend somewhat further, and that French and English are added as subjects of examination. Also a special examination can be passed in these subjects. For the elementary female teachers English, as a subject of instruction, is optional, French obligatory, but they are not required to be examined in them. As an introduction to the seminary there are in Prussia a few preparatory schools with a two years' course. Other States have also for female teachers preparatory institutions of the same character as those for the male teachers.

The curriculum of the three years' seminary courses for female teachers in the intermediate and higher Girls' Schools in Prussia is the following.

	I.	II.	III.	Total
Religion	2	2	2	6
German	4	4	4	12
French	4	4	4	12
English	4	4	4	12
Arithmetic	2	2	2	6
History	2	2	3	7
Geography	2	1	1	4
Natural History and Physics	2	2	3	7
Pedagogy[1])	6	3	2	11
Drawing	—	1	2	3
Writing[2])	—	$^1/_2$	$^1/_2$	1
Needlework	—	1	1	2
Singing[3])	2	2	2	6
Gymnastics	1	1	1	3
Total	30 + 1	28$^1/_2$ + 1	30$^1/_2$ + 1	

[1]) Besides one weekly hour of attendance at class teaching, and 5 groups of seminary practice with pupils.

[2]) $^1/_2$ hour = 1 hour every fortnight.

[3]) There are three weekly hours of piano, violin, and organ, in which the seminary pupils take part alternately.

In Prussia a special scientific examination was introduced in 1900, on passing which the female teachers acquire the position of senior mistress (Oberlehrerin). The candidates must posses the qualification for the Higher Girls' Schools, and must have been practically employed in such a school for at least five years. For their scientific preparation special extension courses extending over 5 to 6 semesters are held in several Universities.

In most recent times Gymnasium and Realgymnasium courses have been established in several towns, enabling the pupils to obtain the leaving-certificate that qualifies for the University. However, in Prussia and in other Federal States, women provided with the certificate a e not directly immatriculated as yet, but merely admitted to hear lectures.

As special branches of girls' education are still to be mentioned the general extension courses and the teaching of domestic economy. By the former is meant, not the technical (industrial or commercial) extended instruction, but the strengthening and completion of the education acquired by girls in the elementary school. In several of the Federal States this instruction is obligatory, or can be made so by the communities for two more years. Every week a few evening or Sunday hours are devoted to it. In Prussia there is no obligatory extended teaching for girls, but schools for the purpose have been established by several towns and by societies of general utility. Domestic economy is taught in connection with the extension courses, but is also given separately in the institutions of the municipalities or of the societies. The subjects are cookery, washing, ironing, hygienics, knowledge of alimentary substances, etc.

2. Statistical Summary of the Higher Girls' Schools in the German Empire.

Federal States	Number of Schools	Number of male Teachers	Number of female Teachers	Number of Pupils				
				Protestant	Rom. Cath.	Israelit.	Other Pers.	Total
1. Prussia. 1891:								
Public Higher Girls' Schools	206	1268	924	35 114	3 319	6 284	218	44 935
June 27 th 1901:								
Public Higher Girls' Schools	213	1300	1455	42 049	4 719	6 489	301	53 558
Private Higher Girls' Schools	656	2047	4746	45 529	20 974	6 120	314	72 932
Total . .	869	3347	6201	87 578	25 693	12 509	615	126 490
2. Bavaria. 1889/90:								
Public Higher Girls' Schools	28	598	1088	4 476	7 182	1 294	41	12 993
Private Higher Girls' Schools	98							
Total . .	126	598	1088	4 476	7 182	1 294	41	12 993
1900/01:								
Public Higher Girls' Schools	35	62	1288	5 514	8 342	1 340	54	15 250
Private Higher Girls' Schools	100							
Total . .	135	626	1288	5 514	8 342	1 340	54	15 250
3. Saxony. 1889/90:								
Public Higher Girls' Schools	2	27	12	703	15	88	4	810
Private Higher Girls' Schools recognised by the State .	1	—	12	—	41	—	—	41
Higher and Intermediate Private Girls' Schools . . .	37	—	—	—	—	—	—	3 500
1899/1900:								
Public Higher Girls' Schools	3	34	22	883	35	120	10	1 048
Higher and Intermediate Private Girls' Schools . . .	34	—	—	—	—	—	—	3 573

Federal States	Number of Schools	Number of male Teachers	Number of female Teachers	Number of female Teachers				
				Protestant	Rom. Cath.	Israelit.	Other Pers.	Total
4. Württemberg. 1890:								
Public Higher Girls' Schools	9	62	42	1569	92	179	13	1853
Private Higher Girls' Schools	2	21	14	580	15	10	5	610
Queen Catharine Foundation and Queen Olga Foundation .	2	35	41	818	45	133	1	997
Total . .	13	118	97	2967	152	322	19	3460
1902:								
Public Higher Girls' Schools	10	70	51	2204	242	166	10	2622
Private Higher Girls' Schools	5	34	29	820	49	10	4	883
Queen Catharine Foundation and Queen Olga Foundation .	2	27	34	727	55	135	5	922
Total . .	17	131	114	3751	346	311	19	4427
5. Baden. 1890/91:								
Public Higher Girls' Schools	7	88	50	1145	650	477	16	2288
Private Higher Girls' Schools	—	—	104	—	—	—	—	2006
Total . .	—	—	154	—	—	—	—	4294
1901/02:								
Public Higher Girls' Schools	7	106	72	1620	855	408	14	2897
Private Higher Girls' Schools	33	151	247	1277	1242	200	6	2725
Total . .	40	257	319	2897	2097	608	20	5622
6. Hesse. 1891/92:								
Public Higher Girls' Schools	5	36	29	1427	326	409	44	2206
1901/02:								
Public Higher Girls' Schools	5	44	42	1806	287	325	17	2435
7. Hamburg. 1892/93:								
Higher Girls' School of St. John's Convent	1	16	29	743	12	60	—	815
Partly Public, Intermediate, and Higher Girls' Schools . .	4	6	50	666	169	453	—	1288
Private Higher Girls' Schools	65	—	557	6589	102	698	31	7420
Total . .	70	—	636	7998	283	1211	31	9523
1901/02:								
Higher Girls' School of St. John's Convent	1	13	23	546	9	31	1	587
Partly Public, Intermediate, and Higher Girls' Schools . .	8	13	109	1772	176	588	4	2540
Private Girls' Schools . . .	46	—	461	5588	70	600	14	6272
Total . .	55	—	593	7906	255	1219	19	9399

Federal States	Number of Schools		Number of male Teachers		Number of female Teachers		Number of Pupils	
	1892	1902	1892	1902	1892	1902	1892	1902
8. Mecklenburg-Schwerin.								
Public Higher Girls' Schools	4	4	19	18	21	20	410	417
Private Higher Girls' Schools	14	15	—	—	—	—	—	—
9. Mecklenburg-Strelitz.								
Public Higher Girls' Schools	3	3	11	11	9	11	425	447
Private Higher Girls' Schools	1	—	—	—	—	—	—	—
10. Saxe-Weimar.								
Public and Private Higher Girls' Schools	7	5	38	31	30	30	855	1001
11. Oldenburg.								
Public Higher Girls' Schools	2	3	12	13	11	12	386	495
Private Higher Girls' Schools	2	4	5	—	5	—	102	299
Total . .	4	7	17	—	16	—	488	794
12. Brunswick.								
Public Higher Girls' Schools	4	6	44	57	52	69	1465	1822
Private Higher Girls' Schools	1	4	8	—	6	—	120	—
Total . .	5	10	52	—	58	—	1585	—
13. Saxe-Meiningen.								
Public Higher Girls' Schools	1	1	6	5	1	3	230	300
Private Higher Girls' Schools	1	1	3	2	2	3	86	78
Total . .	2	2	9	7	3	6	316	378
14. Saxe-Altenburg.								
Public Higher Girls' Schools	1	1	6	7	4	6	200	200
Private Higher Girls' Schools	1	1	—	8	—	10	—	155
Total . .	2	2	—	15	—	16	—	355
15. Saxe-Coburg and Gotha.								
Public Higher Girls' Schools	1	1	10	8	7	9	340	379
Private Higher Girls' Schools	3	4	13	18	11	19	174	442
Total . .	4	5	23	26	18	28	514	821
16. Anhalt.								
Public Higher Girls' Schools	4	4	36	24	34	29	1209	1198
17. Schwarzburg-Sondershausen.								
Public Higher Girls' Schools	2	2	12	11	13	13	289	325

Federal States	Number of Schools		Number of male Teachers		Number of female Teachers		Number of Pupils	
	1892	1902	1892	1902	1892	1902	1892	1902
18. Schwarzburg-Rudolstadt.								
Public Higher Girls' Schools	2	2	10	8	4	6	118	176
19. Waldeck.								
Public Higher Girls' Schools	2	2	—	—	—	—	—	—
20. Reuss, Elder Line.								
Public Higher Girls' Schools	1	1	8	6	4	5	132	165
21. Reuss, Younger Line.								
Public Higher Girls' Schools	1	1	9	8	4	5	305	355
Private Higher Girls' Schools	—	1	—	5	—	2	—	19
Total . .	1	2	9	13	4	7	305	374
22. Schaumburg-Lippe.								
Higher Girls' Schools . . .	1	1	6	5	3	6	90	120
23. Lippe.								
Public Higher Girls' Schools	1	1	5	6	6	7	150	222
Private Higher Girls' Schools	2	1	—	9	—	4	—	92
Total . .	3	2	5	15	6	11	150	314
24. Lübeck.								
Public Higher Girls' Schools	1	1	7	6	7	16	240	378
Private Higher Girls' Schools	3	5	—	—	—	—	—	—
25. Bremen.								
Municipal Higher Girls' Schools	—	1	—	1	—	8	—	190
Private Higher Girls' Schools	11	8	58	—	126	—	2450	—
26. Elsaß-Lothringen.	(1899)		(1899)		(1899)		(1899)	
Public Higher Girls' Schools	44	16	84	—	292	—	5620	—
Private Higher Girls' Schools		53		—		—		—

IV. ELEMENTARY SCHOOLS.

1. A General View of the Elementary Schools in Germany.

When the Elementary School as a whole forms the subject of the following remarks, it must be pointed out, to the foreigner especially, that in Germany the school is by no means an imperial institution, but that it is managed independently by each separate State. There is no imperial Ministry for public education. Yet the general character and aim of the schools, the training and duties of the teachers, are the same throughout Germany. With reference to the outward circumstances, there are considerable differences between the several Federal States, nay between the parts of one and the same State. The presentation of a concise view of German school education is rendered difficult, especially by the absence of uniform school statistics for the whole German Empire, and by the fact that the statistics of the several States refer to different periods, and are drawn up on different principles.

Before examining the several departments of the statistics, we shall endeavour to describe the general features that characterise the Prussian and the German elementary school system, and which distinguish the latter from that of other civilised nations.

As was observed before, uniformity in the outward arrangements of the Elementary Schools is not to be found. The dissimilarity is naturally great between the village school with its one class, in sparsely populated districts, and the municipal school with its splendid buildings and all modern improvements, in the larger towns. Centralisation of the whole elementary school system exists neither in the German Empire as such, nor in the single States, and although the latter exercise control over each subdivision of the system, yet they allow the local authorities considerable latitude in the management of the schools. Of this latitude advantage has been taken, to a large extent, by the German towns, and among them by

the wealthy communities, so that, largely at the expense of the rate-payers, schools have arisen that may vie with the best in other countries.

Down to the present time, the school system in some German States, and among them, in the largest one, the Kingdom of Prussia, has not been regulated by comprehensive, uniform legislation. In Prussia, it is true, legal regulations have been applied to important branches of the elementary school system, but many questions remain which, even at the present day, are settled by dispositions of the provincial governments, and by decrees of the Minister of public education. Although, in many respects, the introduction of uniform school legislation for all parts of the country is much to be desired, yet its absence has not been without some salutary results. For, under the circumstances, local authorities have been enabled to introduce inexpensive experiments and improvements in smaller, limited districts, which could never have been initiated by legislation applicable equally to all parts of the country. Among such experiments and improvements we may mention the teaching of mechanical skill („sloyd") for boys, of housekeeping for girls, supplementary schools for backward children, as well as sanitary regulations, and medical control over all the pupils of the Elementary School.

When, therefore, the outward organisation of the Elementary Schools shows various prominent differences, yet some larger features are common to them all.

In all these schools the teaching is exclusively entrusted to teachers educated for their profession on strictly methodical lines, and certificated by the State. All these teachers, apart from comparatively young probationary masters, hold permanent positions for life. They all have a right to a fixed salary, to superannuation, and to provision for their families after their death. This security of position produces a class of teachers technically trained for their profession, tested in their knowledge and in their conduct of life, among whom sound pedagogical traditions can be handed on, new experiences can be gathered, and definite methods of teaching and education can be formed. The abundance of pedagogical periodical literature and books, the numerous scientific associations, the active participation of the teachers in the courses and series of lectures arranged for them by the local authorities, all this proves that the teachers are penetrated, not only by an *esprit de corps* that deserves recognition, but also by a most active striving after mental improvement.

Another important feature of the German school system is the enforcement of compulsory education. All children, mentally and bodily capable of instruction, are required to attend an elementary school, the age of entrance differing slightly in the various German States. Excepted are only those children that can be proved to receive equivalent private instruction, or that attend higher-class schools.

The number of those who, in spite of these regulations, still manage to evade teaching, is a comparatively very small one. They are found chiefly in the families of strolling actors, acrobats, and the shifting population engaged in river navigation. In 1895, of the 5,317,037 children on the registers, in 36138 Prussian public elementary schools, only 487 evaded attendance. In 1901, this number, among 5754728 children on the registers, in 36756 schools, had risen to 548.

The compulsory attendance applies not only to the entrance of the children into the schools, but also to their continuance in them up to a certain age. In the same manner as entrance may be deferred in the case of illness or weak constitution of the children, especially where the distances to the school are considerable, so also, under certain circumstances, and with the sanction of the authorities, the children may be dispensed from attendance up to the end of the course of instruction. Negligent parents or their representatives are liable to punishment by fines, or even by imprisonment. In the year 1901, among the children of school age, 10672 were unable to attend on account of mental or bodily defects; 16109 could not be received immediately after the completion of their sixth year; 53794 were dispensed from attendance before the end of their fourteenth year.

Not only entrance into the schools and completion of the course are enforced, but also regularity of attendance during the latter. Infringements in this respect are likewise punished in the manner mentioned above.

So as not to render compliance with the law impossible, care is taken to provide the necessary school buildings within reasonable distance from the homes of the pupils. Scarcity of school buildings may specially occur in newly rising towns, where, not infrequently, the erection of schools cannot always keep pace with the increase of population caused by the establishment of new branches of industry. Long distances between school and home are a misfortune occurring

especially in sparsely populated districts. While, according to the latest Prussian statistics, of 1901, the number of children that had to be excluded from attendance or account of overcrowding of the schools, amounted to only 2735 (in 1891 to 3239); 214289 children, of whom 190159 in country districts, had to go a distance from the school of more than $2^1/_2$ km. (about $1^1/_2$ Engl. miles).

The demands made by the Elementary School on the bodily and mental capabilities both of pupils and teachers, are generally severe ones in Germany. The number of yearly school-days is here perhaps higher than in any other civilised country. The week has six working-days, and the number of weekly hours, at least in the upper classes, not infrequently amounts to more than thirty. The holidays, with differences in the time of occurrence and extent in the various States and districts, amount altogether to at most twelve weeks, thus leaving, when a few occasional holidays are deducted, a total of about 230 to 240 yearly working days. The holidays coincide with the great church festivals, Christmas, Easter, and Whitsuntide, and usually form, besides, two special groups, in summer and in winter.

The aims of the teaching, prescribed in the curricula of the elementary schools, require, for their realisation, the full time of the compulsory age and the regular attendance of the pupils. But they also presuppose diligence, conscientious performance of duty, and earnestness on the part both of teachers and scholars. Those pupils, however, who fail in these respects, are corrected by rigorous discipline.

It is hardly ever possible to present the results of the school teaching in an exact statistical form. Nor can it usually be definitely shown what part in the forming of the pupils character and in his later success in life is attributable to his natural disposition, to home training, or to the influence of the school. Yet a comparatively satisfactory standard, by which the activity of the elementary school may be gauged is afforded by the spread of the simplest elements of school education, reading and writing, among the grown-up population of a country. For a considerable number of years, those liable to military service in Germany have been tested as to their school training. The results of the latest of these tests, for the year 1901, in the German Empire, are presented in the following Table, showing a gratifying advance in this respect, as compared with those of the years 1881 and 1891. These figures

afford eloquent testimony to the fact that the educational labours of the German teachers have not been without results.

Place of Extraction[1]) and Schooling of the Recruits[2]) incorporated in the Year 1901.

States and Provinces	Men incorporated			States and Provinces	Men incorporated		
	altogether	of these without Schooling			altogether	of these without Schooling	
		absolute number	percentage of total			absolute number	percentage of total
East-Prussia	12 287	21	0,17	Oldenburg	1 845	—	—
West-Prussia	[3]) 9 036	27	0,30	Brunswick	1 747	2	0,11
Brandenburg				Saxe-Meiningen	1 267	—	—
and Berlin	16 686	3	0,02	Saxe-Altenburg	784	—	—
Pommerania	8 302	2	0,02	Saxe-Coburg-Gotha	1 056	—	—
Posen	[4])10 529	20	0,19	Anhalt	1 439	1	0,07
Silesia	20 825	15	0,07	Schwarzburg-Sondershausen	386	—	—
Sleswick-Holstein	6 116	3	0,05	Schwarzburg-Rudolstadt	475	—	—
Hanover	12 126	6	0,05	Waldeck	275	—	—
Westphalia	15 161	5	0,03	Reuss, Elder L.	286	—	—
Hesse-Nassau	8 695	3	0,03	Reuss, Young. L.	569	—	—
Rhenish Prov.	27 460	5	0,02	Schaumburg-Lippe	235	—	—
Prussia	161 897	114	0,07	Lippe	589	—	—
Bavaria	28 546	3	0,01	Lübeck	379	—	—
Saxony	15 707	—	—	Bremen	1 152	—	—
Württemberg	11 373	1	0,01	Hamburg	2 098	1	0,05
Baden	9 277	3	0,03	Elsass-Lothringen	[5]) 8 200	5	0,06
Hesse	5 846	1	0,02	German Empire	[6])260 416	131	0,05
Mecklenburg-Schwerin	2 936	—	—	1891	[7])182 827	824	0,45
Sachse-Weimar	1 547	—	—	1881	[8])150 130	2332	1,55
Mecklenburg-Strelitz	505	—	—				

[1]) By Place of Extraction is here understood, in general the birth-place, which is verified, throughout, for the army corps belonging to the resort of the Prussian Ministry of War (divisions of the Guards, 1st 11th 14th 18th army corps inclusive of the Hessian division), for the 13th (Württemberg) army corps, and for the navy, and, as a rule, is stated at least for the 12th and 19th (1st and 2nd Saxon) army corps. For the three Bavarian army corps, on the other hand, the place of residence at the time of school attendance is verified. — [2]) By incorporated recruits are here understood both those of the levies and those who have voluntarily entered the army or the navy for a two, three, or four year's service, or also into the navy for a five or six years' service, but not the one year's volunteers. — [3]) Among these 23; [4]) 48; [5]) 34 with schooling in a foreign language; to the remaining parts of the Empire belong 23 of such. — [6]) Besides 116; [7]) 32; [8]) 7 from foreign countries, among whom without schooling 1901 : 2, 1891 : 1.

The foreigner who hears of the enormous sums which the German Empire expends every year on the maintenance and increase of its army and fleet, may easily fall into the mistake of assuming that this outlay, imposed by the history and the geographical position of the country, leaves the German nation only few means for the promotion of ideal interests. There may be an appearance of justification for such an assumption, when merely the proportion is considered, that exists between the State expenditure for the army and for the schools. But nevertheless, the sums devoted in Germany, by the State and by the communities, to elementary education, is not inconsiderable. The total outlay for this purpose in the German Empire (with the exception of the Grand Duchy of Mecklenburg-Schwerin, for which no information was available), in the year 1901, amounted to 412 886 000 M., of which 120 357 000 M. were derived from State contributions.

These figures of 1901 represent the last ascertainable stage in a constantly progressive development, and will probably be considerably exceeded at the present time. And when, in the absence of uniform imperial statistics of the educational system, already referred to, this progression cannot be verified equally for all the States, the following survey may, at least, give some evidence of the permanent advance in the system of Prussian elementary education.

German Empire.

Public Elementary Schools 1891/2 and 1900/1.

		1891/2	1900/1
1. Public Element. Schools		56 563	58 164
2. Fully occupied teachers (male and female)		120 032	144 484*)
3. Pupils of Elem. Schools		7 925 688	8 829 812
4. Expenditure for Elem. Schools	M.	242 399 000	412 886 000
5. State Contributions	„	69 310 000	120 357 000
6. Number of:			
a) Inhabitants to each Elem. School		874	969
b) Pupils to every 100 inhabitants		16,03	15,66
c) Pupils to each fully occupied teacher		66	61

*) Among these 22 339 female teachers.

		1891/2	1900/1
d) Cost of school maintenance for each pupil	M.	31	47
e) State contribution for each pupil		8,75	13,63
f) Cost of school maintenance of each Elem. School	„	4 285	7 159
g) State contribution for each Elem. School	„	1 225	2 075

The teachers are duly certificated, appointed permanently, or with prospect of permanency, entitled to pension, and dismissible only by judical disciplinary decision.

The items under 4 and 5 are minimum amounts; the costs of the general administration and inspection of the schools, and of the training of the teachers, are not included. The items under 4 are comprise also those under 5.

Kingdom of Prussia.

I. Results of Compulsory Education of 1871, 1891, and 1901.

	1871	1891	1901
Children obliged to attend	4 464 906	5 401 566	6 103 745
of whom:			
1. taught in public elementary schools	3 900 655	4 916 476	5 670 870
per cent	87,36	91,02	92,91
2. „ „ other schools	222 211	390 500	339 017
per cent	4,98	7,23	5,55
3. temporarily dispensed from attendance, but duly registered	312 219	83 604	82 638
per cent	6,99	1,55	1,35
4. not registered on account of infirmities	9 038	10 041	10 672
per cent	0,20	0,18	0,18
5. illegally kept away from school	20 783	945	548
per cent	0,47	0,02	0,01

II. Public Elementary Schools.

1. Schools:
   - 1871 . . . . . 33 130
   - 1891 . . . . . 34 742
   - 1901 . . . . . 36 756
2. Schoolrooms:
   - 1871 . . . . . 64 688
   - 1891 . . . . . 70 950
   - 1901 . . . . . 88 399
3. Classes:
   - 1871 . . . . . 52 747
   - 1891 . . . . . 82 746
   - 1901 . . . . . 104 082
4. Pupils:
   - 1871 . . . . . 3 900 655
   - 1891 . . . . . 4 916 476
   - 1901 . . . . . 5 754 728
5. Fully occupied Teachers:
   - 1871 . . . . . 52 059
   - 1891 . . . . . 71 731
   - 1901 . . . . . 90 208
6. Assistants (not fully occupied):
   - 1891 . . . . . 4 376
   - 1901 . . . . . 3 505

7. Female Teachers of Needlework:

1891 . . . . . 37 129
(among them 258 fully occupied)
1901 33062

(Besides 1036 fully occupied female Teachers included under 5.)

