

*Hoffmann (Fr.)*

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GERMAN EMPIRE.

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BY

FRED. HOFFMANN, PH. D.

REPRINT FROM THE "AMERICAN JOURNAL OF PHARMACY" FOR  
AUGUST AND SEPTEMBER, 1871.

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THE management of the medical affairs in Prussia belongs to the Ministry of Ecclesiastic, Educational and Medical Affairs. With the entire internal executive administration of the empire, it is ultimately concentrated in the bureau of the imperial Chancellor. In both these supreme departments all administrative branches are represented by boards composed of administrative and technical councillors.

The highest administrative bureaus of the civil government in the Provinces of the empire are the Provincial Presidency (Oberpräsidium), whose chief is the "Oberpräsident," or Governor, and the District Governments, or Regencies (Regierungen). Each province has only one governor; but, in proportion to its area and number of inhabitants, they are divided into two or more Regencies, in which the administrative branches are also represented by boards.

The Regency of the provincial capital, which is the seat of the Governor and the superior military, civil, judiciary, ecclesiastical and educational authorities, has, among others, a department for the medical and sanitary affairs of the province (Medicinal-Collegium), presided over by the Governor and by the President of the Regency. The councillors of this board are two physicians, one or two pharmacutists, one veterinary surgeon, and one or two jurists.

The regencies are subdivided into districts or counties (Kreise), the

\* This essay has been written at the request of the Editor of the Journal, and to him I am indebted for the translation of the greater part of it from German into English.

medical and sanitary affairs of which, not properly belonging to the department of Police or to municipal supervision, are guarded by the district physicus (a health officer who is a physician), the district pharmacist and the district veterinary surgeon. Their authority is limited to memorializing the provincial Regency, obtaining the decisions and regulations of the latter, and initiating their enforcement.

More important administrative affairs are reported either directly to the Provincial Medical Council or to the Governor, or, like the establishment of new pharmacies, have to pass through all the successive bureaus to receive the final decision of the Governor. In such cases reports are demanded of the interested parties, of the municipal authorities, of the district or city physicus, and of the provincial medical council.

The only direct control which the government exercises over the pharmacies and pharmacutists consists in the inspection of the pharmacies, which is compulsory every three years, but which may be performed oftener if judged necessary, or if called for by the apothecary or by the district or municipal authorities. This inspection is no dead-letter, but is a severe searching operation, performed by a delegation nominated by the Provincial government, and consisting of the presiding medical councillor of the Provincial government (Regierungs-Medicinalrath), the district physicus, the district and some other delegated apothecary. One or more representatives of the local municipal authorities are always invited to attend the inspection. Not only are the drugs and the entire stock examined, but also the assistants and apprentices. The inspectors examine the apothecary's diploma, license, pharmacopœia, library, herbarium, prescription books, and the prices charged for the prescriptions therein. Assistants and apprentices are required to show their examination certificates, are asked questions on the pharmaceutical sciences, on the pharmacopœia, and have to submit to an inquiry into their studies, diligence, and progress. Most drugs, especially those liable to sophistication, and all pharmaceutical and chemical preparations, are examined and tested. Store, laboratory, storerooms and cellar are inspected minutely. A résumé of the entire inspection is made and signed by all delegates and witnesses, and is sent to and kept by the Provincial government. From this the apothecary receives a report of the result of the inspection, with either acknowledging reflections, coun-

sels for his or his assistants benefit, or polite but precise and firm reprimands.

Another less severe control of the government is exercised by the requirement that the district physicus and apothecary have to be informed of any change of the assistants and apprentices. The assistants, when entering a new situation, have to present themselves to the district physicus and apothecary, who have to countersign the certificate required and given to the assistant when leaving his situation.

The intercourse of the civil and judicial authorities with all citizens being dignified and polite, though strict, and without regard to position, means or rank, the relations of the authorities to the apothecaries is likewise characterized by consideration and respect. Like all other professions, there is a great deal required from the apothecary: a high status of professional competency, fidelity and uncompromising reliability. In return, the state grants him protection, and in ordinary life he enjoys the confidence and esteem of the public, by virtue of his vocation.