III. Classification of Elementary Public Schools according to Curriculum 1891 and 1901.

In existence in:	1891	1901
1. Schools with one class and half-time schools	22 478	21 488
per cent . . .	64,70	58,46
2. „ „ two to four classes	9 596	11 968
per cent . . .	27,63	30,12
3. „ „ five and six classes	2 243	2 581
per cent . . .	6,45	7,02
4. „ „ seven and eight classes	424	1 619
per cent . . .	1,22	4,40
Total	34 742	36 756

Pupils taught:	1891	1901
1. in schools with one class and in half-time schools	1 537 833	1 373 442
per cent . . .	31,28	24,22
2. „ „ „ two to four classes	1 806 058	1 902 404
per cent . . .	36,73	33,55
3. „ „ „ five and six classes	1 269 364	1 254 672
per cent . . .	24,81	22,12
4. „ „ „ seven and eight classes	303 221	1 140 352
per cent . . .	6,18	20,11
Total	4 916 476	5 670 870

IV. Expenses of Public Elementary Schools.

1. Total expenses:
   1871 . . . . . 55 648 398 Marks
   1891 . . . . . 146 225 312 „
   1901 . . . . . 269 917 418 „
2. Of these expenses were covered:
   a) by State contributions:
      1871 . . . . . 2 895 186 Mark = 5,20 %
      1891 . . . . . 46 495 831 „ = 31,79 %
      1901 . . . . . 73 066 142 „ = 27,07 %
   b) by school fees:
      1871 . . . . . 10 498 794 „ = 18,87 %
      1891 . . . . . 1 378 983 „ = 0,94 %
      1901 . . . . . 826 763 „ = 0,30 %
   The remainder paid by the communities and others liable to contribute, and by the proceeds of schools property.
3. One elementary pupil costs:
   1871 . . . . . 14,27 Marks
   1891 . . . . . 29,74 „
   1901 . . . . . 47,59 „

4. Average expense of one school and one class respectively:

1871	1679 resp.	1055 Marks
1891	4209 „	1767 „
1901	7343 „	2593 „

5. Cost of schools for every 1000 inhabitants:

1871	2262 Marks
1891	4881 „
1901	7830 „

V. Income of Element. School Teachers.

1. Average Total Income of Teachers:

	1821	1861	1871	1891	1901
	M.	M.	M.	M.	M.
a) in towns	638	846	1042	1702	2175
b) in the country	258	548	678	1253	1609
in general	323	634	797	1418	1835

2. Gradation of Income of Teachers:

Percentage of teachers drawing an income of

a) in towns:	1821	1874	1891	1901
up to 450 M.	36,24	1,21	0,05	—
above 450—900 M.	43,85	30,84	6,69	1,05
			(700—900 M.)	
„ 900—1200 „	11,18	29,21	21,44	8,04
„ 1200—2100 „	8,66	34,01	48,43	44,38
„ 2100—3000 „	0,08	4,74	19,52	31,50
„ 3000 M.	—	—	3,87	15,03
b) in the country:				
up to 450 M.	86,28	3,06	0,05	—
above 450— 900 M.	12,42	64,96	17,32	8,90
			(700—900 M.)	
„ 900—1200 „	1,20	24,42	36,00	22,35
„ 1200—2100 „	0,10	7,43	42,89	48,78
„ 2100—3000 „	—	0,12	3,59	17,74
„ 3000 M.	—	—	0,15	2,23
c) in general:				
up to 450 M.	77,72	2,46	0,05	—
above 450—900 M.	17,81	53,78	13,42	5,77
			(700—900 M.)	
„ 900—1200 „	2,90	26,01	30,66	16,65
„ 1200—2100 „	1,56	16,16	44,92	47,02
„ 2100—3000 „	0,01	1,60	9,44	23,23
„ 3000 M.	—	—	1,51	7,33

VI. Public Intermediate Schools[1]) 1891 and 1901.

1. Schools:	1891	1901
a) Boys' schools	184	217
b) Girl's „	92	137
c) Mixed „	68	102
Total	344	456

[1]) Higher Elementary Schools.

2. Pupils:				
a) Boys			48 763	73 549
of these in boys' schools			37 931	57 082
„ „ „ girl's „			23	96
„ „ „ mixed „			10 809	16 371
b) Girls			37 572	61 192
of these in girl's schools			28 679	47 680
„ „ „ mixed „			8 893	13 512
Total			86 335	134 741
3. Fully occupied Teachers:				
a) Male			2 024	3 137
b) Female			448	913
Total			2 472	4 050
4. Total costs			6 427 585 M.	12516631 M.
5. Of these costs were defrayed:				
a) by State contributions			81 992 „	119 287 „
per cent			1,28 „	0,95 „
b) by school fees			2 729 283 „	5 198 203 „
per cent			42,84 „	41,53 „
c) by communities and others liable to contribute			3 436 287 „	6 903 418 „
per cent			53,46 „	55,16 „
d) from school property			140 019 „	53 992 „
per cent			2,18 „	0,43 „
e) from other sources			40 004 „	241 731 „
per cent			0,62 „	1,93 „
6. Average cost of one pupil			75 „	93 „

VII. Lower and Intermediate Schools 1891 and 1901.

Teachers.

I. Fully employed in:		Male	Female
1. Public Elem. Schools	1891	63 237	8 494
	1901	76 342	13 866
2. „ Intermediate Schools	1891	2 997	1 314
	1901	4 211	2 077
3. „ Private, ranking with Elem., Schools	1891	424	288
	1901	256	202
4. „ „ „ „ Intermediate Schools	1891	900	3 159
	1901	991	4 567
5. Schools with Seminary practice	1891	—	—
	1901	—	—
6. „ „ Institutions for the Blind	1891	57	19
	1901	59	20
7. „ „ for the Deaf and Dumb	1891	390	24
	1901	428	42
8. „ „ for Idiots	1891	62	44
	1901	68	74
9. „ „ Reformatories	1891	207	33
	1901	211	37
10. „ „ Orphanages	1891	115	51
	1901	125	44
in general :	1891	68 389	13 421
	1901	82 692	20 929
		1891 :	81 810
		1901 :	103 621

		Male	Female
II. Assistants, not fully employed	1891	7 054	1 101
	1901	3 570	1 459
III. Female Teachers of Needlework	1891	—	39 735
	1902	—	33 351

The decline in the number of teachers of needlework is explained by the fact that instruction in this is imparted, more and more generally, by fully occupied technical female teachers.

The healthy development of the system of Elementary education, shown by the preceding figures, the constantly increasing number of the children under tuition, the growing number, in a larger proportion, of classes, class-rooms, and teachers, the decrease of inferior forms of schools, as compared with the more highly organised school systems with more numerous classes, the considerable accession of schools with seven and eight classes, and of pupils taught in them, the constantly higher outlay for salaries of teachers, the rise in their average available number, and finally the continual growth of total expenditure for Elementary education, all this entitles the nation to look back with satisfaction on what has hitherto been accomplished.

2. Time-tables of Elementary Schools.

The subjects of instruction, with their distribution, in the German Elementary Schools, will be sufficiently shown by the following time-tables of various Schools, exhibited by way of examples.

Prussia.

Elementary School with Six Divisions in Danzig. (Boys and Girls.)

Boys (Girls).

Subjects of Instruction	Class (ascending from VI. to I.)					
	I.	II.	III.	IV.	V.	VI.
a) Religion	4 (4)	4 (4)	4 (4)	4 (4)	4 (4)	4 (4)
b) German	8 (8)	8 (8)	8 (8)	10 (10)	10 (11)	11 (11)
c) Arithmetic	4 (4)	4 (4)	4 (4)	5 (5)	4 (4)	4 (4)
d) Elements of Geometry .	2 (—)	— (—)	— (—)	— (—)	— (—)	— (—)
e) History	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
f) Geography	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
g) Natural History	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
h) Physics	2 (2)	2 (2)	— (—)	— (—)	— (—)	— (—)
i) Singing	2 (2)	2 (2)	2 (2)	2 (2)	1 (1)	1 (1)
k) Drawing	2 (2)	2 (2)	2 (2)	2 (2)	1 (—)	— (—)
l) Gymnastics	2 (2)	2 (2)	2 (—)	2 (—)	2 (—)	2 (—)
m) Needlework	— (2)	— (2)	— (2)	— (2)	— (2)	— (—)
Total . .	32 (32)	30 (32)	28 (28)	28 (28)	22 (22)	22 (20)

Elementary School with Seven Divisions in Hanover (Intermediate School).
Boys (Girls).

Subjects of Instruction	Class (ascending from VII. to I.)						
	I.	II.	III.	IV.	V.	VI.	VII.
I. Religion	4 (4)	4 (4)	4 (4)	4 (4)	4 (4)	4 (4)	3 (3)
II. German:							
1. Object-lessons, Local Geography	— (—)	— (—)	— (—)	— (—)	— (—)	2 (2)	3 (3)
2. Reading, Elocut., Literat.	3 (2)	2 (2)	2 (2)	3 (3)	4 (4)	5 (5)	9 (9)
3. Grammar, Orthography, Essay-writing, Dictation	4 (4)	4 (3)	4 (3)	3 (3)	4 (3)	2 (2)	
4. Writing, Commercial Composition	1 (1)	2 (1)	2 (2)	3 (2)	3 (3)	4 (4)	
III. Arithmetic, Elem. of Geom.							
1. Arithmetic	4 (4)	4 (3)	4 (3)	4 (4)	4 (4)	4 (4)	4 (4)
2. Elements of Geometry	3 (—)	2 (—)	— (—)	— (—)	— (—)	— (—)	— (-)
IV. Drawing	2 (2)	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
V. History	2 (2)	2 (2)	2 (2)	1 (—)	— (—)	— (—)	— (-)
VI. Geography	2 (2)	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
VII. Natural Science:							
1. Natural History	3 (—)	2 (1)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
2. Physics and Chemistry	(2)	2 (2)	— (—)	— (—)	— (—)	— (—)	— (—)
VIII. Singing	2 (2)	2 (2)	2 (2)	2 (2)	1 (1)	— (—)	— (—)
IX. Gymnastics	2 (2)	2 (2)	2 (2)	2 (2)	2 (1)	1 (1)	1 (1)
X. Needlework	— (3)	— (4)	— (4)	— (2)	— (4)	— (2)	— (—)
Total	32 (30)	32 (31)	28 (30)	28 (30)	25 (27)	22 (24)	20 (20)

Elementary School with Eight Divisions in Berlin (Communal School).
Boys (Girls).

Subjects of Instruction	Class (ascending from VIII. to I.)							
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
1. Religion	4	4	4	4	4	3	3	3
2. German	6	6	6	6	6	7	7	8
3. Object-lessons	—	—	—	—	—	2	2	2
4. History	3 (2)	2	2	2	2	—	—	—
5. Arithmetic	4 (2)	4 (2)	4	4	4	4	4	4
6. Elem. of Geomtr.	3 (2)	3 (2)	3 (0)	—	—	—	—	—
7. Natural Science	3	4 (3)	4	2	2	—	—	—
8. Geography	2	2	2	2	2	—	—	—
9. Drawing	2	2	2	2	2	2 (1)	1	—
10. Writing	1	1	1	2	2	2	2	—
11. Singing	2	2	2	2	2	2	1	1
12. Gymnastics	2	2	2	2	2	2 (1)	2	2
13. Needlework	— (4)	— (4)	— (3)	— (2)	— (2)	— (2)	—	—
Total	32	32	32	28 (30)	28 (30)	24	22	20
	Higher			Middle		Lower		

Bavaria.

Elementary School with Seven Divisions in Munich (Week-day School).
Boys (Girls).

Subjects of Instruction	Class (ascending from I to VII).						
	I.	II.	III.	IV.	V.	VI.	VII.
1. Religion	2	2	3	3	3	3	2
2. German Language	10	10	10 (9)	10 (9)	8 (7)	8 (7)	8 (7)
3. Arithmetic	6	6	6	6	6	6	6
4. Geography	—	—	2 (Local Geography)	2	3 (2)	3	2 (3)
5. History	—	—					2
6. Natural History	—	—			2	2	2
7. Physics	—	—			—	2 (1)	2 (1)
8. Calligraphy	—	2	2 (1)	2 (1)	—	—	—
9. Free-hand Drawing	—	—	—	—	4 (2)	3 (2)	3 (2)
10. Singing	1	1	1	1	1	1	1
11. Gymnastics	2	2	2	2	2	2	2
12. Needlework	— (2)	— (2)	— (3)	— (3)	— (4)	— (3)	— (4)
Total	21 (23)	23 (25)	26 (27)	26 (27)	29 (29)	30 (30)	30 (30)

Class VIII for Boys.

	Hours
1. Religion	2
2. Composition with Reading	4
3. Notions of Economical and Political Science	2
a) Outline of the History of Handicrafts before the French Revolution;	
b) Development of Industry, Commerce and Traffic in the 19th century;	
c) Industrial and Social Legislation at the close of the 19th century; Bavarian and German Constitution.	
4. Natural and Industrial Science	5
a) Hygiene	1
b) Knowledge of Materials and Tools	2
c) Organisation and Machines of an Industrial Concern and their physical Bases	2
5. Arithmetic incl. Geometry and Book-keeping	6
6. Drawing	7
a) Free-hand Drawing	3
b) Projective Drawing	3
c) Mechanical Drawing	1
7. Sloyd	6
8. Gymnastics	2
Total	34

Class VIII for Girls.

	Hours
1. Religion	2
2. Housekeeping and Cookery	8
3. Needlework	4
4. German Language	6
5. Arithmetic	4
6. Singing	1
7. Drawing	2
8. Gymnastics and Games with Singing	2
Total	29

In addition to these obligatory subjects, the pupils have the choice of a four hours' tuition either in French or in technical drawing, but only as an alternative, so as to prevent overpressure. Attendance in the one subject excludes that in the other.

Saxony.

Elementary School with Eight Divisions in Dresden (District-School). Boys (Girls).

Subjects of Instruction	Class (ascending from VIII to I).							
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
1. Biblical History or Bible Knowledge	2	2	2	2	2	3	—	—
2. Catechism	2	2	2	2	1	—	—	—
3. Object-lessons	—	—	—	—	—	—	—	—
4. Reading	2	2	2	2	3	4	—	—
5. Orthography	1	1	1	1	1	1	—	—
6. Grammar	1	1	1	1	1	1	—	—
7. Composition	2	2	2	2	1	1	—	—
8. Arithmetic	4 (3)	4 (3)	4	4	4	4	—	—
9. Geometry	2 (0)	2 (0)	1 (0)	—	—	—	—	—
10. Natural History	1	1	2	2	2 (1)	—	—	—
11. Physics	2	2	—	—	—	—	—	—
12. Geography	2	2	2	2	2	2	—	—
13. History	2	2	2	2 (1)	—	—	—	—
14. Writing	—	1	2	3	3	3	—	—
15. Drawing	4 (2)	2	2 (1)	2 (1)	—	—	—	—
16. Singing	1 (2)	2 (1)	1	1	2 (1)	1	—	—
17. Gymnastics	2	2	2	2	2 (0)	—	—	—
18. Needlework	— (4)	— (4)	— (4)	— (4)	— (4)	— (4)	— (4)	— (2)
Total	30 (30)	30 (30)	28 (30)	28 (30)	24 (24)	20 (24)	18[1]) (20)	18[1]) (18)

[1]) The lessons in Class VII and VIII occupy, as a rule, 30 to 40 minutes.

3. Statistical Summaries.

1. The Elementary Schools of Berlin.

At the End of the Year	Population incl. the Military	Pupils of both Sexes in all the Berlin Schools					
		Total	Pupils above 14 Years	Pupils of 6—14 Years	Number of Pupils to each 100 of the Population		
					Total	above 14 Years	of 6—14 Years
1872	864 300	95 275	7 309	87 966	11,03	0,85	10,18
1875	964 240	108 904	8 481	100 423	11,29	0,88	10,41
1880	1 123 680	139 934	12 381	127 553	12,45	1,10	11,35
1885	1 315 613	190 474	12 160	178 314	14,48	0,92	13,56
1890	1 579 980	221 216	16 105	205 111	14,00	1.02	12,98
1895	1 678 527	233 319	17 097	216 222	13,90	1,02	12,88
1900	1 888 177	255 921	17 112	238 809	13,55	0,91	12,64
1902	1 926 367	258 832	17 518	241 314	13,44	0,91	12,53

At the End of the Year	Children taught in Parish Schools at the Expense of the Parishes					
	Total	Pupils above 14 Years	Pupils of 6—14 Years	Number of Pupils to each 100 of the Population		
				Total	above 14 Years	of 6—14 Years
1872	54 400	467	53 973	6,29	0,05	6,24
1875	64 882	603	64 279	6,73	0,06	6,67
1880	95 572	1 981	93 591	8,51	0,18	8,33
1885	145 036	2 054	142 982	11,02	0,16	10,87
1890	173 183	3 502	169 681	10,95	0,22	10,73
1895	185 690	3 681	182 009	11,06	0,22	10,84
1900	211 391	4 431	206 960	11,19	0,23	10,96
1902	214 325	4 886	209 439	11,12	0,25	10,87

2. New Berlin School-buildings in Operation since 1900.

Street and House-number		Size of School-site sq. M.	Of this occupied by buildings sq. M.	Pupils in each by net calculation	Number of School-classes	Cost of building without site M.
For both sexes.	Wilmsstr. 10 . . .	5 120	2 094	2 040	36	447 353
„	Glogauerstr. 12/16 .	4 988	1 925	2 010	35	409 569
„	Rostockerstr. 31/32 .	5 169	1 831	1 990	36	391 877
„	Dunckerstr. 65/66 .	6 054	2 155	1 950	36	546 820
„	Oderbergerstr. 57/59 .	3 882	1 282	1 730	31	467 738
„	Wiclefstr. 53/54 . .	5 160	1 886	1 920	35	573 918
„	Christianiastr. . . .	6 768	2 160	2 050	36	527 893
„	Straßmannstr. 6 . .	7 472	3 154	2 070	36	517 000
For one sex.	Grenzstr. 8	2 716	1 369	1 010	17	213 365
For both sexes.	Wattstr. 16. . . .	5 463	2 083	1 880	36	477 636
„	Waldenserstr. 25/26 .	4 639	2 067	1 970	36	596 105
„	Görlitzer Ufer 15. .	5 157	2 058	2 030	38	519 786
„	Rigaerstr. 113/14 . .	6 057	2 169	1 930	36	507 901
For one sex.	Waldemarstr. 77 . .	3 722	1 323	1 030	19	282 100
For both sexes.	Stralauerallee . . .	5 632	2 063	1 990	37	469 000
„	Bergmannstr. 60/65 .	4 704	2 036	1 820	37	567 200

3. The Elementary Schools of the German Empire.

States	Number of				Outlay on the Public Elem. Schools		Priv. Schools with the aims of Elem. Schools	
	Public Elem. Schools	Fully occupied Teacher		Pupils of the Public Elem. Schools	in general	of this from State Contributions	Number of	
		Men	Women				Schools	Pupils
Prussia	36 756	76 342	13 866	5 670 870	269 917	73 066	315	12 964
Bavaria	7 280	12 184	2 715	873 399	39 766	14 206	25	1 986
Saxony	2 273	10 003	401	685 771	34 323	4 773	58	4 775
Württemberg	2 353	4 615	494	295 325	12 265	3 748	3	42
Baden	1 677	3 631	418	273 149	10 999	2 396	5	775
Hesse	984	2 525	222	165 707	7 875	2 506	—	—
Saxe-Weimar	629	979	15	59 528	2 567	977	13	465
Mecklenburg-Strelitz[1])	233	348	34	16 057	536	372	2	25
Oldenburg	614	1 101	120	66 721	2 935	990	6	215
Brunswick	453	1 142	151	81 396	3 621	754	—	—
Saxe-Meiningen	318	656	54	44 011	1 963	592	—	—
Saxe-Altenburg	197	495	23	34 448	1 373	269	—	—
Saxe-Coburg-Gotha	244	625	79	39 422	1 765	494	6	168
Anhalt	253	814	154	52 684	2 683	2 312	9	989
Schwarzb.-Sondershaus.	94	211	7	13 918	579	201	2	58
Schwarzb.-Rudolstadt	138	263	2	16 222	532	155	—	—
Waldeck	124	166	6	10 294	359	107	—	—
Reuß, Elder Line	60	162	19	13 206	392	33	—	—
Reuß, Younger Line	117	317	20	21 702	818	286	—	—
Schaumburg-Lippe	44	72	5	7 648	213	34	3	99
Lippe	128	261	—	23 895	608	303	9	606
Lübeck	53	187	158	11 897	772	648	—	—
Bremen	57	498	97	27 830	2 147	1 597	1	30
Hamburg	182	1 653	950	98 610	7 321	6 908	80	13 207
Elsaß-Lothringen	2 903	2 895	2 329	226 102	8 869	2 630	77	3 395
German Empire	58 164	122 145	22 339	8 829 812	412 886	120 357	614	39 799

[1]) For Mecklenburg-Schwerin no information is available.

4. Intermediate Elementary Schools.

The term Intermediate Schools (Mittelschulen) indicates, in Prussia and a few other North German States, a kind of school the aims of which reach beyond those of the Elementary school, thus occupying an intermediate position between the latter and the Secondary schools (Realschule, Gymnasium). In the Kingdom of Saxony there are similar establishments under the name of Intermediate, or also Higher Elementary Schools. Hamburg has a

number of schools with special higher classes beyond the aim of the elementary schools; these classes are called „selecta". Among the South German States, Baden (in the so-called advanced divisions) and Hesse (in the expanded Elementary Schools of some towns) possess kindred establishments.

According to the statistical enquiry of December the 1st 1899, in the Kingdom of Saxony, the number of intermediate Elementary Schools was 241, with 4859 classes, and 188 366 pupils, and that of the higher Elementary schools 45, with 616 classes, and 17 460 pupils.

In the year 1900, in the Grand Duchy of Baden, the advanced divisions (the statistics do not show in how many schools), with 2598 boys and 3864 girls, were taught by 140 male and 66 female teachers.

In the Grand Duchy of Hesse there were in the spring of 1902, in four towns, 6 expanded Elementary schools, with 88 classes and 3695 pupils (1784 boys and 1911 girls), who received instruction from 72 male and 18 female teachers.

In Prussia schools of this kind already existed of old in the most various forms and under the most various denominations. Their curriculum was usually distinguished only by the fact that instruction in a foreign language was imparted, mostly Latin in the boys' schools, French in the girls' schools. Often the distinction consisted merely in the different amounts of school-fees. All these schools received, in October 1872, a uniform organisation, with the following curriculum.

Subjects of Instruction	Number of weekly Hours					
	I.	II.	III.	IV.	V.	VI.
Religion	2	2	2	3	3	3
German, incl. Reading and Writing	4	6	8	12	12	12
Arithmetic	3	3	3	5	5	5
Elements of Geometry	3	2	2	—	—	—
Natural Science	2	2	2	—	—	—
Physics (Chemistry)	3	2	—	—	—	—
Geography	2	2	2	2	—	—
History	2	2	2	—	—	—
French	5	5	5	—	—	—
Drawing	2	2	2	2	—	—
Singing	2	2	2	2	2	2
Gymnastics	2	2	2	2	2	2
Total	32	32	32	28	24	24

This time-table, however, can be modified and also extended, according to local needs. In particular, French can be replaced by English. Arithmetic includes also the elements of Algebra. Most of the intermediate schools have now 8 or 9 classes. In their lower classes they merely represent the elementary School. As a specimen of the time-tables of the intermediate schools, that of the one for boys in Stettin may still be exhibited here.

Subjects of Instruction	I	II	III	IV	V	VI	VII	VIII	IX
Religion	2	2	2	2	2	3	3	3	3
German	5	5	4	7	3				
Arithmetic incl. Algebra	4	4	4	5	7	8	12	11	10
Elements of Geometry	4	4	4	—	5	—	—	—	—
Natural Science	—	—	—	—	—	—	—	—	—
Physics (Chemistry)	3	3	3	3	3	5	5	5	5
Geography	2	2	2	2	2*)	—	—	—	—
History	3	3	3	2	2	2	—	—	—
French	2	2	2	2	2	2	2	—	—
English	2	2	2	2	2	2	—	—	—
Writing	—	—	—	—	—	2	—	—	—
Drawing	2	2	2	3	2	2	2	$^2/_2$	$^2/_2$
Singing	1	1	2	2	2	2	2	$^2/_2$	$^2/_2$
Gymnastics	2	2	2	2	—	2	2	4	3
Total	32	32	32	32	32	28	26	21	20

On the 27th of June 1901 there were in Prussia 456 public intermediate schools, with 3759 school-classes, and 134 741 pupils, who were taught by 3571 male and 1192 female, together 4763 teachers.

According to confessions, these Schools are classified into 284 Protestant, 54 Roman Catholic, 59 common to both denominations, and 59 undenominational ones.

Of the pupils 117 853 were Protestants, 13 314 Roman Catholics, 393 of other Christian denominations, and 3171 Jews.

Of the Scientific teachers

3621, i. e. 2896 men and 725 women were of the Protestant
526, „ 442 „ „ 84 „ „ „ „ Roman Catholic
1, was of another Christian denomination,
and 35, i. e. 27 men and 8 women were of the Jewish persuasion.

No statistics are available for this question in the case of the technica teachers.

Of the schools 452 are supported by the communities, 2 by the State, and 2 by endowments.

As independent educational establishments, there were 413 schools with 130 971 pupils; connected with an elementary school, 43 schools with 3770 pupils.

5. Education of the Blind and Deaf-Mute.

The institutions for the blind and deaf-mute have on the one hand the character of schools, on the other that of provident and charitable institutions.

Already in the 18th century, Chr. Niesen, who died in 1785, invented, in Germany, several appropriate appliances for teaching the blind, which became known also to Valentin Hauy, a Frenchman, who was the first to found, in 1785, a school for the blind in Paris. In 1806 Hauy came also to Berlin, and soon after, on his initiative, such an institution was established there, namely at the expense of the government.

During the wars of the following years many soldiers became blind, in consequence of a contagious inflammation of the eyes, and hence several military institutions for the blind were established, which were to be kept up only until these unfortunate people should have acquired sufficient training in appropriate handicrafts. From one of these so-called „Werkschulen", or schools for mechanics, arose in 1818 the still existing Silesian Institution for the Blind in Breslau. During the following decades the number of institutions for the blind continually increased, both in Prussia and in the other Federal States, and their present position is shown in the following table.

States	Number of Institutions	Number of Inmates	Number of Teachers	Blind Assistant Masters	Teachers of Handicrafts and Assistants
Prussia	20	2085	91	29	67
Bavaria	5	374	17	12	15
Saxony	4	269	17	3	11
Württemberg	3	179	8	2	7
Other States	10	565	32	8	23
Total . . .	42	3472	165	54	123

Of the total number of inmates 2438 are pupils, 1034 patients. The institutions are supported, partly by the State, partly by provinces and public bodies, partly by endowments.

Both sexes are received, but they use the same day-rooms and play-grounds only till their tenth year at most, when a separation takes place. The number of the male pupils is usually double that of the female ones, as blind girls are kept more at home by the

parents, and as their education is considered of less importance than that of the boys.

The teaching of the deaf-mute, after various isolated attempts, was systematically developed about the same time in France, by the abbé de l'Épée, and in Germany, by Samuel Heinicke. But whereas the French method was based on the language of signs, Heinicke made the attempt to teach the deaf and dumb actual speaking, in which he was successful. In the year 1878 Heinicke opened in Leipzig the first German public institution for the

Deaf-Mute Statistics for the German Empire, according to the Census of December the 1st 1900.

States	Number of Inhabitants	Deaf and Dumb		
		Male	Female	Total
1. Prussia	34 472 509	17 078	14 370	31 448
2. Bavaria	6 176 057	2 869	2 625	5 494
3. Saxony	4 202 216	1 309	1 087	2 396
4. Württemberg	2 169 480	1 202	1 011	2 213
5. Baden	1 867 944	1 205	942	2 147
6. Hesse	1 119 893	502	402	904
7. Mecklenburg-Schwerin	607 770	246	239	485
8. Saxe-Weimar	362 873	169	135	304
9. Mecklenburg-Strelitz	102 602	28	35	62
10. Oldenburg	399 180	86	78	164
11. Brunswick	464 333	170	131	301
12. Saxe-Meiningen	250 731	124	110	234
13. Saxe-Altenburg	194 914	45	41	86
14. Saxe-Coburg-Gotha	229 550	77	72	149
15. Anhalt	316 085	70	73	143
16. Schwarzburg-Sondersh.	80 898	22	15	37
17. Schwarzburg-Rudolstadt	93 059	44	35	79
18. Waldeck	57 918	24	17	41
19. Reuß, Elder Line	68 396	12	18	30
20. Reuß, Younger Line	139 210	67	52	119
21. Schaumburg-Lippe	43 132	13	16	29
22. Lippe	138 952	42	44	86
23. Lübeck	96 775	29	26	55
24. Bremen	224 882	102	73	175
25. Hamburg	768 349	132	101	233
26. Elsaß-Lothringen	1 719 470	701	635	1 336
Total	56 367 178	26 363	22 882	48 750[1]

[1] To every 10 000 Inhabitants there are 8.7 Deaf and Dumb.

deaf and dumb, and the number of such gradually increased. In Prussia the first one was founded in Berlin, as a private institution, by Dr. Eschke, in 1788, and from it arose, in 1798, the Royal Institution for the Deaf and Dumb.

At present there are in Prussia 45, in Bavaria 13, in Saxony 3, in Württemberg 8, and in the whole Empire 90 institutions for the deaf and dumb.

Of these institutions 25 are supported by the State, 42 by provinces or districts, 4 by towns, and 19 by private societies, which, as a rule, are assisted by contributions from the public funds. Among the institutions 38 are boarding establishments, 44 day-schools, while 11 have both boarders and day-scholars. The total number of inmates, in 682 classes, is 6703, of whom 3674 are boys and 3029 girls; 4056 are Protestants, 2553 Roman Catholics, and 94 Jews. The number of male teachers is 651, that of the female teachers 104, total 755.

The children are received, as a rule, in their seventh year. In the larger German States the education of the deaf and dumb is not compulsory, in Prussia it is so only in the province of Schleswig-Holstein. The course of instruction, in most of the institutions, extends over eight years. The oral system forms the central part of the instruction, but the practice of understanding speakers by watching the movements of their lips is considered of equal importance. For the rest the teaching corresponds to that of the elementary schools.

V. TRAINING COLLEGES FOR ELEMENTARY TEACHERS.

The elementary teachers receive their professional education in preparatory institutions and seminaries. In some States there are only seminaries without separate preparatory schools, but in such the seminary course lasts all the longer, as a rule six years. In Prussia both the preparatory institutions and the seminaries have three classes with a one year's course each, and the curriculum of the two establishments has been uniformly regulated as an organic whole. The pupils entering the preparatory institutions must have passed the prescribed time in the elementary school, that is to say, must have reached the age of fourteen. But instead of the elementary school,

Subjects	Preparatory Training-Schools			Seminaries		
	Cl. III	Cl. II	Cl. I	Cl. III	Cl. II	Cl. I
Religion	4	4	3	3	4	3
German	5	5	5	5	5	3
French or English	3	3	3	2	2	2
History	2	2	3	2	2	2
Arithmetic (Mathematics)	3	3	3	3	3	1
Elem. Geometry	2	2	2	2	2	—
Nat. Philosophy	2	4	4	4	4	1
Geography	2	2	2	3	2	1
Writing	2	2	1	—	—	—
Drawing	2	2	2	2	2	1
Gymnastics	3	3	3	3	3	3
Pedagogy	—	—	—	3	3	3
Method of Teaching	—	—	—	—	(4)*)	4
Teaching in Class	—	—	—	—	—	4—6
Agricult. Instruction	—	—	—	1	1	—

*) In connection with the teaching in other subjects of instruction.

many have attended intermediate schools, or the lower classes of higher institutions. The curriculum of the Prussian preparatory training-schools, according to the regulations of July the 1st 1901, has the foregoing division of weekly hours.

Music is taught, partly in the classes, partly in special divisions, in 4 to 6 weekly hours. It embraces theory of music, singing, playing on the violin, piano, and organ. In the seminary piano playing is reserved for private practice.

In the preparatory training-schools final examinations, written and oral, take place, the passing of which bestows the right of entering a seminary. Any one wishing to be admitted to a seminary without having attended a preparatory training-school, must submit to a special examination.

The seminary training concludes with the first teacher's examination, likewise a written and oral one. For most of the candidates that have completed the course of the seminary, some subjects of examination are added. After passing this examination, the candidates can be employed as assistant masters.

The qualification for definite appointment (with the right of superannuation) they obtain only by passing the second teacher's examination, one of a practical-pedagogical character, for which they can present themselves when they have been employed in a Prussian School for at least two, and at most five, years.

The qualification for appointment as teacher in intermediate schools and higher girls' schools is acquired by the passing of the special examination for teachers in intermediate schools. Only those elementary teachers are admitted to it, who have passed the second examination, mentioned above, and besides also theological students and those who are preparing for the secondary schools. When the latter have acquired the qualification for the secondary schools, they can be appointed, without further preliminaries, to intermediate schools and higher girls' schools.

Finally there is still a special examination for rectors or headmasters, to be passed by those who desire to be appointed as seminary directors, seminary teachers, principals of public preparatory training-colleges, as district school inspectors, as heads of higher girls' schools, intermediate schools, and elementary schools with six and additional higher classes. The examination is a written and oral one, with pedagogy and practice and methods of teaching as principal subjects.

Statistical Summaries.

1. Expenditure of the State Training Seminaries in Prussia.

Years — Seminaries	Number of Seminaries	Salaries incl. Allowance for House-rent M.	Other Personal Expenses M.	Fund of Financial Aid for Pupils M.	Material Expenses M.	Total of Expenditure M.	Payments by Pupils M.	Receipts from Ground-rent, Interest on Capital etc. M.	Total of Receipts M.	Amount of State Allowance M.
a. Seminaries for male Teachers										
1892	111	2 171 797	86 744	1 505 987	676 351	4 440 879	1 066 193	237 351	1 303 544	3 137 335
1897	115	2 562 213	77 212	1 681 713	796 596	5 117 732	1 211 542	228 748	1 440 290	3 677 442
1902	121	3 064 896	87 714	1 699 597	895 269	5 747 476	1 227 673	109 002	1 336 675	4 410 801
b. Seminaries for female Teachers										
1892	11	248 674	23 210	131 937	99 781	503 602	222 240	57 252	279 492	224 110
1897	11	274 888	17 365	154 665	107 633	554 551	239 411	57 688	297 099	257 452
1902	12	368 894	20 230	164 225	133 426	686 775	261 124	53 435	314 559	372 216
c. Total										
1892	122	2 420 471	109 954	1 637 924	776 132	6 231 323	1 288 433	294 603	1 583 036	4 648 287
1897	126	2 837 101	94 577	1 836 378	904 229	6 647 313	1 450 953	286 436	1 737 389	4 909 924
1902	133	3 433 790	107 944	1 863 822	1 028 695	9 488 664	1 488 797	162 437	1 651 234	7 837 430

The expenditure of the 44 State preparatory training institutions amounted, in the year 1902, to 1 318 410 M., their private receipts to 86 809 M.

In Bavaria the expenditure of the seminaries and preparatory institutions amounted, in 1902, to 1 384 293 M., in Saxony to 1 712 306 M.; in Württemberg the State allowance, in 1902, was 410 306 M.

2. General Summary.

Federal States — German Empire	Number of Institutions for Male Teachers	Number of Institutions for Female Teachers	Number of Scholars in all the Institutions male	Number of Scholars in all the Institutions female	Number of Scholars in all the Institutions Prot.	Number of Scholars in all the Institutions Rom. Cath.	One male Scholar to Inhabitants
Prussia	125 S 44 P	12 —	16 124	992	11 666	[1] 5430	2138
Bavaria	12 S 34 P	3 S 3 P	1 900	800	600	2050	3251
Saxony	20	3	3 857	349	4099	107	1089
Württemberg	7 S 6 P	2 —	926	62	691	297	2343
Baden	4 S 3 P	1 —	673	87	224	521	2776
Hesse	3 S 3 P	1 —	490	53	413	127	2285
Mecklenburg-Schwerin	2	—	328	—	328	—	1853
Saxe-Weimar	2	—	199	—	199	—	1823
Mecklenburg-Strelitz	1	—	15	—	15	—	6840
Oldenburg	2	—	220	—	170	50	1814
Brunswick	2	1	314	39	353	—	1325
Saxe-Meiningen	1	—	182	—	182	—	1377
Saxe-Altenburg	1	—	150	—	150	—	1299
Saxe-Coburg and -Gotha	2	—	152	—	152	—	1510
Anhalt	1	1	182	52	234	—	1737
Schwarzburg-Sondershausen	1	1	64	36	100	—	1264
Schwarzburg-Rudolstadt	1	—	30	—	30	—	2280
Waldeck and Pyrmont	—	—	—	—	—	—	—
Reuß, Elder Line	1	—	64	—	64	—	1069
Reuß, Younger Line	1	—	134	—	134	—	1039
Schaumburg-Lippe	1	—	12	—	12	—	3594
Lippe	1	—	52	—	52	—	2672
Lübeck	1 S 1 P	1 —	160	43	203	—	605
Bremen	1	—	105	—	105	—	2142
Hamburg	1	1	187	130	315	—	4109
Elsaß-Lothringen	5 S 4 P	2 —	536	158	175	519	3208
German Empire	**199 S** **95 P**	**29 S** **3 P**	**27 056**	**2801**	**20 666**	**9101**	**2083**

S stands for Seminaries, P for Preparatory institutions.

The number of Seminaries for female teachers is so small because most of these seminaries are not State, but municipal or private, Institutions.

[1] Besides 20 Jewesses. Also in the other Federal States are found Jewish, altogether 70, scholars.

VI. TECHNICAL HIGH SCHOOLS.

1. Historical Outline.

The technical higher institutions of Germany are a product of the 19th century. Starting from small beginnings, together with the development of the technical arts, they have attained their present important position as places of instruction and research, that embrace the manifold fields of technical arts with the sciences on which they are based, and by which they are completed. The mutual connection between the technical and the natural sciences, and the relation of these schools to the great questions of national industry, naturally entail a continued development of their design, curriculum, and method, and call for further enlargement and extension of their aims.

Before the technical higher schools could be properly developed, preparatory institutions had to be created and extended. The organisation of Realschulen, which were in the first place to serve the spread of „generally useful knowledge", was followed by the establishment of schools for distinct and special branches of science. The aim of such technical institutions, established at the beginning of the 19th century, was the training both of craftsmen and mechanics, and of engineers. Specialists saw plainly that the preparatory theoretical schooling of the latter had to be a more comprehensive and deeper one than that of the former. But as long as a school was to complete the training in a course of two or three years, while in the case of craftsmen and mechanics the pupils were admitted at a very youthful age (in the Berlin industrial school, e. g. at their 12th year), either the teaching was necessarily too difficult for a large portion of the pupils, or the general standard of instruction

had to be unduly lowered. Hence the training during the first year or years frequently assumed the character of that in a preparatory school. A further difficulty was found in the fact that, for architects, instruction in the purely artistic parts of their work goes hand in hand with that in the technical ones, the latter of which more particularly concerns the civil engineer, whereas the former points to the academy of the fine arts.

As early as 1799 an Academy of Architecture had been established in Berlin. The aim of the institution was „the theoretical and practical training of skilful land-surveyors, civil and hydraulic engineers, also of building artisans, especially for the royal States, to which training also foreigners are admitted, in so far as this can be done without prejudice to native pupils". Technology and chemistry, therefore, were not taught at all, while machine construction and likewise higher mathematics occupied a subordinate position; generally speaking, the school was intended for officials of public works (without any distinction between architects and engineers). Not till 1821, by the side of this institution, arose the Industrial Academy, in which special attention was devoted to the study of chemistry, technology, and machine construction. It is true, that precisely for this school, especially at first, the required preparatory schooling, in accordance with the age of entrance of the pupils, that of 12 years, was a very slight one, indeed merely writing and the first four rules of arithmetic. Soon these two Berlin academies entered into a closer connection, temporarily by one person being director of both, and developed under favourable circumstances, although, for a time, the artistic part of the architectural teaching branched off from the industrial Academy, and was transferred to the Academy of the Plastic Arts.

In the third decade of the century, also other German States had started the foundation of higher technical schools. In Dresden a „technical educational institution" was established in 1828, the aims of which, it is true, were no very high ones at first. As characteristic of the position of such institutions at that time, we may point to a provision according to which the technical scholars educated in them should be freed from the limitations otherwise imposed on mechanics and craftsmen by the various guilds.

In Munich, after plans had been considered, in 1823, for „a higher school that should embrace all technical studies", a „polytechnic central school" was founded there, in 1827, which was broken up, in

1833, into three „polytechnic schools", into one for Munich, one for Augsburg, and another for Nürnberg.

From about the same time dates the establishment of the Industrial Schools in Stuttgart (1829—1832) and Darmstadt (1836), the latter of which had been preceded, in 1826, by the foundation of a Realschule with technical instruction. The Industrial School in Zürich was opened in 1832. To the year 1835 belongs the reorganisation of the Collegium Carolinum in Brunswick, by which the technical teaching of the institution was materially extended and transformed.

In 1831, the „higher Industrial School" in Hanover received a new organisation.

But of the greatest importance for the following decades was the institution that arose in Karlsruhe. Here the already existing engineering school, the school of architecture, and a private industrial school in Freiburg were joined together into a Polytechnic School, in 1825, the first one in Germany. A preparatory school led to the courses of a mercantile and of a technical division; the real higher instruction for engineers and architects was still separate from these, and was given in special courses under the engineering department and in the above mentioned school of architecture. By the reorganisation of 1832 these were incorporated in the Polytechnic School. In addition to the preparatory school, the student had to pass through a course of four or five years, during which theoretical and practical subjects were taught to a larger extent than anywhere else. Down to the present time, the essential principles of the reorganisation referred to retain their full validity. The management of the institution is characterised by a periodic change of director, who is chosen annually from among the older teachers; likewise by the participation of the closer and wider teachers' conference in the organisation and educational concerns of the School. The economic concerns also are subject to a managing council composed of the teachers of the institution.

The position which the Polytechnic School in Karlsruhe had occupied during the fourth decade, it also maintained during the next. To a large extent this was owing to the activity of Redtenbacher, who, an Austrian by birth, had been called in 1841 from Zürich to Karlsruhe. Here, especially after the separation of the courses into a chemical-technical and a mechanical-technical one, he found an opportunity for developing his full strength in the teaching and

thorough treatment of the theory of mechanical engineering and machine construction.

About the year 1850, the inner reorganisation of the high schools showed itself outwardly in many ways; schools were thus reorganised as „polytechnic schools“ in Hanover in 1847, in Dresden in 1851 (preceded by that of Stuttgart in 1840, followed by that of Brunswick in 1862). Of equal importance were the new regulations for the Architectural Academy and the Industrial Institute in Berlin, in the years 1849 and 1850. About the same time the appointment of privatdocents was introduced into some of the technical institutions of Germany and Austria, und simultaneously the principle of liberty of teaching and learning was established to a larger extent.

In the year 1868 the „Polytechnikum“ (or Polytechnic High School), with its academical organisation, was opened in Munich, and was to take the place of the old Polytechnic School. The Darmstadt Technical School, which had been a higher industrial school till 1864, was reorganised as a Polytechnic Institution in 1869. The Technical High School in Aachen was opened in 1870, while in the following year the same qualification was bestowed on the Dresden „Polytechnikum“, which was removed in 1875 to new and suitable buildings.

Between 1875 and 1880 the Polytechnic School in Hanover was reconstituted as a High School, the Stuttgart one in 1876.

The Polytechnic School in Brunswick, reorganised in 1872 as a „technical high school“, was quartered in its new home in 1877. By the combination of the Berlin Architectural and Industrial Academy, in 1879, into a Technical High School, and by its removal to the new building in Charlottenburg (1884), its outward development was completed.

Important for this last period of the transformation of various institutions into High Schools, which we may date from about 1870, is the closer connection of the nine Schools among themselves. This connection resulted in the furtherance of the students' liberty in selecting their schools, by giving them credit in one institution for the time of study passed in another, and by the mutual validity of the examinations in each school. Especially in more recent times, the equivalent value of these examinations extends also to those for certificated engineer, while, at least partly, they rank with the State examinations. Appointments of teachers from one school to another

promote a closer bond of similar aims and labours, while the joint interests are materially furthered by meetings of representatives of the various schools, at which questions of importance to all are fully discussed.

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2. Questions connected with the Subjects of Instruction.

More than in the various faculties of the University, the separate branches of instruction in the Technical High Schools act and react upon one another, thus necessitating a strictly systematic building-up of the course of instruction as a whole.

The various departments of Mathematical Science form the foundation of the whole structure.

From the very beginning, Physics and Chemistry have been in the closest connection with technical teaching.

Electro-technology stands in a most intimate relation to physical research, and owes its existence to the latter. Ohm's laws for electric currents, those of Faraday for the action of induction, Joule's law for the consumption of electric energy, formed the foundations of the grand modern applications of electricity to technical operations. The consequences of Maxwell's theory, and the experiments of Herz occasioned by it, led to the methods of wireless telegraphy, the importance of which cannot be finally estimated as yet. But electro-technology has also reacted on and promoted physical research. Not only do the physical laboratories, to which moreover have been added others for technical physics, operate with very different powers, but also conceptions have been variously adapted to the promotion of practical questions.

Probably from the beginning, chemical research, as also in the case of University teaching, stood in the closest relation to practical purposes. Nevertheless, in this subject also, the technical High School will make those departments its special business, that are connected with technical operations on a large scale, and at the present time, in addition to the chemistry of dyes, anorganic chemistry, metallurgy, and most specially, as a branch of electro-technology, electro-chemistry, are acquiring a continually growing importance

With respect to the constructive problems of the technical sciences, we may probably ascribe to the activity of the High

Schools, in teaching and in research, the creation of the theoretical foundations for their systematic solution. For the representative of technical subjects in the High School a difficulty, not to be underestimated, is found in the necessity of keeping pace with the practical achievements of technical science, which are, besides, mostly kept from publicity. Hence, teaching, research, and direct practical activity are all to be combined. Such a combination has shown itself most successful in the case of architecture, the teacher of which is usually active also as a practical builder, and, when commissioned by State or municipality, is not infrequently enabled to prove his capacity by the erection of monumental works.

Two other important points in the more recent development of technical instruction must be referred to.