#### Pharmaceutical Education.

The young applicant for an apprenticeship receives the requisite permission from the district physicus and district apothecary upon an application accompanied by a curriculum vitæ and testimonials showing that he has reached the second class in a state classical school (gymnasium), or gained the proficiency for the same, and that his reputation and character are good, of which qualifications the district physicus may satisfy himself by personal examination.\*

The apprenticeship has been fixed for three years, of which time an abatement of six months is allowed to those only who previously had attained the necessary qualifications for matriculation at a university. The preceptor is bound to instruct his apprentices, theoretically as well as practically, in pharmacy and its collateral sciences, and to furnish the requisite apparatus for this purpose. Sufficient time must be allowed to the young men, aside from their daily labor

\*It deserves to be mentioned that in Prussia a thorough preliminary and school education is demanded as the requisite foundation of subsequent capability and profoundness. This is rendered possible by an excellent educational system, and is made the *conditio sine qua non* on entering upon any professional career.

in the officine and laboratory, to prosecute their studies, and in summer to undertake botanical excursions for the purpose of preparing a herbarium. They have to keep a journal of all preparations made by them, and to enter therein a short description of the theory and the practice of the processes.

When the apprenticeship has been completed to the satisfaction of the preceptor, the apprentice is examined by a commission consisting of the district physicus and apothecary, and, if desired, in the presence of the preceptor. This examination is practical and verbal, the main aim of the former being to ascertain whether the candidate may be safely entrusted with the functions of an assistant; it consists in the reading and pricing, according to the legal valuation, of prescriptions, and the putting up of three of a rather difficult nature, and in proving his competency to perform the practical labors in the laboratory. The verbal examination embraces the fundamental principles of botany, materia medica, theoretical chemistry, natural philosophy, the recognition and terminological demonstration of fresh or dried indigenous and medicinal plants, the pharmacological determination of drugs and their adulterations, the processes, tests and doses of pharmaceutical and chemical preparations, and the legal enactments concerning the duties, &c., of assistants. Failing to pass a satisfactory examination subjects the candidate to a prolongation of his apprenticeship for six months; on failing in the third, another examination will not be granted, and the young man will have to quit following pharmacy as a pursuit.

On receiving the testimonials of the successful accomplishment of his apprenticeship and examination, he acquires the title of pharmaceutical assistant, and the right to act in this capacity. As such, he shares the responsibility of his employer for the proper conduct of the officine, except where he merely carries out the direct orders of the same. After a term of service of at least three years, not less than two of which in German officines, the assistant may enter the university course of his studies, lasting at least one year.

There are no special schools or colleges of pharmacy in Germany, since universities there are centres of all scientific branches, required for the higher professional vocations.

At the universities it is optional with the student to elect the courses of lectures and the professors delivering the same, and no inquisitive supervision or control is exercised over his attendance at

the lectures and his diligence. The pharmacist has to produce the lecture tickets on general, pharmaceutical and analytical chemistry, on botany, pharmaceutical botany, materia medica, natural philosophy, and on the practical course in the university laboratory. Besides these special branches, the pharmacists, together with the other students, attend, according to their inclination, the public lectures (*publica*) on sciences or branches that are of general interest, or delivered by ardent, animating professors. These lectures, the attendants of which belong to all the different faculties, are, particularly at the large universities of Berlin, Bonn, Leipsic, Munich, Breslau, Heidelberg, Goettingen, &c., very largely patronized and full of interest, from the themes as well as the lecturers.

The application for entering the university and for admission to the State examination, is made to the director of pharmaceutical studies, who, at most of the universities, is one of the professors.

The State examination—a term applied in Prussia to the last and most extensive professional examination—is held by boards appointed by the Ministry of Ecclesiastic, Educational and Medical Affairs. Until 1855 this examination had to be made by physicians and pharmacists, in Berlin, before the medical examining board (*Oberexaminations-Commission*).