In the first place, the evolution of laboratory teaching. In the founding of mechanical-technical laboratories, the first aim was pure research, especially with reference to the theory of solidity, and the necessity of creating a practical basis for testing building materials as to their technical applicability. But soon it was found useful to make these laboratories accessible also to students, first for presenting single experiments, then also for independent work. Another not unimportant task was imposed on these laboratories, when they began to serve as examining institutions recognised by the state, and to undertake further functions in other technical departments. Soon the rise of electro-technology led to a general establishment of electro-technical, and further of electro-chemical, laboratories, in addition to the existing physical and chemical ones, thus producing in the teaching an extensive application of physical methods of measurement. At the same time, the importance of carrying out practical experiments and measurements in motors and manufacturing machines showed itself more and more. Thus, especially when also single Universities, particularly Göttingen, proceeded to labour in the department of „Macrophysics", by extending their laboratories, the great activity of recent years has resulted in a thorough remodification of the teaching of engineering, with reference to the practical work of the laboratory. On the other hand, and simultaneously, a not inconsiderable narrowing of the purely theoretical subjects took place, especially of the preparatory ones, as well as a closer connection between the constructive and the theoretical departments of mechanical engineering, and probably also a retrogression in elaborating great projects and programmes in the teaching, in favour

of a careful and thorough treatment of detailed constructions. To promote the latter, must particularly be the aim and limit of the tasks of the High School in connection with the final examination for the diploma, either by prescribing a longer piece of work for exact arithmetical and constructive treatment, or a number of shorter ones based on accurate detailed specifications.

In the second place, with the increasing importance of technical science to modern life, with the great material value attached to it, and with the ever more powerful social organisation of modern industry, the problems of political economy, the social and judicial ones obtain a continually greater prominence, so that the exhaustive study of this subject necessarily becomes more and more essential.

One difficulty, it is true, will make itself more and more felt in the development and perfection of the teaching. With the abundance and importance of the subject-matter of instruction, it is possible to overtake it, in the present four years' High School course, only by constant compression in each single department, by summary treatment of many branches, and by omission of whatever does not directly serve the special purpose. Hence, an extension of the time of study seems required, unless still further restrictions be introduced in particular subjects, which could not be faced without serious drawbacks. To some extent, it is true, simplification and facilitation might be attained by a part of the necessary preparatory teaching being included in the curricula of all secondary schools. In that case, optionally perhaps, technical drawing and descriptive geometry should be introduced also into the Gymnasia, und likewise, generally, the first elements of higher mathematics. This, together with the shortening of the existing nine years' course of the secondary school, seem to be the only possible solution, unless a young man's entrance into practical life be still further delayed than it is even at present.

The very fact that the existing four years' course can be devoted only to the preparatory theoretic training for the subject, and that the technical High School alone is unable to produce finished engineers, leads to another question that should not be passed over in this connection, viz., the practical training for the technical profession.

As long as the technical schools simultaneously undertook the training of lower-class technicists, and schools for this purpose were connected with them, the pupils used to enter the school, as a rule,

only by first passing through a practical apprenticeship, while at the same time the previously acquired knowledge that was demanded was a modest one. Frequently also the school itself offered practical courses in workroom operations. But the gradually increased demands for previously acquired general culture, have led more and more to the attempt of introducing the pupil into the High School straight from the intermediate school, and without passing through a practical apprenticeship. Indeed, it is in the interest of a steady development in a theoretical direction, when no interruption takes place here. On the other hand, the teaching of the constructive subjects, especially in mechanical engineering and in architecture, will produce a really more vivid impression, when preceded by a practical training. Here also, it is true, the individuality of the pupil has to be considered, but, upon the whole, it will not appear unfair, when in any case the course of study is looked upon as completed only ofter a term of practical apprenticeship.

Four years ago, the Association of German Engineers energetically advocated this condition, and many among the larger employers have supported it by facilitating the young man's reception as apprentice. In the new regulations of examination, this demand is enforced, if not as a condition for admission to the examination, at any rate as one for bestowing the title of certificated engineer. Of course, in that case, an understanding will have to be come to, to make the practical training in factory operations as instructive as possible to the young student, and to devote to it special attention. This is a thankful, but indeed also a responsible task for the directors and the engineers of the establishments; for, in addition to a detailed instruction in all technical questions, special stress will have to be laid on practical management and social questions.

In conclusion, another important point must be touched upon, the question of the training of teachers, especially of those of mathematics and natural science, and with reference to the particular requirements of the technical institutions. For the latter this constitutes a wide field of action. Especially in mathematics, the teacher will be able to utilise directly, in the secondary school, only a comparatively small part of his knowledge acquired at the University. But for him the training is essential in three points, with reference to the whole method of his subsequent teaching, namely, in the exact foundation and development of primary notions, in the mastery of the inner connection of the various disciplines, and lastly in the extension of the

applications of his subject to physical problems, which indeed have frequently led to the formation of mathematical methods. For one who intends to devote himself to research work, there would be nothing unnatural in his preference for any particular subject, according to his individual talents; but for a teacher such a preference would be out of place. And when, naturally, the teaching in the Technical High Schools, even in the general lectures, presents theoretical explanations in a more tangible form, and enlivens them by practical applications; when further, in special lectures, it passes on to technical problems, when here technical mechanics and technical physics, as well as geodesy can be drawn into the curriculum, then all this, as supplementing the University instruction with its usually more abstract tendency, will be of the greatest benefit to the future teacher of mathematics and physics, wherever he may afterwards be active in his profession. But for the future teacher of the technical school such an widening of his knowledge becomes a necessity, if he desires to be in touch with the essential interests of his hearers, and able to participate actively in the important problems presented, in various forms, by technical science also to theoretical investigations.

The mutual relation thus formed between University and Technical High School, has the closest connection with a question frequently discussed in more recent times, namely that of a combination of both institutions into a greater University embracing all branches of learning. And it may well be said that the relation referred to is by no means the most important one. We have endeavoured to show the close connection of mathematics and the whole of the natural sciences with technical science, and we have pointed out how important for the technical scholar has become a training in questions of national and political economy and of law. On the other hand, an insight into technical science will become ever more essential to those engaged in natural science, law, and economics. Nowadays, in the Universities also, a continually growing importance is attached to practical and laboratory work, so that the outward form of instruction in the two establishments does not show any essential differences. Inner reasons, therefore, would seem to plead for such a combination, but although many a voice has been raised in favour of it, yet, at the present time, it no longer appears be to practicable.

After the failure of previous attempts to transfer to the University the training of technical State officials, owing to the slight

estimation in which technical work was held, and to an imperfect appreciation of technical matters in general, the technical High Schools have developed independently and steadily on lines of their own, and thus forced their way to a recognition of their importance and of their earnestness in pursuing their functions. Nowadays they form a widely organised whole, for which the framework of one faculty, or of two — such would be their position in the Universities — has become too narrow. The transference of their general department to the philosophical faculty of the University, would mean only a juxtaposition, not an amalgamation, for the mathematical-physical subjects would still require a twofold representation, and, as was pointed out above, would still have to take account of a twofold aim. The whole, however, would be too large a body, for which, with the multitude, the variety, and the rivalry of interests of the constituent members, a uniform organic co-operation would no longer be possible. For even at the present time, the extent and the number of the subjects belonging to the single faculties are already so dissimilar, that in reality only the bond of historical development holds them together.

No doubt, for the development of the Technical High School, the competition with the University was, in various ways, of the greatest importance. To the example of the latter it owes its insight into the necessity for free teaching and free research, which have gradually led to its present organisation. On the other hand, on many questions of University teaching, especially on the relative value of lecture and practical exercise, on the development of laboratory instruction, on the widening of the interests in the direction of applied problems, the Technical High School has not been without its influence. Yet all this would not suffice to make the mutual relation so close as to allow the Technical High Schools to be organically incorporated with the Universities. But to an increasing extent, in places where both kinds of institutions are found represented, a mutual connection will and should be formed, to the advantage both of teachers and of taught.

In conclusion, we may quote the words with which the Emperor William (on the occasion of the Charlottenburg celebration), with far-reaching foresight, indicated this connection between, and the aims and tasks that lie before, the two establishments:

„In the relation of the Technical High Schools to the other highest educational establishments, there is no opposition of interests,

and no other competition than this, that each of them, and every member of them for his own part, should do full justice to the claims of life and science, mindful of the words of Goethe:

> Neither be like to the other, but each be like to the highest!
> How is this to be done? Let each be complete in himself!

If the Technical High Schools, that have attained to so flourishing a condition in the century now nearly past, remain faithful to this admonition, the coming age will find them well equipped also to do full justice to the problems, of which the progressive development of the world's civilisation expects, in an increasing measure, the solution from technical science."

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3. General Organisation of the Technical High Schools.

1. Organisation of the Teaching.

The whole of the Technical High Schools of Germany deal with the four technical departments of training for architects, civil engineers, mechanical engineers, and technical chemists. Darmstadt and Karlsruhe have a special department for electro-technology, while in the other High Schools, except in Hanover, this subject is combined with mechanical engineering, in the latter town with the chemical-technical branch. Besides, as technical departments, Berlin has a special division for shipbuilding and for marine engine construction, Brunswick for pharmacy, Karlsruhe for forestry, Munich for agriculture.

In all the High Schools the mathematical-physical subjects, and those of general education, have been combined into a „General Department", but in Stuttgart these form two separate branches.

The regular course of study in the separate departments has been laid down, in all the High Schools, with due regard to their interdependence, and to the necessity for keeping the aims of the various studies separate. Although these schemes are not actually prescribed, they nevertheless afford the students a sure guidance in conducting their studies in such a manner that, within a given time

(usually four years), they may be enabled to acquire the scientific training necessary for their profession. Indeed, with the close connection among the subjects of instruction, an adherence to a definite arrangement of the studies cannot be avoided, and can be considered as only a salutary restriction of the full liberty of study. The introduction of optional subjects, in supplementary lectures and practical exercises, will afford, in spite of the restrictive regulations of the general course of study, a proper guarantee for the training of each individual students.

The following table shows the average number of weekly hours devoted, during a semester, to lectures (L) and practical exercises (E) in the nine Technical High Schools.

Table of Average Number of Weekly Hours of Lectures and Exercises in the Technical High Schools, singly and jointly.

	Architects		Civil Engineers		Mechanical Engineers		Electrical Engineers	
	L.	E.	L.	E.	L.	E.	L.	E.
Aachen	15	20	22	17	21	17	19	16
Berlin	25	32	27	18	19	27	23	25
Brunswick	13	33	16	18	16	21	14*	17
Darmstadt	16	25	19	18	19	18	16	19
Dresden	18	24	20	15	21	17	21	19
Hanover	18	24	19	16	22	18	19	20
Karlsruhe	21	27	21	16	22	16	20	15
Munich	14	24	17	14	17	11	18	15
Stuttgart	13*	29	15	16	19	16	18	16
Average for all the High Schools	17	26	20	17	20	18	19	19

The figures have been compiled from the time-tables of eight semesters, except those marked with,* which cover 7 semesters.

The fees per semester and weekly hour range, for lectures, between 2,50 M. and 4 M., for exercises between 2 M. and 3 M. for ordinary students belonging to the Empire. In some High Schools the college-fees for foreigners are higher, in others the temporary hearers have to pay larger amounts, so that in those cases the rates rise to a maximum of 6 M. per hour for a lecture, of 5 M. for an exercise. Similar differences occur in the entrance-fees. They

amount to 10 and 30 M. for Germans of the Empire, to as much as 40 M. for foreigners. The fees for the practical work in the physical, chemical, mechanical-technical, and electro-technical laboratories are charged, in the majority of High Schools, according to a fixed rate.

Remission of fees can take place, as a rule, according to a ministerially fixed percentage of the total number of students (mostly 4 to 5%).

The college-fees as a whole (apart from the deductions caused, as in Munich, by remission or by share of bursaries), are paid out in only a few High Schools, in the same manner as in the Universities, to the respective teachers. In others the teacher receives only a part up to a fixed amount (maximum 1000 to 3000 M.), while a second part is equally divided among all the teachers, and finally a third part forms a source of income for the general purposes of the High School.

2. Teaching Staff.

The chief classes of teachers in the German Technical High Schools are the following:

1. Ordinary (salaried*)) Professors, who are permanently appointed to the chair of a special subject. In rank and average salary they are on the same level with the ordinary University professors. Their average salary (apart from allowance for house-rent) is about 5000 to 6500 M.

2. Extraordinary (salaried) Professors, who likewise hold a permanent appointment; their position corresponds to that of the similar professors in the University.

3. Other Teachers, in receipt of a remuneration (frequently, as individuals, with the title of Professor), who, chiefly employed in the High School, hold an appointment liable to reversal, for definite lectures or practical exercises, but without being entitled, like State officials, to a pension.

Besides there are Honorary Professors, Privatdocents, and Assistants, whose various functions need not be specified here.

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*) *Vide* Note in Chapt. on Universities, p. 6. (Note of the transl.).

A general view of the teaching power of the High Schools is presented in the following table.

Number of Teachers.

	Department of Architecture			Department of Civil Engineering			Departments of Mechanical Engineering, incl. those of Electro-Technology and (in Berlin that) of Shipbuilding		
	a	b	c	a	b	c	a	b	c
Aachen	7	2	3	7	—	5	9	1	8
Berlin	20	17	41	14	8	38	26	9	97
Brunswick	5	1	—	4	3	1	7	1	4
Darmstadt	6	3	5	7	1	7	9	4	14
Dresden	7	3	4	6	2	3	8	1	12
Hanover	10	2	5	9	1	10	9	—	13
Karlsruhe	8	8	4	6	2	3	11	3	18
Munich	9	—	5	4	4	6	11	1	18
Stuttgart	5	2	3	8	—	5	10	5	9

	Chemical Department (incl. of the Agricultural Department in Munich)			General Department			Total			
	a	b	c	a	b	c	a	b	c	Total
Aachen	10	5	14	7	5	2	40	13	32	85
Berlin	14	17	26	16	16	31	90	67	233	390
Brunswick	6	4	6	9	7	2	31	16	13	60
Darmstadt	4	14	4	14	15	5	40	37	35	112
Dresden	5	6	9	16	8	8	42	20	36	98
Hanover	11	6	14	10	6	3	49	15	45	109
Karlsruhe	11	15	16	9	9	3	45	37	44	126
Munich	11	11	16	14	13	12	49	29	57	135
Stuttgart	3	5	3	10	25	3	36	37	23	96

a) Salaried (ordinary and extraordinary) Professors; also unsalaried ones with teaching commission.

b) Unsalaried (extraordinary, honorary) Professors, without teaching commission, Privatdocents, and Teachers not on the regular staff.

c) Assistants in various departments.

3. Direction and Management.

For the direction and management of the Technical High Schools the following bodies exist:

1. Rector and Senate,
2. Boards of Departments,
3. Joint Board.

Besides, in the three Prussian High Schools, and in the Saxon one, there is a special managing official (for Berlin the syndic appointed by the Ministry of State, for Aachen and Hanover the President of the Provincial Government as commissioner, for Dresden a specially appointed ministerial official). The Government commissioner has in the first place the management of the economical affairs of the High School, and the chief direction of the pay-office. Moreover, in Prussia, he is entitled and obliged to examine communications between the Ministry and the High School, and as occasion offers, in budgetary and legal questions, to report on the latter.

The other High Schools are under the direct control of the respective ministries, and in economical matters the Rector reports directly to them.

The whole of the German High Schools possess the right of electing a Rector, or otherwise of proposing one, with confirmation by the reigning Sovereign or, in Prussia, by the Minister of Education. In Berlin, Darmstadt, Dresden, Karlsruhe, and Stuttgart the Rector is elected for one year, in Brunswick for two, in Aachen, Hanover, and Munich for three years. The Senate consists of the Rector as president, of his predecessor (here called Prorector), permanently of the heads of all the departmental staffs (with elective periods of one to three years), and besides, in some High Schools, of one or more specially elected members of the general staff.

Rector and Senate have to conduct the common affairs of the High School, and are charged with the general superintendence and discipline of the students.

The Rector represents both Senate and School externally, treats in their names with the authorities and with private persons, and conducts the whole of the correspondence.

The Boards of Departments are formed from the salaried, permanent (ordinary and extraordinary) Professors of the departments in question. The admission of other teachers is decided in each special case by the Ministry.

The chief duty of the Boards is to draw up the programmes and time-tables for the separate subjects, and to make the necessary proposals as to the general educational questions of the department, and specially with reference to the teaching appliances, and the appointment of the teachers required.

The most significant right of Senate and Boards is that of making proposals to the Ministry for the filling up of vacancies.

The Joint Board, consisting of all the members of the Departmental Boards (in Stuttgart only of the ordinary professors of the High School), is throughout entrusted with the election of a Rector.

But further, to this Board, in the single High Schools, is reserved the framing of final resolutions as to certain general matters concerning the High School, such as fixing the programmes of work drawn up by, the departments, settling the proposals for the financial estimates questions of discipline (consilium abeundi, etc.).

4. Regulations for Admission.

The students of the Technical High Schools are divided into

a) ordinary students,

b) extraordinary students („Hospitanten", i. e. regular hearers, and occasional hearers),

c) persons allowed to share in the teaching received.

The admission of a German as an ordinary student is, on principle, dependent on the production of a leaving-certificate of a secondary school with nine classes, namely, of a German humanistic or Realgymnasium, or of a Higher Realschule, or of a Bavarian „School of Industry" (i. e. a lower technical school), or also of the Saxon Industrial Academy at Chemnitz.

For the present, all the High Schools, with the exception of Dresden, Munich, and Stuttgart, which adhere strictly to the above regulations, also admit students when they have passed through seven of the nine classes of a secondary school.

In Darmstadt and Karlsruhe admission can also take place, at present, in virtue of a certificate of a Realschule with seven classes, as also when the pupil is ready to pass into the upper secunda of a secondary school with nine classes, or lastly when he possesses the leaving certificate of a Realschule with six classes, or also the authorisation for a one years' military service, but in the last two cases only with the addition of the certificate of a (governmental) technical secondary school with a two years' curriculum.

For Pharmaceutists (Brunswick, Darmstadt, Stuttgart) and for Agriculturists (Munich), there are special terms of admission in accordance with those in the other High Schools.

Foreigners can, as a matter of principle, be admitted as students only when they have complied with the conditions fixed in their own countries for entrance at a University or at a Technical High School. In such cases the foreign certificate must be proved equivalent to one of the above mentioned German ones. In this respect, and in view of the very large number of foreigners (especially Russians) that seek admission at the various High Schools, the terms of entrance have frequently been rendered considerably more stringent, while for students from other German speaking countries (Austria, Switzerland) conditions prevail similar to those for subjects of the German Empire.

As extraordinary students („Hospitanten", i. e. regular hearers, and occasional hearers) can be admitted, provided the interests of the teaching do not suffer thereby, those persons whose aim is a continuation of scientific or artistic education for a special professional purpose, but who have not fully complied with the conditions for admission as students. As a guarantee of general preparatory schooling, it is usual to accept the authorisation for a one year's military service, and proof of a sufficient scientific grounding in the subject in question.

Foreigners, in so far as they are at all admitted as extraordinary students, have to show that they possess, approximately, the same previous schooling.

To the teaching are admitted students of other High Schools (in Berlin and Munich), further, permission to attend can be obtained by persons (of riper age), who wish to participate in single lectures or practical exercises, but whose position in life prevents them from entering either as ordinary or as extraordinary students.

Such permission can also be granted to ladies, when in possession of the necessary previous schooling, and with the consent of the respective teachers.

5. Examinations, Academical Degrees and Dignities.

Examinations for Diplomas.

Down to most recent times no uniform regulation existed for the examinations that form the completion of the studies in the Tech-

nical High Schools. In some of these the examinations qualified for the obtaining of diplomas, and their value was confined to the institution, while they were kept separate from the theoretical State examinations, qualifying for the various public technical appointments. In other High Schools, the first (theoretical) examinations for the Civil Service had been combined with the preliminary and the final examinations in the High School. It is true, the Federal States, interested in this question, had come to an understanding, by which the preliminary examination to be passed in the middle of the course should be of equivalent value for all, thus allowing the students, through the whole of their course, a free choice among all the German High Schools; but this understanding was again circumscribed by the closer regulations for the State examinations properly so called.

The right of bestowing the title of Certificated Engineer, after successful examination, was granted to the Technical High Schools of Prussia in the year 1899, on the occasion of the jubilee of the Charlottenburg High School. Subsequently this right was extended to all the other German Technical High Schools, and thus a fresh opportunity presented itself for making these examinations uniform and of equal value. At present the equalisation of the certificate examinations, if not actually effected, is about to be completed. The following is an outline of the new regulations for examinations, as they have been fixed in the official negociations among the representatives of the Ministries of the various Federal States.

a) The Technical High Schools bestow the degree of Certificated Engineer in virtue of an examination, by which the candidate has to show that, by an academic-scientific study, he has acquired a sufficient foundation for independent professional activity in the subject chosen.

b) The diplomas can be obtained in thirteen different subjects, which need not be specified.

c) On the bestowal of the degree a diploma is presented, showing the result of the examination.

d) The diploma examination is divided into a preliminary and a principal examination.

e) The admission to examination is conditional at least on:

1. The producing of a leaving-certificate of a German secondary school with nine classes, of a Bavarian „School of Industry" (i. e. a lower technical school), or of the Saxon Industrial Academy at Chemnitz.

Exceptions are allowed only in the case of foreign testimonials, when these appear to the authorities of equal value with the certificates just mentioned.

During the present time of transition and, partly perhaps, also as long as admission to the High School, as ordinary student, is still possible on easier conditions than the above mentioned normal ones, admission to the diploma examinations will also be allowed on such easier terms.

2a) For the preliminary examination: evidence of a two years' course at a German Technical High School.

2b) For the examination in one special subject: evidence of having passed, in a German Technical High School, the preliminary examination in the subject in which the principal examination is to be taken, altogether at least a three years' course at a Technical High School (for mechanical and electrical engineers also a year's workshop practice).

Semesters passed at a University, at a Mining Academy, or at another professional High School may count for the time preparatory to the two examinations.

f) The preliminary examination extends to those branches of science that prepare for, and lead to, the special subject.

The principal examination consists of the written treatment of a subject for the diploma, chosen by the board of examiners, or, instead of this (sometimes along with it), of several such questions of smaller extent, to be treated under supervision; next of an oral part, dealing with the chief branches of the special subject.

Besides, for both examinations, the results of the practical exercises performed during the course are to be presented, and taken into account, in forming a judgment are the examination.

Lately, these regulations have also, in most of the Federal States, been applied, in the case of the first (theoretical) State examination for the technical Civil Service. This first examination is everywhere followed by a second, practical, State examination, after a preparatory practical course, as a rule, of three years.

For the students of agriculture in Munich, a similar examination takes place, by which the diploma for that subject may be obtained.

n addition to the technical State examinations, others are also indirectly connected with some single Technical High School, such as the State examinations for teachers in the various divisions of physical and technical instruction, and also the pharmaceutical exa-

minations, as well as those instituted by the Imperial government for alimentary analysts.

Graduation.

When the Technical High Schools received the right of bestowing the title of Certificated Engineer, they obtained at the same time that of granting the degree of Doctor, in Prussia, Saxony, Württemberg, Baden, Hesse, and Brunswick, under the name of „Doctor of Engineering" („Doctoringenieur"), in Bavaria under that of „Doctor of Technical Science".

The conditions on which this degree is bestowed, with reference to the producing of a scientific dissertation, are the same as at the Universities. But in addition, and without exception, the candidate must previously have passed the diploma examination, or an equivalent State examination. The necessity of possessing the diploma implies also a previous academical course of study of at least three years.

When the dissertation has been reported on and accepted, it is followed by an oral examination, which, starting from the subject dealt with in the dissertation, has to cover the candidate's special subject.