Since that time, however, every province has been provided with such a board, composed, by appointment by said Minister of the medical and pharmaceutical councillors of the regency, of professors of the university located in the province, of physicians and apothecaries.

The examination consists of the *tentamen*, the course, and the final examination. Those only having passed the first two are admitted to the final ordeal.

In the *tentamen* the candidate must answer in writing and in clause, under the supervision of one or more of the examiners, a number of questions on chemistry, practical pharmacy, botany and materia medica. If his answers are satisfactory, he receives some chemical subject for a thesis, to complete which he is allowed several months' time, and every facility of literary auxiliaries and references, all of which have to be cited. These essays are often complete monographs, and evidence the author's acquaintance with the pharmaceutical and collateral literature as well as his literary qualification.

Meanwhile the candidate is admitted to the most comprehensive part, the course examination, consisting in a series of practical writ-

ten and verbal examinations, covering the whole field of pharmaceutical acquirements, and extending over one or several months. Among others, it includes the preparation of several pharmaceutical preparations, the execution of a qualitative and a quantitative chemical analysis of an inorganic compound, or of a mixture of an unknown (to the candidate) composition, the execution of a forensic analysis of some animal or organic substance, containing one or more poisonous admixtures, and a report thereof in full, as required by and directed to a court, in order to determine the candidate's ability to act as expert in legal investigations. The verbal examination extends over the sciences of botany, pharmacognosy, general, analytical, and pharmaceutical chemistry, toxicology and pharmaceutical laws.

The final examination, which is verbal and public, and to which not more than four candidates are admitted at one time, is passed before the entire board. It comprises an interrogative survey over all the sciences auxiliary to pharmacy, and the legal relations of the apothecary.

The grades of the final course are, excellent, very good, good, and insufficient, the latter making a repetition of the examination necessary after six months; failing to pass after two such postponements is equivalent to a definite rejection.

The chairman of the board reports the entire proceedings, including the documents of application and other papers, to the Ministry of the Ecclesiastic, Educational and Medical Affairs, from which the candidate receives the certificate of qualification (Approbation as Apothecary), requisite for conducting any officine in the German empire, and for being eligible to the administrative offices of district or government apothecary, and to the appointment as inspector of pharmacies.

The apothecary's oath is administered by the district or city physician on the occasion of the purchase or lease of an officine, and on accepting the administration of one. Thereby the pharmacist engages to exercise the duties of his calling, in accordance with the laws and regulations, with fidelity and conscientiousness, and to the best of his ability.

#### *Pharmacies and Pharmacutists.*

Up to the present time the opening of a new officine in Germany is dependent upon the concession of the government. Until the beginning of the present century, the King, afterwards the government,

issued a grant (privilegium) which was permanent for the place, and could be ceded or sold to competent apothecaries. Latterly, instead of those grants, concessions have been issued which are permanent only under certain restrictions and not saleable without the consent of the government. Grants, as well as concessions, have always been made dependent upon actual necessity; hence, the number of officines in Germany, as compared with those countries in which the carrying on of every business is based upon the principle of free trade, is very small in proportion to the inhabitants. Though of late concessions have been granted with greater liberality, the average proportion of officines and population in the larger cities is approximately one for 7,000 to 10,000, and in the country one for 12,000 to 15,000 or more, inhabitants.

The value of these grants and concessions has for this reason been high from the beginning, and was in the course of time increased, in consequence of the increase of the population, wealth, consumption and value of real estate and of labor; and now, since more liberal ideas are prevailing in regard to industrial and economical affairs, this value has perhaps reached its maximum, from which possibly a reaction may take place.