All the technical departments in the whole of the High Schools have the right of granting degrees, in Bavaria also the agricultural and the general department, namely, in the subjects represented by them, in so far as these belong to the technical sciences, or when they appear as their foundation or as accessory to them. The graduates of the technical departments of the Munich High School, when receiving the doctor's degree, are also entitled to that of „Doctor of Engineering".

All the High Schools have besides the right of bestowing, honoris causa, and as a rare distinction, the degree of Doctor of Engineering (or also of Doctor of Technical Science) on men prominent in the technical sciences.

Such persons must be proposed by the unanimous vote of a department, and approved of by a unanimous resolution of the Senate of the High School.

Other Examinations.

In addition to the examinations already mentioned, half-yearly ones take place in all the Technical High Schools, in the separate subjects of instruction. Only those students are entitled to take part

in them, who have been enrolled for the subject in question. At their own desire the students receive a testimonial as to the results of these examinations, which can also be registered in the final certificates. These examinations are obligatory for candidates for bursaries, and for those students who apply for remission of college fees.

In Darmstadt and Karlsruhe, in addition to the diploma examination, special ones in particular branches („Fachprüfungen") take place, in Darmstadt intended exclusively for foreigners, in Karlsruhe generally for those students who desire to give evidence of knowledge in a special branch of study. The examination extends over a group of at least three subjects, and for admission to it no leaving-certificate in required.

Prize-Essays.

So as to encourage scientific and artistic pursuits among the students, most of the Technical High Schools, once a year, propose subjects for prize-essays, in the various departments. The award to the successful competitor consists in a sum of money.

4. Total Attendance.

The following Table shows the total attendance for all the German Technical High Schools and for the one in Zürich. The figures are those of the winter semester.

Table of Attendance.

Winter Semester	Aachen	Berlin	Brunswick	Darmstadt	Dresden	Hanover	Karlsruhe	Munich	Stuttgart	Total for the German High Schools	Zürich
1830/31	—	179	—	—	—	—	—	—	—	—	—
1831/32	—	161	—	—	—	123	—	—	—	—	—
1832/33	—	94	—	—	—	128	276	—	—	—	—
1833/34	—	125	—	—	—	153	316	—	—	—	—
1834/35	—	132	—	—	—	190	272	—	—	—	—
1835/36	—	114	—	—	—	187	274	—	—	—	—
1836/37	—	128	—	—	—	169	310	—	—	—	—
1837/38	—	125	—	—	—	175	301	—	—	—	—
1838/39	—	138	—	—	—	169	332	—	—	—	—
1839/40	—	146	—	—	—	154	374	—	—	—	—
1840/41	—	150	—	—	—	153	411	—	—	—	—

Winter Semester	Aachen	Berlin	Brunswick	Darmstadt	Dresden	Hanover	Karlsruhe	Munich	Stuttgart	Total for the German High Schools	Zürich
1841/42	—	159	—	—	—	171	427	—	—	—	—
1842/43	—	156	—	—	—	160	393	—	—	—	—
1843/44	—	163	—	—	—	214	331	—	—	—	—
1844/45	—	172	—	—	—	280	349	—	—	—	—
1845/46	—	185	—	—	—	321	358	—	—	—	—
1846/47	—	211	—	—	—	310	391	—	—	—	—
1847/48	—	246	—	—	—	335	393	—	—	—	—
1848/49	—	331	—	—	—	327	373	—	—	—	—
1849/50	—	430	—	—	—	294	338	—	—	—	—
1850/51	—	558	—	—	—	290	332	—	—	—	—
1851/52	—	546	—	—	—	317	421	—	—	—	—
1852/53	—	550	—	—	—	284	391	—	—	—	—
1853/54	—	454	—	—	—	321	380	—	—	—	—
1854/55	—	509	—	—	—	270	421	—	—	—	—
1855/56	—	580	—	—	—	272	448	—	—	—	231
1856/57	—	616	—	—	—	312	538	—	—	—	286
1857/58	—	641	—	—	—	384	665	—	—	—	276
1858/59	—	767	—	—	—	455	803	—	—	—	294
1859/60	—	829	—	—	—	459	843	—	—	—	332
1860/61	—	851	—	—	—	460	876	—	—	—	499
1861/62	—	836	—	—	—	432	828	—	—	—	607
1862/63	—	842	—	—	—	440	746	—	—	—	679
1863/64	—	848	—	—	—	411	630	—	—	—	747
1864/65	—	827	—	—	—	406	680	—	—	—	672
1865/66	—	1 005	—	—	—	428	587	—	—	—	769
1866/67	—	929	—	—	—	403	520	—	—	—	769
1867/68	—	1 100	—	—	—	337	482	—	—	—	762
1868/69	—	1 108	—	—	—	335	483	380	—	—	785
1869/70	—	1 263	—	154	—	335	478	529	—	—	867
1870/71	223	768	—	135	—	221	331	564	—	—	929
1871/72	345	1 453	—	168	310	371	469	922	672	4 710	1 050
1872/73	369	1 407	—	197	325	484	528	1 246	667	5 223	1 062
1873/74	421	1 469	—	196	336	576	644	1 361	632	5 635	951
1874/75	452	1 545	—	199	334	666	622	1 395	804	6 017	962
1875/76	463	1 642	—	211	413	868	630	1 354	814	6 395	1 014
1876/77	410	1 735	—	228	539	765	636	1 291	813	6 417	987
1877/78	294	1 713	—	213	648	728	587	1 194	542	5 919	903
1878/79	213	1 484	—	190	690	617	523	1 067	690	5 474	787
1879/80	218	1 284	144	166	582	463	434	1 027	581	4 899	791
1880/81	184	1 086	166	137	522	378	336	952	633	4 394	741
1881/82	145	916	165	156	408	315	316	913	583	3 917	685
1882/83	144	880	165	157	449	297	301	777	521	3 691	685
1883/84	168	903	179	156	408	304	303	723	533	3 677	702
1884/85	160	887	172	161	428	367	294	698	513	3 685	732

Winter Semester	Aachen	Berlin	Brunswick	Darmstadt	Dresden	Hanover	Karlsruhe	Munich	Stuttgart	Total for the German High Schools	Zürich
1885/86	177	1 030	185	181	466	308	298	731	415	3 791	770
1886/87	206	1 104	194	193	441	306	356	686	421	3 907	833
1887/88	195	1 147	208	225	434	353	414	733	451	4 160	970
1888/89	207	1 292	213	257	393	426	490	804	433	4 515	997
1889/90	218	1 457	241	278	380	420	528	857	491	4 670	961
1890/91	203	1 640	273	318	412	506	587	891	503	5 333	1 084
1891/92	223	1 891	284	415	467	590	659	1 012	664	6 205	1 130
1892/93	246	2 117	312	492	485	628	755	1 147	562	6 744	1 154
1893/94	295	2 405	291	577	594	721	881	1 327	733	7 824	1 172
1894/95	305	2 632	370	743	701	811	901	1 423	755	8 641	1 230
1895/96	353	2 735	392	884	760	910	917	1 567	836	9 354	1 250
1896/97	363	2 954	399	1 186	853	928	996	1 756	910	10 345	1 330
1897/98	398	3 207	390	1 315	910	1 060	1 071	1 928	947	11 226	1 336
1898/99	481	3 428	410	1 460	1 033	1 197	1 098	2 128	976	12 211	1 390
1899/1900	542	3 804	485	1 638	1 106	1 308	1 364	2 308	991	13 546	1 456
1900/01	577	4 441	483	1 683	1 214	1 471	1 553	2 488	1 056	14 966	1 511
1901/02	704	4 811	509	1 803	1 267	1 646	1 827	2 821	1 203	16 591	1 636
1902/03	828	4 464	511	1 970	1 294	1 741	1 887	2 944	1 187	16 826	1 773

5. Statistical Summaries.

1. Technical High School of Berlin (Prussia).

(Founded 1799, reorganised 1879).

Number of Teachers.

Period	State-appointed Professors	Other state-appointed Teachers	Privat-docents	Lecturers for Foreign Languages	Constructive Engineers	Permanent Assistants
S. 1903	47	43	65	3	10	47
S. 1895	36	33	54	3	—	22
S. 1890	34	28	26	2	—	18
S. 1885	30	25	24	2	—	15
S. 1879	31	27	22	—	—	—

Number of Students.

Period	Architects	Civil Engineers	Mechanical Engineers	Ship Builders	Chemists and Metallurgists	General Science
Summer 1903 . . .	466	613	1366	330	306	8
Winter 1902/03 . .	486	665	1616	355	335	6
„ 1900/01 . .	469	559	1532	260	336	1
„ 1895/96 . .	341	433	915	148	144	1
„ 1890/91 . .	233	265	395	117	159	—
„ 1885/86 . .	152	127	269	40	70	4

Number of others admitted to Attendance on Lectures.

Summer 1903	815	Winter 1902/03	1001
Winter 1901/02	1318	„ 1900/01	1284

Number of Women admitted.

Summer 1903	48	Winter 1902/03	73
Winter 1901/02	115	Winter 1900/01	97

Total of Receipts of the High School.

Financial Year	Interest on Capital for Bursaries and on Endowments M.	From Private Earnings M.	State Allowance M.	Total M.
1902/03	13 443,50	893 290,29	851 076,15	1 744 366,44
1889/90	8 247,—	219 604,21	610 117,26	829 721,47
1879/80	3 644,25	145 198,29	441 335,69	586 533,98

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors[1]) and other Teachers M.	Allowance for House-rent of Teachers and Officials M.	For Institutes and Collections M.	For Personal Grants and Bursaries M.	Administrative and other Expenses M.
1902/03	842 539,44	42 048,41	171 513,51	30 900,—	657 265,08
1889/90	349 791,17	33 469,—	104 501,44	45 302,—	296 657,86
1879/80	299 623,50	31 045,—	58 630,93	38 240,—	158 994,55

[1]) The average salary of a Professor amounts to 6500 M. with addition for house-rent of 900 M. Specially distinguished Teachers receive extra personal pay.

2. Technical High School of Hanover (Prussia).

(Founded 1831.)

Number of Teachers.

Year	Professors who are Members of the Divisional Colleges	Other Professors and Teachers	Privat-docents	Lecturers (Lectors)	Total
1902/3	34	17	10	1	62
1890/1	29	10	7	—	46
1880/1	23	10	6	—	39
1853/4	—	—	—	—	14
1831/2	—	—	—	—	11

Number of Students.

Year	Total	Number of Students in				
		Divis. I	Divis. II	Divis. III	Divis. IV	Divis. V
W. S. 1902/3	1 296	148	309	546	289	4
„ 1900/1	1 082	131	283	421	292	5
Year 1890/1	387	51	125	115	92	4
„ 1880/1	268	—	—	—	—	—
„ 1853/4	255	—	—	—	—	—
„ 1831/2	98	—	—	—	—	—
„ 1831	57	—	—	—	—	—

Year	Regular Hearers	Occasional Hearers	Women	Total	Foreigners
W. S. 1902/3	309	136	282	2 023	166
„ 1900/1	250	117	22	1 471	131
Year 1890/1	317	—	—	704	67
„ 1880/1	153	—	—	421	58
„ 1853/4	66	—	—	321	33
„ 1831/2	25	—	—	123	4
Prep. Course 1831	7	—	—	64	1

Total of Receipts and Expenditure of the High School.

Receipts.

Financial Year	From Private Earnings M.	State Allowance M.	Total M.
1902	275 028	313 583	588 611
1900	229 692	307 412	537 103
1892/3	48 200	266 834	315 034
1880/1	—	—	243 600
1853/4	—	—	57 329
1831/2	—	—	18 679

Expenditure.

Financial Year	Salaries and Remunerations M.	Material Expenses M.	For Collections and Libraries M.	For Buildings, Taxes, Charges, Travelling M.
1902	432 936	61 724	58 650	35 302
1890	387 329	60 991	55 467	33 316
1892/3	231 994	35 980	27 060	10 000
1880/1	243 600			
1853/4	57 329			
1831/2	18 679			

3. Technical High School of Aachen (Prussia).

(Founded 1870.)

Number of Teachers.

Semester	Salaried Professors	Teachers	Privatdocents	Permanent Assistants
S. 1903 . .	34	16 [1])	8	29
S. 1878 . .	22	8	2	15
W. 1870 . .	17 [2])	7 [3])	1	7

[1]) Incl. 7 Teachers of the Commercial High School. [2]) ordinary (i. e. permanently appointed) Teachers. [3]) extraordinary and assistant Teachers.

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	585	121	W. 1900/1	463	106
W. 1902/3	609	132	S. 1900	421	—
S. 1902	564	125	W. 1890	141	—
W. 1901/2	542	125	W. 1880	123	—
S. 1901	486	103	W. 1870	128	—

Number of Students in the Department of

Semester	Architecture	Civil Engineering	Mechanical Engineering			Mining and Metallurgy, Chemistry and Electrochemistry					General Sciences			Grand Total
			Machine-Construction	Electrotechnology	Total	Mining	Metallurgy	Chemistry	Electrochemistry	Total	Natural Sciences	Commercial Science	Total	
S. 1903	52	68	102	65	167	109	130	38	5	282	5	11	16	585
W. 1902/3	60	69	106	75	181	110	126	39	7	282	5	12	17	609
W. 1900	57	51	65	71	136	53	110	30	12	205	4	10	14	463
W. 1895	38	27	56	37	93	20	29	15	9	73	3	—	3	234
W. 1890	11	23	44	9	53	10	19	24	—	53	1	—	1	141
W. 1880	23	32	35	—	35	2	14	17	—	33	—	—	—	123
W. 1870	37	35	28	—	28	—	6	19	—	25	3	—	3	128

Number of Regular and Temporary Hearers.

S. 1903 168	S. 1902 154	S. 1901 125
W. 1902/3 219	W. 1901/2 162	W. 1900/1 114

Extraordinary Expenditure since 1875: 1 852 744 M.

Total of Receipts.

Financial Year	From private Property, Allowances from Corporations	From private Earnings (College Fees)	State Allowance	Total
	M.	M.	M.	M.
1903	45 474	72 978	375 754	495 031
1890	59 600	30 000	246 266	338 920
1878	59 600	39 000	148 700	248 200
1871	60 000	30 000	30 000	120 000

Total of Ordinary Expenditure.

Financial Year	Salaries & Remunerations of Professors and other Teachers	Allowance for House-rent of Teachers and Officials	For Institutes and Collections incl. Assistants	Bursaries	Administrative and other Expenses
	M.	M.	M.	M.	M.
1903	205 840	24 360	121 750	10 775	118 241
1890	158 700	17 844	76 950	—	80 326
1878	118 050	15 432	84 730	—	29 988
1871	77 200	—	26 700	—	17 100

Besides allowance for salaries 1903: 10 500 M.; 1890: 7 300 M.; 1878: 3600 M.

Since the Winter Semester of 1898/99 a Commercial Department has been connected with the Technical High School, which in 1903 received the designation of „Commercial High School in connection with the Royal Technical High School." Its Statistics are the following:

Number of Teachers.

Semester	Professors and other Teachers in the Techn. High School	Teachers in the Commercial High School	
		Chief Department	Subsidiary Department
S. 1903	16	3	4
W. 1898	14	2	4

Number of Students.

Semester	Regular Students	Temporary Hearers	Total
S. 1903	11	3	14
W. 1898	9	12	21

Total of Receipts.

Financial Year	From private Property, Allowances from Corporations M.	From private Earnings M.	Total M.
1903	21 050	1 759	22 809
1898	22 500[1])	2 077	24 577

[1]) Including 15 000 M. in one sum from the Aachen and Munich Fire Insurance Company.

Total of Expenditure.

Financial Year	Salaries and Remuneration of Professors and other Teachers M.	For Institutes and Collections M.	Administrative and other Expenses M.	Total
1903	19 649	1 400	1 760	22 809
1898	7 596[1])	460[1])	420[1])	8 476[1])

[1]) These sums represent the requirements of only half a financial year. To them must be added 5804 M. as extraordinary expenditure for original establishment.

4. Technical High School of Munich (Bavaria). (Founded 1868).

Number of Teachers.

Year	Professors	Privatdocents and Lecturers	Assistants	Other Teachers	Total
1868/69	21	1	7	11	40
1903/04	51	16	57	12	135

Number of Attendants.

Year	Total Attendance	Students	Non-matriculated Hearers	Temporary Hearers
1868/69	380	286	25	69
1870/71	554	426	29	99
1875/76	1329	1063	112	154
1880/81	945	689	99	157
1885/86	717	424	91	202
1890/91	882	559	146	177
1895/96	1561	1182	119	260
1900/01 (W. S.)	2488	2023	178	287
1901 (S. S.)	2441	1992	176	273
1901/02 (W. S.)	2822	2368	201	253
1902 (S. S.)	2754	2302	192	260
1902/03 (W. S.)	2965	2433	197	235
1903 (S. S.)	2854	2381	177	296

Number of Students in the Various Departments.

Year	General	Civil Engineers	Architects	Mechanic. Engineers	Chemists	Agriculturists	Total
1868/69	100	193	29	33	25	—	380
1870/71	179	235	36	53	51	—	554
1875/76	408	438	184	193	92	14	1329
1880/81	477	117	139	117	81	14	945
1885/86	188	91	87	184	141	26	717
1890/91	180	152	136	258	128	28	882
1895/96	289	335	264	504	136	33	1561
1900/01	374	488	382	1027	166	51	2488
1902/03 (W. S.)	440	737	440	1105	176	67	2965
1903 (S. S.)	389	724	422	1073	176	60	2854

Number of Students according to Nationality.

Year	Subjects of the Empire	Bavarians among them	Foreigners	Total
1868/69	343	319	37	380
1870/71	440	403	114	554
1875/76	959	857	370	1329
1880/81	825	725	120	945
1885/86	534	403	183	717
1890/91	701	482	181	882
1895/96	1281	953	280	1561
1900/01	2086	1718	402	2488
1902/03 (W. S.)	2462	1988	503	2965
1903 (S. S.)	2367	1860	487	2854

5. Technical High School of Dresden (Saxony).

(Founded 1828, reorganised 1851.)

Number of Teachers.

	Ordinary Professors	Extraordinary Professors	Commissioned Teachers	Privat-docents
S. 1903	39	3	3	17
S. 1878	25	4	4	11
S. 1850	in all 21 Teachers	} division into ordinary professors,		
S. 1828	„ „ 11 „	} etc. did not exist yet.		

Number of Matriculated Students and Hearers.

S. 1903	: 1097,	among them 267	Foreigners
W. 1902/3	: 1101,	„ „ 300	„
S. 1902	: 1082,	„ „ 269	„
W. 1901/2	: 1046,	„ „ 267	„
S. 1901	: 1036,	„ „ 231	„
W. 1900/1	: 937,	„ „ 247	„
S. 1900	: 1012,	„ „ 234	„
S. 1890	: 309,	„ „ 84	„
S. 1880	: 434,	„ „ 105	„
S. 1870	: 284,	—	
1860	: 262,	—	
1850	: 219,	—	
1840	: 170,	—	
1828	: 161,	—	

Number of Students and Hearers in

Semester	Architecture	Civil Engineering	Mechanical Engineering	Chemistry	General Subjects
S. 1903	173	286	405	179	54
W. 1902/03	155	296	426	176	48
S. 1900	164	268	384	155	41
W. 1895/96	106	168	206	112	18
W. 1890/91	44	71	112	71	11
S. 1880	146	79	115	51	33
S. 1870	—[1]	144	57	34	49

[1] The department of Architecture was founded in 1875.

Number of others admitted to hear Lectures.

S. 1903: 99; W. 1902/3: 193; S. 1902: 129; W. 1901/2: 214; S. 1901: 98; W. 1900/1: 176.

Number of Women admitted.

S. 1903: 3; W. 1902/3: 3; S. 1902: 4; W. 1901/2: 3; S. 1901: 1; W. 1900 to 1901: 3.

Year	Expenditure					Private Receipts (from Fees, and from the working of Analytic and Testing Stations)
	Personal Expenses		Material Expenses		Total of Expenses	
	Teaching Staff	Other Officials	General Expenses of Administration	Teaching Appliances, Institutes and Collections		
	M.	M.	M.	M.	M.	M.
1869	79 179	29 105	38 738	171 276	318 298	3 637
1874	138 555	64 663	50 842	67 146	321 206	13 707
1879	163 931	93 341	71 557	66 362	395 191	15 114
1884	178 687	98 570	50 064	75 271	402 592	14 295
1889	193 158	106 407	63 402	85 853	448 820	20 544
1894	222 301	115 814	52 907	80 892	471 914	24 446
1899	235 367	135 250	104 525	103 988	579 130	70 650
1902	256 597	176 277	113 331	134 762	680 967	82 876

Outlay on the Buildings of the High School.

1.	Principal building, begun 1866, finished 1873	2 130 437 M.
2.	New additional buildings	2 649 495 „
3.	Additional plant	423 180 „
	Total . .	5 203 112 M.

Total of Receipts of the High School.

Financial Year	Receipts from Students, etc.	State Allowance	Total
	M.	M.	M.
1903	59 550	588 710	648 260
1900	48 650	511 044	559 694
1880	24 880	254 106	278 986

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent	For Institutes and Collections	Administrative and other Expenses
	M.	M.	M.	M.
1903 . . .	346 050	—	100 160	202 050
1900 . . .	318 475	—	79 100	162 119
1880 . . .	171 795	—	30 500	76 691

Every year about 40 900 M., derived from endowments, are distributed in bursaries and personal grants.

6. Technical High School of Stuttgart (Württemberg).

(Founded 1829)

Semester	Ordinary Professors	Extraordinary Professors	Privat-docents	Assistant Masters
Summer 1903	31	3	20	21
„ 1878	25	—	18	17

Number of Matriculated Students.

S. 1903	805,	among them	88	foreigners
W. 1902/3	948,	„	111	„
S. 1902	766,	„	77	„
W. 1901/2	918,	„	114	„
S. 1901	722,	„	83	„
W. 1900/01	850,	„	112	„
S. 1900	661,	„	85	„
W. 1899/00	787,	„	118	„
W. 1889/90	285,	„	50	„
W. 1879/80	404,	„	94	„
W. 1869/70	541,	„	92	„
(incl. 134 pupils of the math. division [Preparatory School])				
W. 1859/60	264(73),	„	27	„
W. 1849/50	169(43),	„	11	„

Number of Students in

Semester	Architecture	Civil Engineering	Mechanical Engineering incl. Electro-technology	Chemistry incl. Metallurgy and Pharmacy	Mathematics and Natural Science	General Subjects
S. 1903	162	183	317	100	27	16
W. 1902/03	217	219	360	112	28	12
„ 1899/1900	212	141	295	104	30	5
„ 1894/95	135	95	198	71	18	53
„ 1889/90	60	29	79	70	16	31
„ 1879/80	187	40	33	50	83	11
„ 1869/70	123	167	48	69	—[1] Commercial School	— Other Professions
„ 1859/60	27	24	51	37	16	36
„ 1849/50	25	14	13	6	8	60

[1] Mathematical Preparatory School 134, 73, 43.

Number of others admitted to hear Lectures.

S. 1903	79	1902	113	1901	76	
W. 1902/03	239	1901/2	285	1900/01	206	

Total of Receipts of the High School.