The officines in Germany usually confine themselves to a purely medicinal business, that is to the compounding of prescriptions and the sale of medicinal articles; with the exception of those located in very small places, non-medicinal articles are not, or only to a very limited extent, kept. Recently, however, the sale of toilet and fancy articles and even of foreign proprietary articles has been introduced, particularly in large cities and in places located in the thoroughfares of travel and resort, but though tolerated, is looked upon with disfavor by the government. The "medicinal tax" is uniform and obligatory for the entire country, is altered and amended annually, in conformity with the fluctuations in the commercial value of the articles; it regulates the price of medicinal articles and their preparations and fixes the charges for all requisite labor, for vessels, etc.; hence the prices for medicines are uniform throughout the country, and must be strictly figured out in accordance with the "tax"; the charges in the sales of medicinal articles over the counter must not exceed the tax valuation. The price of an officine and the real estate thereto

belonging\* being high, only about one-fourth of it is mostly paid at the purchase, while the balance is secured by mortgages at 5 per cent. interest. In all cases, therefore, these interests of an unproportionately high capital burden the income of an officine, and the net gain is further kept low by the low tax prices.

The arrangements and conducting of officines in Germany differ in many respects from the usages in this country, although they vary in the different sections of the empire and are influenced by the size of the cities, of the establishments and by local characteristics. The stores have no show windows and no attractive outside show whatever, except the sign as "Apotheke," and frequently the name of the owner; they have, as the only conspicuous distinction, a symbolum, generally an eagle, lion, bear, swan, a crown, etc., which are in figures of natural size over the store door and in print on the labels of the store. The inside of the store is generally remarkable for the great number of bottles, porcelain vessels and drawers, for their strict alphabetical and systematic arrangement and for the neatness, cleanliness and perfect order of the entire establishment. There is a counter for dispensing and selling, but no show cases, show bottles nor anything similar, although the shelves, fixtures and the whole establishment are mostly as practical as rich and elegant; for the preparation of prescriptions one or more prescription counters with their own shelves containing the materials mostly used. They are separated from the admittance and insight of the public, behind which, as Mr. E. I. T. Agnew in a recently published paper† significantly remarks, "a number of silent and spectacled assistants dispense the prescriptions, given to them (in the larger establishments) by the first assistant, who receives the prescriptions from the public and returns them with the medicine.‡

The Prussian Pharmacopœia is edited by authority and order of the

\* With perhaps a few exceptions in the largest cities where pharmacies may be in a leased locality, the house or houses in which an officine is established with all pertainments and premises belonging thereto, and often with participation in municipal lands, are always included in the saleable estate of an officine.

† London Pharmaceutical Journal and Transactions. April 15, 1871, p. 821.

‡ In Germany the prescriptions are legally the property of the patients or the persons who paid for them, and are invariably returned with the medicine, except when temporarily retained on account of non-payment.

government, the present one being the seventh of all its editions. The Ministry of Public Instruction and of Ecclesiastic and Medical affairs appoints a commission of experts for revising and publishing new editions. This commission, consisting of men regarded as authorities in the pharmaceutical and medical professions, usually requests the most prominent physicians and apothecaries throughout the country to suggest alterations, amendments or additions, which, after due and mature consideration, are framed into a draft which once more is submitted to the medical and pharmaceutical professions for the purpose of eliciting criticism and further emendation. This is followed by the final revision, which being accomplished, the work is submitted for approval to the Ministry and hereafter also to the Imperial Chancellery, when it is published and becomes authoritative for the entire country by virtue of a prefixed imperial order, which, together with the tables added after the text, contains the legal regulations in relation to the purchase and manufacture of pharmaceutical drugs and preparations, to the keeping, dispensing and the allowed maximum doses of the powerful medicines and poisons. If a physician prescribes a larger than the highest dose allowed according to the tables appended to the Pharmacopœia, he must upon the prescription add the mark (!) otherwise the apothecary is bound to send the prescription, before dispensing the medicine, to the prescriber for verification, or in cases of urgent necessity even to another physician for endorsement.

Poisons and powerful medicines must be kept in the store as well as in the stock-rooms, in separate places and closets. The poison closets, which are always locked, are provided with different compartments and contain also scales, mortars, pill-machines and other utensils requisite for dispensing, and used only in connection with medicines containing poisons. The labels on the poison closet, on the bottles and drawers are in red letters on white ground. The prescriptions containing poisons are also kept in the poison closet and are entered into the poison book. This arrangement and separation effectually guard against mistakes, as well as against carelessness in the handling, dispensing and use of poisons. Poisons for use in the arts and trades or for the extinction of vermin, are sold only to responsible adult persons known as such to the apothecary; the purchaser has to sign an acknowledgement stating the kind of poison, its quantity, for what to be used, by whom dispensed, and to share the responsibility in case of misuse or accident by his neglect. These receipts, like the

prescriptions containing poisons, have to be entered into the poison journal, and together with the same have to be kept open to inspection at the visitations or at any time by the authorities.

The Prussian Pharmacopœia is published in the Latin language, all the articles being arranged alphabetically, and is characterized by precision and terseness, as well as by profoundness and accuracy, the result of the high standard and the individual accomplishment of its authors as well as of the great care with which it has been consummated.

Besides the Pharmacopœia a compendium of unofficinal formulas, edited by two apothecaries in Berlin,\* is in general use. The Pharmacopœia and, when requisite, this compendium, are the uncompromising authorities for preparing, keeping and dispensing all medicines, and the former must be in the possession of every apothecary, assistant and apprentice.

The apothecaries are obliged to prepare their pharmaceutical preparations and most of the pharmaceutical chemicals themselves, or, when the small extent of their business does not make this profitable, they have to buy them from other manufacturing apothecaries. They are, however, responsible for the goodness and quality of the entire stock of their establishments; therefore nearly every officine is provided with a more or less comprehensive laboratory, containing every convenience, reagents and utensils for practice or research. Small steam apparatus like the well known one of Beindorff are commonly used where heat is required as for decoctions, infusions, for distilling, evaporating, drying, etc. Where there are two or more assistants, they are engaged one for the store and the other for the laboratory; the former is termed "Receptarius," (prescription clerk) the latter "Defectarius;" for the sake of instruction in many places they change these respective occupations with each other monthly or quarterly. The apprentices generally work the first two years in the store and then share the labors in the laboratory. Except in the largest cities, assistants as well as apprentices live and board with their employer; they frequently enjoy the rights and privileges as members of the family. Apprentices used to receive no salary except board, for which in former years they even paid a small compensation, either in money or by prolonged appren-

\* *Præparata chemica et pharmaca composita in pharmacopœa Borussicæ, non recepta, quæ in officinis borussicis usitata sunt.* Ed. *Schacht et Laux*, Berlin.

ticeship; recently, however, they receive towards the termination of their apprenticeship a small salary. Assistants receive board, and besides an annual salary of from 180 to 300 thalers; in large cities where they sometimes have to board themselves, they are compensated accordingly; their engagement is quarterly, with six weeks' notice in case of leave, on either part. It is customary that assistants have free every alternate Sunday and besides half a day each week; where there are several assistants in an officine they have frequently every alternate evening free. Apprentices have not quite as much time of their own, but, aside from their daily labor, they have sufficient time for private study and, during summer, for botanical excursions.

The keeping of a fountain and the sale of carbonic acid gas and mineral waters on draught in the store is forbidden; if the apothecary manufactures and sells them, he has to do it in a separate locality and by persons engaged for this branch of business.