Financial Year	From private Receipts M.	State Allowance M.	Total M.
1902/03	151 071	397 022	548 093
1890/91	33 763	264 213	297 976
1877/78	46 798	213 962	260 760
1865/66	35 439	98 571	184 010
1849/50	5 325	40 910	46 235

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers M.	Allowance for House-rent M.	For Institutes M.	Bursaries and Financial Aid M.	Administrative and other Expenses M.
1902/03 .	275 424	20 727	182 221	7630 (besides 12610 M. bequeathed for educational purposes	67 063
1890/91 . .	166 274	13 193	76 257	7150 (3596)	38 565
1877/78 . .	162 580	—	67 169	4300 (5942)	31 455
1865/66 . .	78 708	—	24 342	3772	20 112
1849/50 . .	36 395	—	5 125	—	4 715

Extraordinary Expenditure during the last 25 years (excl. of outlay on new buildings) 101 525 M.

7. Technical High School of Karlsruhe (Baden).

(Founded 1825).

Number of Teachers.

Summer	Ordinary Salaried Professors	Extraordinary Salaried Professors	Ordinary Honorary Professors	Privatdocents	Professors in the Chief Department	Teachers	Teachers in the Subsidiary Department
1903	33	4	1	17	5	6	6
1878	26	2	—	4	4	6	—
1850	17	—	—	—	5	5	—
1835	12	—	—	—	16		

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S.-S. 1903 . . .	1486	356	W.-S. 1890/1 . .	523	111
W.-S. 1902/3 . .	1602	392	„ 1880/1 . .	301	31
S.-S. 1902 . . .	1512	369	Whole Year 1870/1	311	95
W.-S. 1901/2 . .	1602	372	„ 1860/1	830	130
S.-S. 1901 . . .	1380	306	„ 1850/1	313	35
W.-S. 1900/1 . .	1371	299	„ 1840/1	382	?
S.-S. 1900 . . .	1134	226	„ 1832/3	255	?

Number of Students in the Department of

Semester and Year	(Former Preparatory School)	Mathematics and General Subjects	Civil Engineering	Architecture	Forestry	Mechanical Engineering	Electro-technology	Chemistry	(Former Commercial and Postal School)	(Former Agricultural School)
S.-S. 1903 . .	—	8	232	254	31	460	323	178	—	—
W.-S. 1902/3 .	—	7	251	286	30	488	344	196	—	—
W.-S. 1900/1 .	—	9	223	219	13	430	319	153	—	—
„ 1895/6 .	—	15	97	111	39	318	61	116	—	—
„ 1890/1 .	—	6	45	56	45	247	—	102	—	—
„ 1880/1 .	—	21	48	73	22	103	—	34	—	—
Whole Year 70/71	—	98	39	66	20	49	—	29	—	10
„ 1860/1	62	270	117	78	30	195	—	48	30	—
„ 1850/1	55	60	24	53	17	52	—	17	35	—

Apart from these regularly matriculated Students, permission to attend lectures is also granted to so-called „Hospitanten“ („temporary hearers“) and „Teilnehmer“ („occasional hearers“).

Number of „Temporary“ and „Occasional“ Hearers.

Semester	„Temporary“ Hearers	„Occasional“ Hearers	
S.-S. 1903	104	85	(among them 7 Women)
W.-S. 1902/3	126	138	(„ „ 43 „)
S.-S. 1902	72	51	
W.-S. 1901/2	91	134	(„ „ 45 „)
S.-S. 1901	77	58	
W.-S. 1900/1	85	97	(„ „ 6 „)

Women, when subjects of the Empire, have been allowed to matriculate since the Summer of 1903.

Total of Receipts.

Financial Year	From private Property (incl. Rent)	From private Earnings (College and Laboratory Fees)	State Allowance	Total
1902	12 354 M.	211 949 M.	445 087 M.	677 581 M.
1890	2 535 „	74 402 „	241 900 „	318 887 „
1878	3 285 „	76 693 „	165 760 „	245 738 „
1865	1 995 flor.	44 899 flor.	46 592 flor.	93 486 flor.
1850	2 233 „	15 247 „	34 592 „	52 072 „

Total of Ordinary Expenditure.

Financial Year	Salaries and Remunerations of Professors and other Teachers	Allowance for House-rent of Teachers and Officials	For Institutes and Collections (incl. single Sums)	Administrative and other Expenses (incl. smaller extraordinary Expenses)
1902	251 842 M.	49 087 M.	117 564 M.	233 583 M.
1890	154 950 „	24 774 „	43 665 „	107 539 „
1878	136 375 „	20 263 „	22 747 „	33 134 „
1865	49 689 flor.	—	6 676 flor.	11 430 flor.
1850	34 450 „	—	3 451 „	5 848 „

8. Technical High School of Darmstadt (Hesse).

(Founded 1836, reorganised as Technical High School 1877.)

Number of Teachers.

Semester	Ordinary Professors	Extraordinary Professors	Privatdocents	Lecturers (Lectors)
S. 1903	32	8	27	8
S. 1878	18	3	1	9

Number of Matriculated Students.

Semester	Total	Foreigners among them	Semester	Total	Foreigners among them
S. 1903	1470	432	W. 1900/1	1390	388
W. 1902/3	1521	493	S. 1900	1366	379
S. 1902	1401	381	W. 1890	312	17
W. 1901/2	1459	414	W. 1880	123	9
S. 1901	1356	344	W. 1870	101	8

Number of Students in

Semester	Architecture	Civil Engineering	Mechanical Engineering	Electro-technology	Chemistry	General Subjects
S. 1903	153	230	459	441	157	30
W. 1902/3	158	223	453	520	153	34
W. 1900	112	186	378	559	132	23
W. 1895	75	102	214	287	70	25
W. 1890	41	48	65	110	30	18
W. 1880	26	36	26	—	17	18
W. 1870	7	14	6	—	5	69

Number of others admitted to hear Lectures.

S. 1903 : 411 W. 1902/3 : 449 S. 1902 : 379
W. 1901/2 : 344 S. 1901 : 248 W. 1900/1 : 293

Total of Receipts and of Ordinary Expenditure of the High School.

	Receipts				Expenditure				
Year	From Endowments, etc.	From private Earnings (College Fees, etc.)	State Allowance	Total	Salaries, etc. of Professors and other Teachers	Teaching Apparatus	Administrative Expenses (incl. Salaries of Officials and Servants)	Bursaries (incl. Remission of Fees)	Total
1903	6 500	420 000	220 000	646 500	410 000	110 000	110 000	16 500	646 500
1890	3 000	45 000	156 000	204 000	138 000	37 850	25 000	3 150	204 000
1878	2 400	20 000	133 000	155 400	107 600	26 000	20 000	1 800	155 400

9. Technical High School of Brunswick (Brunswick).

(Founded 1751, as High School 1872.)

Number of Teachers.

Year	Total of Teachers	Professors	Retired Professors with Teaching Commission or venia legendi	Paid Assistant Masters	Assistants	Privatdocents and unpaid Assistant Masters
1878	33	21	—	10	3	3
1880	32	21	—	9	3	2
1885	41	19	—	12	5	5
1890	41	22	1	12	5	6
1895	48	22	3	14	6	5
1900	51	22	2	17	11	6
1903	56	22	2	19	14	6

Teachers employed in more than one function are counted under each.

Number of Students and Hearers.

Semester	Architecture	Civil Engineering	Mechanical Engineering	Chemistry	Pharmacy	General Subjects	Total
W. S. 1879/80	16 (—)	14 (—)	26 (3)	23 (—)	22 (—)	43 (43)	144 (46)
S. S. 1880	17 (—)	14 (—)	22 (2)	23 (—)	28 (—)	43 (43)	147 (45)
W. S. 1884/85	10 (2)	8 (2)	34 (13)	42 (16)	31 (—)	47 (47)	172 (80)
S. S. 1885	12 (3)	8 (1)	36 (14)	47 (24)	36 (—)	40 (40)	179 (82)
W. S. 1889/90	13 (8)	20 (5)	57 (27)	35 (15)	30 (—)	86 (82)	241 (137)
S. S. 1890	14 (6)	26 (6)	54 (27)	47 (18)	31 (—)	58 (50)	230 (107)
W. S. 1894/95	40 (9)	50 (5)	151 (63)	62 (22)	21 (—)	46 (40)	370 (139)
S. S. 1895	38 (8)	49 (3)	150 (55)	76 (21)	19 (—)	37 (32)	369 (119)
W. S. 1899/00	50 (9)	59 (2)	241 (107)	53 (20)	46 (10)	36 (36)	485 (184)
S. S. 1900	47 (9)	70 (4)	240 (116)	60 (23)	48 (10)	18 (17)	483 (179)
W. S. 1902/03	45 (8)	82 (8)	218 (94)	75 (15)	51 (1)	40 (40)	511 (166)
S. S. 1903	39 (7)	83 (7)	204 (84)	88 (21)	66 (2)	29 (28)	509 (149)

The numbers in brackets indicate the non-matriculated students or also the hearers.

Since the autumn of 1898 women have been admitted as hearers in the lectures on the History of Art and on Literary History, subsequently also in those on Philosophy. The number of women was:

W. S. 1898/99 . 55 S. S. 1899 . . 45 W. S. 1899/00 . 144 S. S. 1900 . . 36
W. S. 1900/01 . 122 S. S. 1901 . . 49 W. S. 1901/02 . 129 S. S. 1902 . . 25
W. S. 1902/03 . 97 S. S. 1903 . . 5

Summary of Receipts of the High School.

Year	Entrance Fees, Lecture Fees, and other private Receipts	State Allowance	Total
1878	14 040	51 135	65 175
1880	13 580	43 380	56 960
1885	12 680	43 900	56 580
1890	15 640	43 600	59 240
1895	28 230	38 530	66 760
1900	40 780	38 372	79 152
1903	71 130	32 270	103 400

Summary of State Expenditure (in Marks) for the High School.

1878 . . 171 130 1880 . . 164 220 1885 . 165 266.67 1890 . . 184 730
1895 . . 194 430 1900 . . 220 622 1903 . 228 562

Extraordinary expenditure, especially that on building alterations, is not included in the above Summary.

VII. HIGH SCHOOLS FOR SPECIAL SUBJECTS.

As the Universities in their faculties, the Technical High Schools comprise in their departments several branches of study. But along with these, there are also institutions that are destined exclusively for the scientific teaching of separate technical subjects. Some of these subjects, such as mining engineering, forestry, the science of agriculture, are also represented in certain Technical High Schools, while agriculture is taught in several, forestry in a few, of the Universities. The special subject of veterinary science, on the other hand, is in the great majority of cases assigned to the Veterinary High Schools, while only in the University of Giessen there exists a special department for this subject in the medical faculty. An entirely new kind of institutions has sprung up in the shape of Mercantile High Schools. Three of these are independent establishments, only one, that in Aachen, exists as a department of the Technical High School there.

These special institutions show their character as High Schools by imparting the highest scientific education in their subjects, and by demanding of their students the same previous schooling as the Universities. Into most of them only such scholars are admitted as posses the leaving-certificate of a secondary school with nine classes, the others receive also those who have passed through only six classes, but in that case they demand evidence of a previous practical preparation.

In the following remarks a few particulars are given as to the special High Schools at present existing in the German Empire.

1. Mining Academies.

Among the German Federal States, only Prussia, and in the second place, Saxony possess a mining industry of prominent economical importance. The Prussian State itself has extensive mining grounds, as is evident from the mere fact that the gross receipts from governmental mining, foundry, and salt-pit operations were estimated in the budget of 1902 at 190.6 millions of Marks, and the net receipts at 30.8 millions.

For the management of these works, and for filling up the technical posts under the authorities entrusted with the supervision of the Mining Department in general, a considerable number of higher officials are required, who must possess a corresponding technical and generally scientific previous knowledge. According to the regulations of September the 22nd 1893, for entrance into the Mining Department of the Civil Service, the production of a leaving-certificate of a Gymnasium, of a Realgymnasium, of a Prussian Higher Realschule, or of a school ranking with the latter, is required. At first the aspirants have to pass, as „mining candidates" („Bergbaubeflissene"), through a one year's practical course of work, which is followed by a three years' academical course of study. The latter comprises at least one year of attendance at a University, while two years can be passed at the Mining Academies in Berlin and Clausthal, or in the Mining Department of the Technical High School in Aachen. Attendance at the other Technical High Schools, and at the Saxon Mining Academy in Freiberg, will be counted up to only one year. After passing his first examination, the candidate is appointed Mining „Referendar", and after an additional three years' preparation and another examination, Mining „Assessor". Many mining experts who wish to enter the service of private persons, nevertheless begin their career as civil servants, and pass the first examination or both. But they can also offer themselves for a special examination in the Mining Academies, and on passing obtain a certificate.

1. The Royal Mining Academy in Berlin, founded 1770, reorganised 1860. It is connected with the Prussian Geological State Institution, and is under the authority of the Ministry of Commerce and Industry. The curriculum comprises principally higher mathematics, geodesy, mine-surveying, descriptive geometry, drawing and construction, mechanics, mechanical engineering, anorganic chemistry chemical technology, mineralogy, petrography, general and special

geology, paleontology, science of mining, knowledge of salt-mining, practical metallurgy, assaying of metals, iron-mining, assaying of iron, the laying out of iron-works, gas analysis, electro-technology, mining law, civil law.

The first director of the Geological State Institution is at the same time director of the Mining Academy. He is seconded by another, a scientific, director. The teaching staff consists of 10 salaried professors, 5 commissioned officials of the Geological Insitution (including the second director), 9 extraordinary professors and privatdocents (Summer 1903).

Number of Students in the Years

1891/2	139,	of	whom	70	Prussian	Mining	Candidates*),	12 foreigners
1892/3	133,	„	„	69	„	„	„	10 „
1893/4	143,	„	„	71	„	„	„	10 „
1894/5	169,	„	„	87	„	„	„	13 „
1895/6	177,	„	„	93	„	„	„	18 „
1896/7	180,	„	„	82	„	„	„	13 „
1897/8	183,	„	„	85	„	„	„	13 „
1898/9	234,	„	„	110	„	„	„	10 „
1899/00	246,	„	„	97	„	„	„	15 „
1900/1	293,	„	„	91	„	„	„	21 „
1901/2	342,	„	„	106	„	„	„	32 „

Receipts and Expenditure, according to the Financial Year 1903.

For the Royal Geological State Institution and the Mining Academy:

Receipts . . . . . 135 800 M.

Of which 24 800 M. as fees for lecture and practical work, and 20 000 M. for analytic experiments.

Expenditure . . . . . 769 310 M.

Of which for:

Salaries	252 550 M.
Allowance for House-rent	47 280 „
Teachers' share in Fees	6 200 „
Assistants, Institutes, etc.	119 850 „

*) Mining Candidates („Bergbaubeflissene") are those that intend to enter the government service.

Daily pay, Expenses for Travelling and Removal	138 000 M.
Grants to Students	1 600 „
Upkeep of Collections, etc.	13 330 „
Upkeep of official Buildings	14 000 „
Geological Maps, Treatises, etc. . . .	76 500 „
Building Alterations and Acquirement of Ground Property	118 000 „

2. The Royal Mining Academy in Clausthal (Prussia). As early as the 16th century, the Lyceum in Clausthal, in accordance with the needs of the extensive mining industry in the Harz, was provided with suitable technical instruction for miners and founders, and in 1775 branched off as a separate course. In the year 1811, a Mining school was established, the uper division of which received in 1864 the name of Mining Academy. After the union of the kingdom of Hanover with Prussia, the Mining Academy in Clausthal was organised on the principles of that in Berlin.

Number of Teachers: 8 salaried professors, 5 teachers in the collateral division, 6 assistants.

Number of Students:

1893/4 . . .	148,	of whom	35	foreigners
1902/3 . . .	232,	„ „	32	„

Private Receipts of the Institution:

1903/4	from lecture fees . . .	25 550 M.
	from other sources . .	43 280 „
	Total . .	68 830 M.

Ordinary Expenditure 1903/4: 128 340 M

Extraordinary Expenditure: 1901/2—1903/4 (new buildings) 555 000 M.

3. The Royal Mining Academy in Freiberg (Saxony), founded 1766, attained in the 18th century, especially through the geologist A. G. Werner, to great importance. The institution is attended both by candidates for the higher governmental mining posts in Saxony, and by those who desire to by employed in private undertakings, as managers or as mining or foundry engineers. For admission as student the leaving-certificate of a school with nine classes is required. The subjects of instruction are substantially the same as those in the Prussian Mining Academies.

Number of Teachers: 12 ordinary professors, 3 extraordinary professors, 3 other teachers, 3 assistants.

Number of Students:

1893/4 . . .	168, of whom	65 foreigners
1902/3 . . .	471, „ „	275 „

Private Receipts:

1902	58 318 M.

Expenditure:

1902	131 728 M.
therefore State Allowance . .	73 410 „

In the year 1869 the three Mining Academies together had about 144 students; in 1880 their number had risen to 394, in 1899 to 763.

2. Forestry Academies.

The German Empire has an extent of forest ground covering 14 million Hectares (about 34½ million acres), of which 4 717 000 Hect. are government, and 2 258 000 Hect. communal, forests. For the intelligent management of these forests, a considerable number of higher officials is required, who receive their training, partly at the Universities, partly in special Forestry Academies. The condition of admission into the latter is, in Prussia, the possession of a leaving-certificate of a Gymnasium, of a Realgymnasium, or of a Higher Realschule. In Bavaria and Saxony, on the other hand, the certificates of only the two former kinds of schools are recognised.

1. The Royal Forestry Academy in Eberswalde (Prussia), founded 1830, to replace the Forestry Academy reorganised 1821 in Berlin in connection with the University. According to the Prussian regulations, the candidates for the higher Forestry service must first pass through a one year's practical preparation, then attend a Forestry Academy for at least two years, next pass a first examination, and then, as Forestry „Referendar", follow for one year courses in law and political economy at a German University. After two more years of further practical preparation, the Forestry „Referendar" can present himself for a second examination, and when successful, he has the title of Forestry „Assessor", and can receive an appointment.

The curriculum of the Forestry Academy embraces the following subjects: anorganic and organic chemistry, knowledge of soils, mineralogy and geology, meteorology and climatology, botany, zoology, piscatology, law, geodesy, arboriculture, forest preservation, utilisation of forest products, forest management, forestry profit and loss, history of forestry, forest administration and statistics, State management of forests, forest-road construction, art of hunting.

The teaching staff of Eberswalde consists of 13 professors and 4 forestry „assessors" as assistants.

The number of students in the summer of 1903 amounted to 62, including 31 foreigners (26 Russians).

The private receipts of the institution, according to the estimates, amount to 12 300 M., the expenditure to 125 470 M., the State allowance, therefore, to 113 170 M. With the Academy is connected a chief station for forestry experiments.

2. The Royal Forestry Academy in Münden (Prussia) was opened in 1868. Organisation and curriculum are the same as in the Academy at Eberswalde. The teaching staff consists of four professors of forestry (including the director) with one assistant, five professors of natural science and mathematics, and three representatives of other subjects.

The number of students, in the winter of 1903/4, amounted to 66, including 7 foreigners. To both academies only a limited number of such students are admitted as expect to be employed in the Forestry department of the Prussian Civil Service. Private receipts (1902) 6985 M., expenditure 90 630 M.

3. The Royal Forestry Academy in Tharandt (Saxony) orginated in a private school of forestry founded in 1811, and was raised in 1816 to the rank of a State institution. The aspirants for the higher posts in the Forestry department of the Saxon Civil Service must, after a practical preparatory course of at least half a year, attend a University for one year, and then pass through a course of five semesters in the Forestry Academy. The curriculum is similar to that in Prussia. Teaching staff, 7 ordinary professors, 2 extraordinary professors, 2 other teachers, 3 assistants. Number of students in the years 1894—1902 on an average 81. Private receipts 14 500 M., expenditure 92 250 M., State allowance, therefore, 77 750 M.

4. The Royal High School of Forestry in Aschaffenburg (Bavaria). Original foundation 1807, raised to the rank of a govern-

ment institution in 1819. According to the regulations existing at present, the aspirants for the Forestry department of the Bavarian Civil Service, having obtained the leaving-certificate of a Gymnasium or of a Realgymnasium, must study for two years at the High School of Aschaffenburg, and another two years in the faculty of political economy in the University of Munich. Teaching staff, 6 professors, 2 other teachers. Number of students, on an average 60 (only 20 aspirants for the Civil Service are received yearly). Yearly expenditure 47 000 M.

5. The Forestry Institution in Eisenach (Saxe-Weimar); founded in 1830 as a private establisment, government institution since 1850. Teaching staff, one director, 3 chief masters, 3 other teachers. Number of students, 45.

3. Agricultural High Schools.

The Agricultural High Schools serve the purpose chiefly of affording a scientific training for the heads of large agricultural undertakings, whether owners, tenants, or managers. In several of the Universities (Breslau, Göttingen Halle, Königsberg, Leipzig, Jena, Giessen) there are Agricultural Institutes, the aims of which are the same or those of the special High Schools. In the Technical High School of Munich there is a special department for Agriculture. For admission to the Agriculturul High Schools the qualification for a one year's military service is required, that is to say, the passing through six classes of a secondary school, and through a two years' practical course. The curriculum extends, as a rule, over two years, at the end of which the students can obtain their diplomas by passing an examination. The course of instruction embraces, partly general scientific subjects, such as physics, chemistry, botany, zoology, mineralogy and geology, political economy, partly specially agricultural subjects, such as knowledge of management and valuation, of animal and vegetable products, of machines and implements, agricultural technology, knowledge of manures and feeding stuffs, etc. Special courses are held for the training of land-surveyors and of practical irrigators and drainers. Also the teachers in the higher agricultural schools can pass through their studies in these High Schools.

1. The Agricultural High School in Berlin, founded 1870, contains a department for agriculture, one for geodesy, one for irrigation and draining and one for agricultural-technical processes (distilling, brewing, sugar manufacturing, etc.).

Teaching staff: 18 Professors, 24 Assistant Masters and Privatdocents.

Students in S. S. 1903: . . . 461 Germans, 49 foreigners.
W. S. 1903/4: . . . 614 „ 97 „
Private Receipts in financial year 1902: . . . 107 464 M.
Total Expenditure „ „ „ 1902: . . . 397 178 „

2. The Agricultural Academy Bonn-Poppelsdorf (Prussia), founded 1847.

Teaching staff: 11 Professors, 13 Assistant Masters.

Students: average for S. S. 1903 and W. S. 1903/4 353 Germans, 18 foreigners.

The students are at the same time matriculated at the University. The majority of them are land-surveyors and practical irrigators and drainers.

Private Receipts in financial year 1902/3: . . . 69 527 M.
Total Expenditure „ „ „ „ . . . 279 477 „
Besides the estate managed by the institution
earns . . . . . 46 485 „
and spends . . . . . 50 966 „

3. Württemberg Agricultural Academy Hohenheim (Württemberg), founded 1818.

Number of Teachers: 20, incl. 9 ord. Professors.

Number of Students: S. S. 1903 and W. S. 1903/4 62 Germans, 32 foreigners.

Private Receipts: 1903/4 . . . . . 75 470 M.
Total Expenditure: „ . . . . . 256 877 „

4. Academy of Agriculture and Brewing in Weihenstephan (Bavaria), founded as Agricultural Central School at Schleissheim in 1804, removed to Weihenstephan in 1852. It contains a department of agriculture and of practical brewing, besides a horticultural and dairy school.

Number of Teachers: 16 Professors and 7 other Teachers.
„ „ Students: W. S. 1903/4 152.
Private Receipts 1902 and 1903, yearly: . . . 65 679 M.
Total Expenditure: . . . . . 166 676 „

4. Veterinary High Schools.

The functions of the scientifically trained veterinary surgeons have acquired a considerable extension in more recent times, as these practitioners not only treat the diseases of domestic animals, but also co-operate in carrying out important protective measures, especially in the prevention of epidemics among animals, and in the hygienic inspection of cattle and meat for the market. Hence the requirements as to the preparatory training of the veterinary surgeons have been continually raised. According to the latest regulations, applying to the whole Empire, those who wish to acquire the qualification of veterinary surgeon (and at the same time the right of calling themselves so), must be in possession of a leaving-certificate from a secondary school with nine classes (Gymnasium, Realgymnasium, or Higher Realschule), and have studied, for at least seven semesters, at a Veterinary High School. The preparatory lectures on natural science and general medicine can also be heard in Universities. In the University of Giessen, the medical faculty has a special veterinary division, which has the character of a Veterinary High School. In those Universities that possess agricultural institutes, a more popular instruction in veterinary science is given to students of agriculture, but is insufficient for professional veterinary surgeons.

1. The Veterinary High School in Berlin, founded 1790, High School 1887. Closely connected with it is the military Veterinary Academy.

Number of Teachers: 10 Professors, 16 Assistant Teachers.

„ „ Students, end of 1902: 470 civil students (incl. 63 foreigners), and 145 military students.

Private Receipts, financial year 1903/4: . . . 158 686 M.
Total Expenditure, „ „ „ . . . 366 300 „

2. The Veterinary High School in Hanover (Prussia), founded 1778, High School 1887.

Number of Teachers: 9 Professors, 17 Assistant Teachers and other Assistants.

Number of Students, S. S. 1903: 296 Germans, 12 foreigners.

Private Receipts, financial year 1902/03: . . . 90 817 M.
Total Expenditure „ „ „ . . . 203 494 „

3. The Veterinary High School in Munich (Bavaria), founded 1790, High School 1890.

Number of Teachers: 8 ordinary, 2 extraordinary, Professors, 6 other Teachers, 14 Assistants, and 2 Farriers.

Number of Students, S. S. 1902: 352, incl. 300 Bavarians, 48 other Germans, 4 foreigners. W. S. 1902/3: 350, incl. 274 Bavarians, 72 other Germans, 4 foreigners.

Private Receipts, 1902: . . . . . 28 666 M.
Total Expenditure, „ . . . . . 228 563 „

4. The Veterinary High School in Dresden (Saxony), founded 1780, High School 1889.

Number of Teachers: 15 Professors, 15 Assistants.

„ „ Students, W. S. 1902/3: 226, incl. 31 foreigners.
S. S. 1903: 216, „ 23 „
Private Receipts, 1902/3: . . . . . 33 800 M.
Total Expenditure, „ . . . . . 169 650 „

5. The Veterinary High School in Stuttgart (Württemberg), founded 1821, High School 1890.

Number of Teachers: 6 ordinary, 5 extraordinary, Professors.
„ „ Students, S. S. 1903: 114 Germans, 4 foreigners.
W. S. 1903/4: 113 „ 8 „
Total Expenditure 150 000 M.

5. Commercial High Schools.

Higher Commercial Schools or Academies have existed for a long time in several larger towns, but with a decidedly practical tendeney. In the Commercial High Schools, on the other hand, especially the economical sciences are to be treated, as in the Universities, from a strictly scientific point of view. At the same time they are to serve the purpose of training teachers for the higher Commercial Schools.

1. The Municipal Commercial High School in Cologne (Prussia), founded 1900, after the banker G. v. Mevissen had set apart a considerable sum for this purpose.

Number of Teachers: 10 Professors and other Teachers in the chief department, 1 Privatdocent, 3 Lecturers, besides 6 Professors from Bonn or from Heidelberg, and further, 29 other Lecturers.

Number of Matriculated Students, W. S. 1902/03: 198, incl. 17 foreigners. (Total of all under tuition 1537).

Number of Matriculated Students, S. S. 1903: 221, incl. 20 foreigners. (Total of all under tuition 917).

Private Receipts, 1903: 127 450 M. Total Expenditure, 1903 166 800 M.

2. The Academy of Social and Commercial Science in Frankfort on the Main (Prussia), founded 1901, as a municipal Institution but with a considerable private contribution.

The course of instruction is a more comprehensive one than in other similar institutions.

Number of Teachers: 11, besides 12 to 19 incidentally employed.

Number of Students, W. S. 1902/03: 546, incl. 41 foreigners (temporary and occasional hearers are included).

Number of Students, S. S. 1903: 415, incl. 31 foreigners (temporary and occasional hearers are included).

Private Receipts (incl. endowments), 157000 M. Total Expenditure, 164 280 M.

3. The Commercial High School in Leipzig (Saxony), founded 1898 as the first institution of this kind. Teachers from the Commercial School, established in 1831, and from the University are employed.

Number of Students, S. S. 1903: 78 Germans, 80 foreigners.

Number of Students, W. S. 1903/4: 77 Germans, 91 foreigners.

Private Receipts: 45 203 M.; contributed by the State 25000 M. by the town of Leipzig 10 000 M. Total of Expenditure: 70 203 M.

6. High Schools of Art.

The Royal Academy of Art in Berlin, founded 1696, reorganised 1790. Private Receipts, 1902: 48479 M., incl. the fund of the Art Exhibition Guilds.

Total Expenditure, 1902: 136 873 M.

It embraces the following *Institutions for the Fine Arts.*

1. The Royal Academical High School for the Fine Arts in Berlin-Charlottenburg.

Number of Teachers: 27.

Number of Students, W. S. 1902/03: 254.

Number of Students, S. S. 1903: 230.

Private Receipts, 1902: 21 190 M.

Total Expenditure, 1902: 242 439 M.

2. Royal Academical Master Studios for the Fine Arts in Berlin-Charlottenburg.

Number of Teachers: 7.

Number of Students, W. S. 1902/03: 30. S. S. 1903: 27.

Private Receipts: 3180 M.

Total Expenditure: 48 720 M.

To the Royal Academy belong besides the Berlin-Charlottenburg institutions for Music mentioned below.

In Prussia exist, moreover, Academies of Art in Düsseldorf, Cassel, and Königsberg. Outside Prussia are others in Munich, Dresden, and Stuttgart. Further may also be mentioned the Grand Ducal Academy of the Fine Arts in Karlsruhe (Baden), and the Grand Ducal School of Art in Weimar.

As *Institutions for Music* are to be considered

1. The Royal Academical High School of Music in Berlin-Charlottenburg.

Teaching Staff: 41 male, 8 female, Teachers.

Attendance, W. S. 1902/03: 151 male, 126 female, Students; S. S. 1903: 142 male, 126 female, Students.

Private Receipts, 1902: 52470 M.

Total Expenditure: 248522 M.

2. The Royal Academical Master Schools of Musical Composition in Berlin-Charlottenburg.

Attendance, W. S. 1902/03: 24 Students.

S. S. 1903: 21 Students.

Private Receipts: 240 M.

Total Expenditure: 11855 M.

3. Royal Academical Institute of Church Music in Berlin-Charlottenburg.

Teaching Staff: 6 Teachers.

Attendance, S. S. 1902: 20 Students, 4 Hearers; W. S. 1902/03: 20 Students, 2 Hearers.

Private Receipts, 1902: 900 M.

Total Expenditure, 1902: 19 839 M.

Unconnected with the Berlin Royal Academy are the following institutions:

4. Royal Academy of Music in Munich.

Teaching Staff: 40 male and female Teachers.

Attendance, 1902/03: 317 male and female Students.

Estimates, in round numbers, 130000 M. incl. 55000 M. of State allowance.

5. Royal School of Music in Würzburg.

Teaching Staff: 19 (7 Professors, 12 other Teachers).

Attendance, 1902/03: 218 students (male and female) of music, 27 women admitted to chorus singing, 676 hearers.

Private Receipts: 13000 M.

Total Expenditure: 68700 M.

6. Royal Conservatory of Music and Acting in Dresden.

Teaching Staff: . . 73 male and 43 female Teachers,

Attendance, 1902/3: 539 „ „ 838 „ Students.

7. Royal Conservatory of Music in Leipzig.

Teaching Staff: . . 42 male Teachers, 1 female Teacher.

Attendance 1902: . 401 „ 447 female, Students.

Total Receipts: . . . . . 201 000 M.

Total Expenditure: . . . . . 187 700 „

8. Royal Conservatory of Music in Stuttgart.

Teaching Staff: 32 male and 6 female Teachers.

Attendance 1092/3: 79 male students, 110 female students as professional musicians, 328 as dilettanti.

Estimates: 92 000 M.

9. Grand Ducal Conservatory of Music in Karlsruhe (Baden).

Teaching Staff: 28 male and 17 female Teachers.

Attendance 1902/3: 472 Students, 117 temporary pupils, 27 children.

Estimates: 62 800 M.

10. Grand Ducal School of Music in Weimar.

Teaching Staff: 25 male Teachers and 1 female Teacher.

Attendance, 1902/3: 87 male, 93 female, Students.

Besides these there are various educational institutions for music supported by towns or by private societies.

7. High Schools of the German Army and Navy Administration.

1. The Royal Military Academy in Berlin, for the further training of officers who have served in their ranks for at least three years, and who, presumably, will not be promoted to the rank of captain in the next five years. Admission is obtained by passing an entrance examination, but the total number of those received may not exceed 400. The course extends over three years, and in addition to the military-technical sciences properly so called, embraces more particularly, military history, mathematics, and foreign languages. The Academy in attended by officers of all the Federal States, with the exception of Bavaria. The yearly expenditure amounts to 335 102 M.

2. The Royal School of Artillery and Engineering. — All the officers of the foot-artillery and of the pioneers, after having served for at least one year and nine months with the train, have to pass through a one years' course at this school. A part of the foot-artillerists are there picked out for a second upper course of one year. Under certain conditions, 30 officers of the field-artillery can take part in the lower, and 20 in the upper course. The total number of officers ordered to this school, in the year 1903/4, amounted to 135; besides 4 foreigners were admitted. The expenditure amounted to 198 658 M.

3. The Royal Military-technical Academy in Berlin-Charlottenburg was opened only in 1903. It contains a department for engineering, one for means of communication (railways, military telegraphy, aerial navigation), and one for knowledge of weapons, replaced, in the third year, by a department of ordnance construction and of the science of projectiles. About 50 officers are ordered every year to this school. According to the estimates of 1903/4, the expenditure amounted to 103 000 M.

4. The Imperial Naval Academy in Kiel (Prussia), founded 1872, serves the purpose of enabling naval officers, by extended scientific training, to qualify themselves specially for the higher ranks in the navy. The course extends to two years, the yearly expenditure for 1903/4 amounted to 183 055 M.

5. The Bavarian Military Academy and the Bavarian School of Artillery and Engineering in Munich, serve the same purposes as the corresponding Prussian institutions.

Number of Students in the Special High Schools, 1869—1899.

Year	Mining Academies	Forestry Academies*)	Agricultural High Schools	Veterinary High Schools
1869	144	261	357	267
1872	168	317	298	271
1875	264	269	269	284
1880	262	394	353	436
1885	344	394	468	735
1888	343	386	483	962
1891	389	255	694	1 047
1896	523	330	1 070	1 140
1899	763	278	890	1 343

*) The Forestry School of Eisenach (with 40 – 50 Students) is not included.

VIII. MIDDLE AND LOWER PROFESSIONAL SCHOOLS.

1. Technical Schools.

In the Technical High Schools admission to immatriculation is regularly made conditional on the possession of the leaving-certificate of a secondary School with nine classes. In this manner they are marked off from the intermediate Technical institutions, which require only the qualification for a one year's military service, that is to say, the pupil must have passed through six classes of a secondary school. Many of these institutions accept a still smaller amount of preparatory general schooling, but all of them insist on the pupils having gone through some practical training in their trades. The lower professional schools for artisans, foremen, etc. demand only the previous teaching of the elementary school.

1. The institutions that approach most nearly to the Technical High Schools are those that contain several departments, with a course extending to more than two years. This type of school is not represented in Prussia. Among those in Saxony may specially be mentioned the government Industrial Academy at Chemnitz, with departments of mechanical and chemical technology, of architecture, and of electro-technology. The conditions of entrance are the possession of the qualification for a one year's military service, and (with the exception of the chemical-technical department) a previous one or two years' practical course. The curriculum in the electro-technical department is one of eight, in the others of seven, semesters. The fees for subjects of the kingdom of Saxony amount to 80 M., for other Germans to 150 M., for foreigners to 250 M. per semester. The number of pupils in the winter of 1902/03 was 381.

In Saxony there are also a few institutions which, according to their syllabus, likewise afford training for independent engineers, but in shorter courses of five or six semesters. Such are the

municipal „Technikum“ (technical school) in Limbach, with departments of mechanical engineering, electro-technology, and architecture, and with 140 pupils; the „Technikum“ in Mittweida, with 1840 pupils in 1902/03; that of Hainichen, with 230 pupils in 1902/03; the School of Engineering in Zwickau, with 209 scholars; the three last mentioned are private institutions, and with them are also connected professional courses of a less advanced kind.

Similar municipal or private institutions, which call themselves „Technikum“, many with only a two years' course, are found also in several other Federal States, to the number of thirteen altogether. To these must be added the government „Technikum“ in Bremen, consisting of a higher school of mechanical engineering, of one of shipbuilding, of a School of marine mechanical engineering, and of a building-trade school; that is to say a combination of higher and lower courses. Next, the government „Technikum“ in Hamburg, containing a higher school of mechanical engineering, one of marine mechanical engineering, one of shipbuilding, and one of electro-technology.

Further are to be mentioned among the establishments with several departments, the municipal higher Technical Institute in Cöthen, for mechanical engineering, electro-technology, and technical chemistry; and the government Technical School in Strassburg, with a higher school of technical engineering and a building-trade school. Private institutions of this kind are also found in Baden, at Mannheim, with a subsidy from the town, and in Hesse, at Friedberg.

In Bavaria the „Industrial Schools“ in Munich, Nürnberg, Augsburg, and Kaiserslautern, form a special type of higher technical educational institutions. They form a continuation to the Realschulen with six classes, and during the first two years of the course, they impart instruction in which the general subjects predominate, after the manner of the Prussian Higher Realschulen, whereas for the technical subjects properly so called, they afford only a preparation. At the close of the second year a final examination is held, by passing which the pupil is entitled to enter the Technical High School. Those who do not proceed to the High School can take the third year's course, with its mechanical-technical, chemical-technical, architectural, and, in Munich also, its commercial department. The schools are government institutions. The number of pupils in 1902/03 was 712, the total expenditure amounted to 431 000 M.

2. In Prussia the schools for the various technical branches are generally kept separate, although occasionally the schools existing in the same town are under one management. As intermediate institutions, in the sense here intended, must be considered the „higher" Schools of Mechanical Engineering. They are devoted to the training of foremen and of technical constructors in the machine industry and other allied ones, and also to affording future proprietors and managers of such industrial establishments an opportunity of acquiring the necessary technical knowledge. For admission into the lowest class of a higher School of Mechanical Engineering a preparatory knowledge is demanded, which, besides the necessary previous practical training, is equivalent to that required for the one year's military service.

The time-table for the four half-yearly classes, with the number of weekly hours for the single subjects is the following.

	Cl. IV	Cl. III	Cl. II	Cl. I
Business knowledge . . .	—	—	—	2
Mathematics	8	4	4	2
Physics	4	2	—	—
Chemistry.	4	—	—	—
Mechanics	6	5	4	2
Compon. parts of Machinery	4	4	2	1
Knowl. of Boilers	—	—	2	2
„ „ Lifting Apparatus	—	—	3	3
„ „ Steam-engines .	—	—	3	2
„ „ Hydraulic Motors	—	—	—	3
„ „ Gas Motors . .	—	—	—	2
„ „ Engine-tools . .	—	4	—	—
General Technology . . .	—	—	4	2
Metallurgy	—	2	—	—
Electro-technology. . . .	—	4	3	2
Building Construction . .	4	3	3	2
Valuation	—	—	—	1
Descriptive Geometry . .	6	4	—	—
Comp. parts of Mach. } Drawing	6	6	6	—
Boilers . . . . } and	—	—	—	4
Lift. Apparatus . . } Sketching	—	—	2	4
Steam-engines . . } of	—	—	2	4
Engine-tools . . . }	—	4	—	—
Laboratory Practice . . .	—	—	4	4
Round-hand Writing. . .	(1)	—	—	—
Ambulance Treatment . .	—	—	1	—
Total . .	42	42	43	42

The fees amount yearly to 150 M. (in Cologne to 200 M.).

In addition to the „higher" schools of mechanical engineering, and partly connected with them, there are also ordinary Schools of Mechanical Engineering. They serve the purpose of providing the necessary professional knowledge, especially practice in drawing, for future lower-class technical officials of the machinery industry, such as foremen, machinists, and managers of smaller works, and also for the proprietors of such works. The course generally lasts two years, in Cologne only a year and a half. There are also institutions with a course of two semesters, which supply extended instruction for workers in the machinery industry.

The Schools for the Metallurgy, with a course of four semesters, in Duisburg (formerly in Bochum) and Gleiwitz, are joined to schools of mechanical engineering, and provide training for the lower officials connected with the metal industry.

To the lowest class of the two kinds of schools just mentioned, and to that of the institutions with a course of two semesters, only those are admitted who can prove that they have passed through a good elementary school and through at least a four years' practice in a workshop or in the metal industry. Besides attendance at a continuation school, previous to entrance into the institution, is desirable.

Similar conditions are required for admission to the Evening Schools and Sunday Schools for engine builders, locksmiths, blacksmiths, and workers in the metal industry.

In the higher and lower schools of mechanical engineering final examinations are held by a committee of examination, formed in each institution under the presidency of a government commissioner.

Special professional schools for the brass, iron and steel hardware industry are found in Iserlohn, Remscheid, Siegen and Schmalkalden. In addition to the theoretical, they also impart practical, instruction in workshops for their pupils. The yearly fees in these professional schools amount to 60 M.; non-Prussian Germans pay 160 M., foreigners 300 M. The table on page 170 gives further particulars as to these schools and those of mechanical engineering.

Outside Prussia, and in addition to the above mentioned institutions with lower divisions, there are four schools of mechanical engineering in Bavaria (among them a higher one in Würzburg), one in Saxony (in Chemnitz, under the Industrial Academy), and one each in Oldenburg and Brunswick.

3. Building-trade Schools. The object of these schools is 1. the training of masons, carpenters, and other artisans connected

I. Professional Schools for Engineering and Metal Industry in Prussia.

Name of Place	Kind of Institution	Years of		Receipts					Expenditure	Attendance a) Day Scholars, b) Evening and Sunday Scholars.			
		Foundation	Transference to the State	State allowance after Deduction of Receipts		Allowance from the Towns[1]		School fees	Total	1891/2		1903	
				1891/2 M.	1903 M.	1891/2 M.	1903 M.	1903 M.	1903 M.	a)	b)	a)	b)
I. State Institutions.[1]													
1. Hagen i. W.	Royal Higher Engineering School	1896		—	64 900	—	8 330	31 800	103 760	—	—	194	74
2. Breslau . . .	„ „ „ „	1897		—	45 380	—	7 800	21 375	75 010	54	56	143	—
3. Altona . . .	„ „ „ „	1898		—	34 230	—	12 000	16 950	63 490	—	—	59	118
4. Stettin . . .	„ „ „ „	1900		—	42 322	—	12 000	15 870	70 702	—	—	103	146
5. Posen	„ „ „ „	1900		—	38 360	—	2 700	11 760	53 170	—	—	26	—
6. Einbeck . .	„ „ „ „	1900		—	28 396	—	10 000	11 400	50 456	—	—	63	—
7. Aachen . . .	„ „ „ „	1902		—	25 330	—	12 000	4 725	47 400	—	—	28	—
8. Kiel	„ „ Shipbuilding and Engineering School . . .	1903		—	8 610	—	20 000	6 370	35 030	—	—	31	—
9. Dortmund .	Royal joint Engineer. School .	1890		24 293	127 815	6 000	12 500	31 173	173 565	51	71	336	250
10. Barmen[2] .	„ „ „ „ .	1898		—	65 641	—	24 000	20 946	111 291	—	—	176	91
11. Görlitz . . .	„ Engineering School . .	1898		—	37 284	—	12 000	7 020	56 784	—	—	96	109
12. Duisburg . .	„ School of Eng. and Met. Ind.	1892	1894	14 000	102 210	12 900	15 000	13 176	131 140	90	—	211	50
13. Gleiwitz . .	„ „ „ „ „ „ „	1896		—	60 284	—	10 000	7 020	77 754	32	—	106	31
14. Iserlohn . .	„ Prof. School for „ „	1879	1898	17 952	32 940	13 464	13 500	4 080	50 520	36	—	58	39
15. Remscheid .	„ „ „ „ Iron and Steel Hardware Industry.	1880	1895	28 900	31 593	11 700	13 000	4 780	49 615	ca. 70	—	68	—
16. Siegen . . .	„ Prof. School for Iron and Steel Industry	1900		—	16 200	—	17 670	2 700	33 870	41	—	43	—
17. Schmalkalden	„ Prof. School for Iron and Steel Hardware Industry	1902		—	22 870	—	5 000	4 060	32 170	—	—	51	—
18. Cologne . .	Joint Engineer. School (departm. of municip. prof. School of Ind.)	1881	1903	—	29 300	—	13 150	4 320	47 080	154	—	202	—
II. State aided Munic. Schools.													
19. Magdeburg.	Engineering Schools	1891		20 500	33 077	8 750	33 077	28 432	95 694	ca. 100	—	108	—
	Total			105 645	846 792	52 814	253 727	247 957	1 358 510	755	127	3010	—

[1]) The towns supply and keep up the School buildings, together with the necessary furnishing. — [2]) Barmen and Elberfeld bear all expenses jointly.

with building, by giving them an opportunity of acquiring the theoretical knowledge and the skill necessary for successfully and independently carrying on their trade; 2. the educating of assistants in the office and in practical building (draughtsmen, overseers, superintendents of offices and building operations); 3. the preparation for intermediate technical official work (such as that of clerk to a board of works, technical government and railway secretaries, etc.).

According to the regulations in Prussia, admission to the School is obtained by the pupil showing that he has received a good elementary education, that he has completed his sixteenth year, and that he has been practically employed, for at least two summers, in building and in workshops. For those who are as yet insufficiently prepared there are introductory classes. Several Building-trade Schools, in addition to the department of achitecture, have another for the construction of underground works, roads, waterworks, bridges, railways, etc.

Pupils must attend the school for four half-years, which need not be taken in immediate succession, but may be interrupted by practical work in summer. This explains the great difference between the summer and the winter attendance in the single schools.

In the two lower half-yearly classes the pupils in the two departments are taught together, in the two higher classes the instruction is separate. At the conclusion of the course a final examination takes place. Further particulars as to these schools are supplied in the table on page 172.

In Bavaria there are 8 Building-trade Schools, in Saxony 5 supported by the government, and 7 by towns or other bodies, in Württemberg there is one, in the other States there are, partly in connection with other schools, 17 public and 7 private institutions of this kind.

4. For pottery and tile making there are in Prussia 3, in Bavaria 2, in the other Federal States 2 professional schools, besides one such for glass instruments.

By „Handwerkerschulen“ (Artisan or Trade Schools) are meant those schools in which, for various handicrafts, full day teaching is given, although the course may be one of only a year or half a year. Such schools are often called „Gewerbeschulen“ („industrial schools“) or „Kunstgewerbeschulen“ („industrial schools of art“), and as drawing is the chief subject of instruction in these, they can frequently not be easily distinguished from the higher Industrial Schools of Art.