The position of the apothecary in Germany differs from the one he holds in this country, smaller places excepted, in which he either cannot afford to engage an assistant, or is sometimes unable to obtain the services of one, the principal takes less part in the manual labors of the officine, except during the pressure of business or in the absence of the assistant; his private office, usually adjoining the store, is generally also his library and study. If two assistants cannot be kept, the principal attends also to the labors in the laboratory. His education and knowledge, his familiarity with technical and sanitary affairs and with common things, as well as his social position, make the apothecary the confidential adviser frequently applied to by the public, and make the apothecary's store in Germany, as Mr. Danl. Robbins so well-timed indicates in his Drug Report of 1868,\* as a desideratum also for this country—"a place for public advice and for correct information about all articles in daily use," and that without any charges. The apothecary is also the legitimate expert for the execution of chemical analyses for physicians, for the sanitary and police authorities, and in criminal cases for the courts. These engagements, the supervision and activity in the officine and laboratory, the instruction of the apprentices and the necessary attention to the pharmaceutical and general scientific literature, tax his time and ability, and require his mental and manual labor. Not unfrequently

\* Proceedings of Amer. Pharmaceutical Association, Vol. XVI, page 291.

is he also elected to fill municipal and other offices, like those of trustee, juror, councilman, etc., which, in Germany, are positions of honor and trust, without any pecuniary compensation.

For these reasons and by virtue of the high standard of professional character and morals in trade and pursuit, the apothecary, like the physician, enjoys the consideration and regard of the public.

The relation between the apothecary and his assistants is that of colleagues based upon mutual esteem. "Since there are a great number of men who have passed the State's examination, but do not possess the means to buy a pharmacy, and have to wait years to obtain perhaps the concession for the establishment of a new one, and who, consequently, are obliged to serve as assistants, there is in German officines a staff of well-educated, experienced and pains-taking assistants. This fact contributes not a little to the high status of pharmacy and to the deserved regard and confidence which the pharmacist enjoys in Germany." (Agnew.) It also gives a clue to the cause why so many German pharmacists have emigrated\* and established themselves in foreign countries with less restricted or free trade, mainly in Switzerland, Russia and the United States, and more or less in the Central and South American countries, and in the coast countries and islands of Asia and Africa. Although frequently separated by language and dialect, they generally win the satisfaction and respect of their employers and of the public, and are successful in their pursuit. "In Russia, according to Mr. Agnew's cited statement, by some extraordinary anomaly, German apothecaries are permitted to practice to the exclusion even of natives, unless they have been educated in a German University."†

When pharmacists, educated in Germany and residing in foreign countries, especially in the United States, do not seem to possess this high moral and professional status or when they apparently or really have renounced the same, it must be borne in mind, looking aside from

\* For some time past there has been considerable decrease in the emigration of German pharmacists to the United States.

† This statement is not quite correct, and may derive its erroneous origin in the fact, that comparatively a great number of apothecaries and most of the pharmaceutical professors at the universities in European Russia are Germans and that the latter lecture in the German language. It is also remarkable that the best and most widely distributed pharmaceutical journal of the Russian Empire is edited by Germans and published in the German language.

mere pretenders or swindlers, that many emigrate quite young and long before their pharmaceutical education is completed, and that comparatively few are found among them who have accomplished their university studies and passed the State's examination; it must likewise be considered that the strife for existence and prosperity as well as the hardships of the stranger are severe and trying, and usually more so for the higher educated and accomplished minds.

In contrast to those colleagues who, having been born and educated here, are familiar with the customs and usages, with their country and people, the beginning of the emigrant, who is frequently without means and advising and helping friends, is wrought with many disappointments and adversities. It is a hard though necessary labor of his to acquaint himself with the language and customs, with the country and its people and their character; the harder for him who, having accomplished his pharmaceutical education in Germany, and having served there for a longer period as assistant, comes in his riper years into a new country, with new and to him strange customs, while he has parted from a position and social sphere which he cannot expect to find in countries where, influenced through unrestricted trade, the status of pharmacy and the social position of the pharmacist as well as the aims of the latter are usually less prominent and high. Such men, therefore, who shun vanity and have no favor for mere outward appearances and strive for gain as their main or sole aim, and who regard their education and maxims and their individual character in a higher light than mere articles of bargain and barter, such will often reach success only amid great difficulties which are increased and sorely felt, since confidence, independence and professional and social position are in Germany hereditary attributes of his vocation, while all these boons are secured here only through individual exertion.