II. Building-Trade Schools in Prussia.

Name of Place	Year of Foundation	Year of Transference to the State	Receipts: State Allowance after Deduction of Receipts in Marks 1891/2	Receipts: State Allowance after Deduction of Receipts in Marks 1903	Receipts: Allowance from the Towns (Societies) in Marks 1891/2	Receipts: Allowance from the Towns (Societies) in Marks 1903	Receipts: School Fees in Marks 1903	Expenditure in Marks 1903	Attendance: Winter 1902/3	Attendance: Summer 1903	Attendance: Winter 1903/4
I. State Institutions:											
Nienburg	1853		46 495	35 712	—	—	25 920	102 266	263	98	281
Höxter	1864	1895	30 977	59 184	5 000	5 000	30 880	103 805	319	128	329
Eckernförde	1868	1895	41 290	58 804	7 500	7 500	23 200	96 634	224	75	229
Idstein	1869	1895	30 977	54 918	5 000	5 000	30 840	102 638	276	129	292
Deutsch-Krone	1877	1895	40 060	61 334	6 400	6 400	23 200	97 784	189	57	185
Breslau	1878	1897	17 509	44 945	17 509	24 000	31 560	109 157	276	137	276
Buxtehude	1890	1895	42 069	56 478	6 000	6 000	23 200	92 568	140	54	156
Posen	1891		15 044	74 164	—	—	26 480	108 519	214	44	209
Königsberg i. Pr.	1893		—	62 703	—	7 500	23 600	100 863	267	52	223
Görlitz	1894		—	66 580	—	12 000	21 280	99 860	205	60	206
Kassel	1896		—	56 200	—	14 000	30 080	100 280	217	19	204
Barmen-Elberfeld	1897		—	54 823	—	24 000	23 600	109 423	268	85	267
Frankfort on the Oder	1898		—	63 310	—	12 000	24 480	113 075	244	92	233
Münster i. W.	1898		—	64 966	—	12 000	27 280	112 261	307	125	318
Stettin	1899		—	64 723	—	12 000	24 800	110 386	209	65	202
Kattowitz	1899		—	57 625	—	12 000	23 600	100 225	178	64	198
Hildesheim	1900		—	65 304	—	12 000	23 200	107 404	187	55	197
Aachen	1900		—	58 593	—	12 000	28 165	98 668	141	58	128
Erfurt	1901		—	58 025	—	12 000	23 200	100 130	205	83	246
Cologne	1878	1903	—	32 814	—	32 814	34 030	101 242	242	123	251
II. State aided Municipal Schools:											
Berlin	1879		20 400	33 223	20 400	33 224	36 000	103 310	256	169	255
Magdeburg	1890		35 827	42 354	14 913	18 177	20 880	84 826	173	80	192
Total			320 648	1 226 992	83 722	279 615	579 475	2 255 324	4 251	1 900	5 077

Name of Place	Name of Institution	Year of Foundation	Receipts: State Allowance after Deduction of Receipts 1891/2 M.	Receipts: State Allowance after Deduction of Receipts 1903 M.	Receipts: Allowance from the Towns (Societies) 1891/2 M.	Receipts: Allowance from the Towns (Societies) 1903 M.	Receipts: School Fees 1903 M.	Expenditure Total 1903 M.	Attendance a) Day Scholars, b) Evening and Sunday Scholars. 1891/2 a)	1891/2 b)	Summer 1903 a)	Summer 1903 b)
1. Bunzlau	Royal School of Pottery	1897	—	27 158	—	3 000	802	31 048	—		38	34
2. Höhr	„ „ „ „	1879	7 950	22 156	400	500	512	23 286	35		32	38
3. Lauban	Municipal School of Tile Making	1894	—	2 500	—	8 400	9 000	19 900	—		—	—
4. Essen	„ Industrial School	1900	—	23 000	—	21 200	7 200	51 450	—		28	246
5. Halle on the Saale	Artisan School	1870	12 450	30 578	11 450	28 578	10 120	69 525	350		45	810
6. Berlin	Artisan School I	1880	20 000	26 000	76 316	133 671	32 265	191 950	2 441		83	1 747
7. Barmen	Artis. School and Indust. School of Art	1896	—	41 034	—	37 774	6 354	85 212	—		52	403
8. Elberfeld	„ „ „ „ „ „ „	1897	—	43 181	1 866	49 681	7 055	100 260	—		122	454
9. Cologne	Indust. School of Art and Artis. School	1879	1 405	20 127	1 405	20 127	8 665	48 960	—		44	391
10. Aachen	Indust. School of Drawing and of Art	1886	12 780	26 496	12 280	23 496	14 582	64 612	716		—	839
11. Cassel	Indust. School of Drawing and of Art	1869	17 400	38 472	17 100	23 000	12 060	73 532	—		128	178
12. Magdeburg	Indust. School of Art and Artis. School	1887	33 120	61 909	27 920	54 209	14 068	130 790	1 332		155	929
13. Erfurt	Artis. School and Indust. School of Art	1898	—	23 685	—	19 685	4 230	47 610	—		37	409
14. Hanover	„ „ „ „ „ „ „	1890	41 464	65 356	39 064	60 356	22 152	147 902	1 235		159	2 317
15. Charlottenburg	Indust. School of Art and Artis. School	1896	—	38 789	—	37 231	6 210	82 270	—		28	562
16. Altona	Municipal Artis. School and Indust. School of Art	1900	—	28 000	—	34 896	11 430	74 330	—		114	350
17. Königsberg i. Pr.	Royal Provinc. Art and Trade School	1800	18 490	33 350	—	—	2 410	35 910	—		6	106
18. Hanau	Royal Academy of Drawing (Professional School for Gold and Silver Industry)	1772	62 920	81 225	189	—	9 760	93 635	520		341	2
19. Düsseldorf	Industrial School of Art	1883	18 930	34 500	22 670	38 830	10 000	83 330	276		88	70
20. Frankfort on the Main	„ „ „ „	1879	24 000	24 000	2 000	9 000	4 400	81 095	339		31	241
21. Aachen	Industrial Day School	1886	9 600	24 423	9 600	24 423	11 880	60 746	133	—	188	—
	Total		291 375	715 939	223 159	625 057	205 155	1 597 353	7 377		1 719	10 126
											11 845	

In the majority of the schools the teaching is conducted in divisions, into which the pupils can be placed according to their preparatory schooling or abilities. Thus these schools can, to the fullest extent, be adapted to local requirements.

Besides, to some of these schools have been joined special departments with a definite curriculum and for definite purposes, as well as with special conditions of admissions, e. g. in Hanover a special school for copper-smiths, in Essen one for polishers. In Berlin the artisan school embraces courses for mechanicians (1 year), for electro-technologists (1 year), for joiners (1 year), for painters (4 winter months), for modellers (6 winter months), for braziers, for ornamental metal-workers and similar craftsmen (6 winter months).

Further information concering the schools in Prussia, mentioned in the preceding section, is given in the table on page 173.

In the other States the number of Artisan Schools and Industrial Schools of Art amounts to 36.

5. The professional schools for the Textile Industry are very numerous. In general they are arranged in such a manner that they may adapt themselves to the particular industry that is carried on in the locality of the school. Moreover a distinction is made between those schools that mostly serve for the training of foremen, and others in which manufacturers and higher-class employees are educated; the former are called in Prussia, „Professional Schools for the Textile Industry", the latter „Higher Professional Schools for the Textile Industry". Besides there are also weaving schools (Webelehranstalten) and educational weaving workshops (Webereilehrwerkstätten).

Statistics of the Prussian Schools for the Textile Industry are given in the table on page 175.

As higher Industrial Schools of Art may also be considered: 1. the Royal School of Art in Berlin. It contains a department of industrial art and the decorative arts, with day teaching for fully employed pupils, and with evening classes; and a seminary division for male and female teachers of drawing; 2. the educational institution of the Royal Museum of Industrial Art in Berlin, also with day and evening classes. The art school serves as a preparation for the latter establishment; 3. the Royal School of Art and Industrial Art in Breslau.

IV. Professional Schools for the Textile Industry in Prussia.

Name of Place	Year of Foundation	Receipts: State Allowance after Deduction of Receipts 1891/2 M.	State Allowance after Deduction of Receipts 1903 M.	Allowance from Towns (from the Society) 1891/2 M.	Allowance from Towns (from the Society) 1903 M.	School Fees 1903 M.	Proceeds from the Institutions 1903 M.	Expenditure 1903 M.	Attendance a) Day Scholars, b) Evening and Sunday Scholars. 1890/1 a)	1890/1 b)	Summer 1903 a)	Summer 1903 b)
A. Higher Professional Schools for the Textile Industry.									a)	b)	a)	b)
Mühlheim on the Rhine	1852 (— 1901)	5 020	—	5 020	—	—	—	—	66	—	—	—
Krefeld	1855	41 925	68 395	13 975	34 198	59 906	8 000	170 866	157	132	201	170
Aachen	1883	20 800	40 733	12 500	20 367	22 950	41 000	125 200	48	71	80	22
Berlin	1883	17 500	34 395	17 500	34 395	9 450	2 600	80 900	36	295	55	134
Kottbus	1883	—	24 020	—	6 970	7 211	1 400	39 890	2	78	28	40
Sorau	1886	4 267	51 500	2 133	8 000	10 992	6 017	76 600	35	30	64	7
Barmen	1900	—	39 425	—	39 425	14 250	900	94 106	—	—	85	185
München-Gladbach	1901	—	24 736	—	24 736	14 910	1 200	65 672	—	—	43	117
Total A.	—	89 512	283 204	51 128	168 091	139 669	61 117	653 234	344	606	556	675
									950		1 231	
B. Professional Schools for the Textile Industry.									a)	b)	a)	b)
Einbeck	1861 (— 1904)	4 000	7 628	2 000	3 814	850	550	12 890	14	9	—	3
Spremberg	1869	7 870	9 738	2 620	3 554	1 060	900	15 330	9	22	5	17
Falkenburg i. P.	1890	10 300	12 624	3 500	4 000	2 090	700	19 446	12	5	42	28
Forst i/L.	1890	4 667	17 200	1 833	8 100	1 300	600	27 300	6	17	38	30
Sommerfeld	1890	5 533	6 755	2 267	2 877	755	577	11 032	3	20	4	11
Mühlhausen i. Th.	1898	—	10 480	—	5 240	1 275	430	17 570	—	—	6	51
Ronsdorf	1899	—	9 460	—	4 730	1 602	250	16 090	—	—	9	29
Langenbielau	1900	—	13 600	—	6 800	1 260	500	22 200	—	—	37	6
Total B.	—	[1] 32 370	87 485	12 220	339 115	10 192	4 507	141 858	44	173	141	175
Total A. B.	—	[1] 121 882	370 689	63 348	207 206	149 861	65 624	795 092	388	679	697	850
								Total	1 067		1 547	

[1]) Of which the Province gives 1200 M.

In Bavaria there are 3 schools of this kind, in Saxony (including those for network and braidwork) 56, in Württemberg (including 2 weaving schools and one school for embroidery) 7, in the other States altogether 5.

6. In the next place there are numerous professional schools for special industries and crafts, part of them provided with workshops. For example, schools for woodworking (about 30), for basket-making and straw-plaiting, for lock-work, for watch-making, for printing, for carving in ivory, for toy-making, photography, violin-making, for the miller's trade, for distilling, tanning, etc. Here may also be mentioned the farriers' schools, of which there are more than 60, as in all the Federal States examinations are prescribed for those who wish to become farriers on their own account.

7. Closely connected with the large industries are the Mining-schools, which are intended for the training of intermediate technical mining officials. In Prussia there are 10 such schools with a two years' course in the lower classes, and a one years' course in the highest class. The practical work is continued, as a rule, during the courses, by the pupils. At the end of the school course examinations take place. The teaching is usually gratis, and if occasion requires, the pupils receive assistance from the mining-school funds. As introductory to these schools, there are in Prussia 43 preparatory mining-schools, in which also the lower kind of mining officials can be trained.

8. The Schools of Navigation afford sailors an opportunity of acquiring the theoretical knowledge requisite for mates and master mariners of ocean going vessels, and of preparing for the corresponding examinations. The curriculum in the division for mates lasts 8 to 10, in that for master mariners 5 to 6, months.

For admission to the classes for mates, an examination has to be passed at which a knowledge has to be shown of the subjects of the primary school, also an elementary knowledge of mathematics and of mathematical geography, besides a knowledge of political and nautical geography, in so far as it is required of a ship's officer.

Into the classes for master mariner only those are received as candidates for this qualification, who have either been admitted as mates in Germany, or who have passed the mate's examination; as candidates for the qualification of mate, only those who have already passed, entirely or for the greater part, through a course for mates in

a German public school of navigation. Exceptions may be allowed by the Minister of Commerce.

The instruction embraces, a) in the class for mates: 1. mathematics (arithmetic, plane geometry, stereometry, plane and spherical trigonometry), 2. nautical science, 3. seamanship, 4. drawing of charts and astronomical maps, 5. English language, and 6. nautical hygiene; b) in the class for master mariners: 1. revisal of the subjects under a) 1, 2, and 3, to the extent required for captains of ocean going ships, 2. knowledge of costs of freights and of bills of exchange, 3. the essentials of marine engines and boilers, 4. what the master mariner has an interest in knowing of maritime and mercantile law, and of the laws relating to bills of exchange, 5. knowledge of a captain's professional conduct during the whole time of a voyage, in ordinary and extraordinary circumstances, especially in the case of sea damage, 6. English language, 7. nautical hygiene.

The Preparatory Schools of Navigation form an introduction to the class for mates in the higher schools, and to the examination of skippers on short voyages.

In Prussia there are 12 schools of navigation, with which, at the same time, preparatory schools are connected, and 7 independent preparatory schools. The former had, in 1902/3, a total of 1292, the latter of 436, pupils. The State expenditure amounted in 1903, for the schools of navigation, to 199 823 M., for the preparatory schools, to 19 603 M. In the other Federal States there are 5 schools of navigation. In Prussia there are schools for ocean steamer engineers in Flensburg, Stettin, and Geestemünde. They prepare for the examinations prescribed by Imperial law for such engineers.

For Inland navigation there are in Prussia 37, in the other Federal States 15, schools for masters.

9. Schools of Cookery and Domestic Economy are supported in large numbers by municipalities and private societies. For girls also there are in Prussia three Governement Schools of Commerce and Industry, namely for such as have completed their compulsory schooling, and wish to be educated for an industrial or mercantile calling, or as technical teachers. The courses deal with machine sewing, dressmaking, making of underlinen, millinery, art needlework, pattern-drawing, typewriting, stenography, domestic economy, cookery, commercial subjects, etc.

10. The industrial Extension Courses are characterised by the fact that they do not occupy the whole day, but are held for 6 to 8

weekly hours in the evening and on Sundays. By Imperial legislation the municipalities can make this instruction obligatory for all industrial apprentices and young artisans up to the age of 18, and this has been done in many localities. In some Federal States, but not in Prussia, these compulsory extension courses have been generally introduced by State legislation. The chief subjects of instruction are German, arithmetic, and drawing, the latter in so far as it may be useful in the particular industry. In the larger towns, moreover, mathematics, physics, chemistry, French, English, and other subjects are taught.

In Prussia the number of these schools amounted, in the year 1903, to 1169, with 176 738 pupils. In 997 of them, with 137 678 pupils, the attendance was compulsory.

These courses are also often attended voluntarily by adult artisans. In most recent times also special State aided extension courses for independent craftsmen, so-called „master-courses" (Meisterkurse), have been established in Prussia.

2. Mercantile Education.

1. Only during the last years Commercial High Schools have been founded, namely in Leipzig, Cologne, Frankfort on the Main, and, in connection with the Technical High School, in Aachen, to which a new one is about to be added in Berlin. But already for a considerable time public higher commercial schools, sometimes also called commercial academies, existed in several of the large towns. In the stricter sense of the term only those can now be considered as „higher" commercial schools, which either demand, for admission to them, the certificate of qualification for a one year's military service, or have themselves the right to grant such a certificate. Of these schools there are six in Prussia, in addition to some private institutions. In Bavaria belongs to these the commercial department of the „Industrial" School in Munich. Besides, Bavaria possesses two higher commercial schools for male, and two for female, pupils, while commercial departments are connected with 22 Realschulen. In Saxony are found higher schools of this kind in Leipzig and Dresden; in Württemberg, in Stuttgart; in Baden, in Mannheim. Also several private institutions have a programme corresponding to the higher requirements.

Very numerous are the simple commercial schools, for which only a good primary education is requisite. They have been estab-

lished by municipalities, chambers of commerce, or other societies; many of them also are private institutions.

2. The commercial continuation schools correspond to the industrial ones, and are attended chiefly by commercial apprentices in their spare time. In Prussia their number amounted, in the year 1903, to 253, with 25 927 pupils. In 157 of them, with 12 923 pupils, the attendance was compulsory.

3. Agricultural Professional Education.

1. The intermediate agricultural education is represented in Prussia by the Agricultural Schools. They have the character of Realschulen; their three classes correspond to the lower tertia, the upper tertia, and the lower secunda. Frequently also a preparatory school with three classes is connected with them. To the subjects of a Realschule is added as a special subject rural economy, to which from four to six weekly hours are devoted, while natural science occupies a comparatively important position, from eight to ten weekly hours. This produces, on the other hand, the necessity of restricting the teaching in other subjects, namely, in German and foreign languages, history, geography, and mathematics.

Among the ordinary teachers there is at least one who has passed the State examination for teachers of agriculture in agricultural schools, and who is consequently in possession of the leaving certificate of a Gymnasium, Realgymnasium, or higher Realschule. As objects of the special teaching apparatus of agricultural institutions, besides the collections of various kinds, are to be mentioned experimental fields, fruit and vegetable gardens. Moreover excursions are made to neighbouring estates, to agricultural exhibitions, etc.

As the end of 1903, the number of agricultural schools in Prussia was 16.

2. The Farming Schools are intended for the directly practical training of agriculturists. The pupils, of the age of 15 to 20, are mostly sons of farm owners or tenants. They are established, partly by individual practical agriculturists, partly by agricultural societies, partly by endowments. All, however, are under State control, and nearly all of them receive subsidies from the State or from public corporations. They are situated in the country, in connection with a smaller or a middle-sized estate. The head of the estate, whether owner, tenant, or manager, is at the same time director of the in-

stitution. The pupils are full boarders. In return for this and for the teaching they have to pay boarding and school fees. Many of the farming schools admit pupils without, or with half, payment.

The instruction is both practical and theoretical, preferably the former in summer, the latter in winter. The practical teaching extends to all kinds of agricultural labour, which every pupil must learn to perform by continued personal application.

The theoretical teaching is given in the elementary subjects, in rural economy, in natural science, a subject of special importance to agriculture, in horticulture and fruit-growing, in veterinary science, frequently also in select sections of national economy and agricultural law. The complete course lasts two years. Admittance is conditional on previous elementary education, and knowledge of simple agricultural practice.

In Prussia there are at present 21 farming schools.

3. The Agricultural Winter Schools, like the farming schools, are intended for young farmers of the age of 15 to 20, but the teaching is a purely theoretical one. The complete course in them lasts two winters; in summer the pupils work on their fathers' or on other estates, and thus earn their own living. With respect to the subjects and to the manner of teaching, the winter schools are likewise very similar to the farming schools. The number of daily hours of teaching is naturally a larger one, as there is no practical occupation. Hence, in two winters the same amount of theoretical work can be overtaken as in two years in the farming schools.

The winter schools are found mostly in a small town. The pupils live with the citizens, with whom they are also boarded at moderate rates. The school fees for one winter are on an average 20 to 30 M.; in a few institutions they are also a little higher or a little lower.

The winter school is conducted by a director who has passed the final examination of an agricultural High School or the State examination. Frequently he is assisted by a second teacher of agriculture. In such a case the winter school is usually divided into two separate classes, one of which forms the 1st, the other the 2nd year's course.

The number of winter schools in Prussia amounted, in the year 1903, to 128.

In summer, when no teaching takes place, the directors and teachers of the winter schools are occupied as visiting lecturers.

4. In addition to these general agricultural schools, there are others for special branches of agriculture and kindred subjects. Such are the schools for meadow cultivation, horticulture and fruit-growing, dairy-farming, domestic economy, and those for bee-masters and for farriers. They are partly independent institutions, partly connected with another agricultural school. The schools for

Statistical Summary of the Agricultural Schools in Prussia, 1902.

Institutions (and their number)	Teachers	Pupils	Subsidies from the State	Subsidies from Provincial, District, Communal Funds, from Societies, from Endowments, etc.
1. Agricultural Schools (16)	189	2366	397 656	175 358
2. Farming Schools (21) and Courses	147	896	8 610	114 959
3. Agricultural Winter Schools (128)	931	4823	50 450	518 910
4. Schools for Meadow Cultivation (5) and pract. Courses	44	565	5 800	29 380
5. Pomological Institutes and Schools for Gardeners (3)	36	106	178 219	3 024
6. Schools of Horticulture, Viticulture, and Fruit-growing (15), Courses	245	3665	25 784	77 780
7. School for Sugar Manufacturing in Berlin	5	28	—	—
8. Distillery School of the Society of Spirit-manufacturers in Berlin	12	200	—	—
9. Students'Courses in Distillery at Schweidnitz	5	33	800	—
10. School for Brewers of the Society „Experimental School of Brewery in Berlin“	13	158	—	—
11. Schools for Dairy-farming and Domestic Economy (64), Courses	263	3278	73 700	88 640
12. Schools for Farriers (49)	100	747	5 100	9 580
13. Schools for Bee-masters (2) and Courses of Apiculture	11	181	1 500	550
14. Seminaries for Teachers of Agriculture (2)	14	12	4 100	—
15. Courses for training Elementary Teachers for rural Continuation Schools	11	58	13 750	—
16. Lecturing Courses for Agriculturists, and Courses on knowledge of Soils, Manures, Cattle-breeding and Feeding	21	697	—	—
17. Courses of Book-keeping	7	260	—	—

horticulture and fruit-growing, and for domestic economy are the most numerous and are attended by the largest number of pupils.

For the training of lower-class forestry officials there are in Prussia two special schools.

Statistics on the subject of the agricultural schools in Prussia are contained in the table on page 181.

5. The agricultural continuation schools are chiefly intended for strengthening and extending the elementary education of the rural population, but in some of them also technical agricultural instruction is given. The teaching is conducted principally in winter, during some evenings of each week, and on Sunday afternoons. In Prussia there were, in the year 1902, 1421 rural continuation schools with 20 666 pupils, causing an expenditure of 182 236 M.

6. Some information on the general agricultural schools in the other Federal States is supplied in the following table.

Federal State	Number of Agricultural Schools (Schools of Agriculture, Farming Schools, Agricult. Winter Schools and similar schools) with a general agricult. Curriculum in 1902/03	Number of Pupils attending these Schools in 1902/3. (Only Pupils of agricultural subjects are included)	Number of Schools and Pupils to every 10 000 agricult. Estates of 12,5 acres and more	
			Schools	Pupils
Kingd. of Bavaria .	43	1 534	1,6	58,5
„ „ Saxony .	10	603	2,1	125,6
„ „ Württemberg .	12	285	1,8	43,2
Grand Duchy of Baden	15	566	3,7	141,5
„ „ „ Hesse	11	382	4,2	146,9
Reichsland of Elsaß-Lothringen . . .	12	345	3,2	93,2
The other Federal States, with the exception of Prussia	25	1 043	3,0	124,2

Also the special schools, like those for horticulture and fruit-growing, for dairy-farming, for domestic economy are correspondingly represented, likewise the continuation schools, which in some of the States have compulsory regulations.

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