

The university library of the Technische Universität Braunschweig – past and present

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The university library at Braunschweig is the oldest library in a German technical university.

In its history there have been three culmination points: its foundation in 1748, the move into a large modern location in 1877, and the move into a dedicated building in 1971.

In the meantime its librarians have had to contend with a lot of difficulties concerning budget, space and staff, a situation that dominates again at present.

1. The library from 1748 to 1835

1.1. *Foundation*

The Technische Universität Braunschweig was founded in 1745 as a boarding school; its founder, Abbot Johann Friedrich Wilhelm Jerusalem, was the counsellor of Duke Carl I of Braunschweig and Lünuberg. He wanted the Collegium Carolinum to be a school in which elements of those institutions he had studied at during his stays in Great Britain and at the university of Göttingen were combined, a school between high-school and university.

From the first mention of the Collegium Carolinum, Abbot Jerusalem expressed his intention of establishing a library as well.¹ Finally, on 18 May 1748 this library was set up in a room of the Collegium's house at the Bohlweg.

1.2. *Organization of the library*

Like the organization of the Collegium Abbot Jerusalem also set up the principles of the library; his *Instruction für den Bibliothekarium des Collegium Carolini*² dates from 18 May 1748 and is taken as the foundation document.

In this 'instruction' he laid down rights and duties of the librarian, who was chosen from the teachers of the Collegium³ and who was under Jerusalem's supervision. The librarian was responsible for the books; he had to ensure that the books were not damaged and were always replaced on the shelves in their

systematical order. He had to open the library twice a week, on Wednesday and Saturday, from 2pm to 4pm, but he also had to keep himself ready to show the library to strangers who wanted to visit it outside the official hours.

The loan of books was permitted only to those persons who were able to substitute a lost or damaged volume, which meant students had to read in the library only; teachers and persons with ducal permission were allowed to take books out of the library on receipt of a signature.

1.3. Stock and accession

The first stock of the library of the Collegium Carolinum originated in the private book collection of Duke Ludwig Rudolph of Blankenburg.⁴ Duke Carl I permitted Abbot Jerusalem to choose the basic collection from there. Jerusalem enumerated 1457 titles.⁵ Because of the Abbot's education and the subjects represented in the library of Blankenburg, the primary stock was dominated by the human sciences, mainly theological topics. Subsequent accessions were not numerous. There was no budget; only some donations augmented the stock. In 1750 all students leaving the Collegium had to pay a minimum of 1 Reichstaler which would be spent on the library but Johann Joachim Eschenburg, who headed the library at the end of the 18th century, informs us that the library never profited from this money.

1.4. Catalogues

The list of books which Abbot Jerusalem had chosen from Blankenburg is the first catalogue of the library. The volumes are listed in alphabetical order. In 1778 the then installed librarian Tünzel made a second catalogue, this time in systematic order. This subject catalogue was formatted on the catalogue of the university of Helmstedt but also took into consideration the necessities at Braunschweig. Tünzel enumerated 1669 titles (3715 volumes), classified into 32 subjects and then arranged by size. Tünzel's successor Eschenburg, translator of Shakespearean texts and famous man of letters, in 1782 added an alphabetical index to the subject catalogue. He gave author and short-title or title, so that some books were mentioned twice. Eschenburg, who was a very scrupulous librarian, complained of the unreliability of Tünzel's data. Therefore it is not possible to give a sure estimate of the stock, which totalled approximately 5000 volumes at the turn of the century.⁶

The first era of the library ended with the occupation of the duchy of Braunschweig by the French. Like the universities at Helmstedt and Rinteln, the Collegium Carolinum was closed in 1808 but was reopened in 1809 as Königlich Westfälische Kriegsschule. Therefore the library did not suffer under the French occupation and it served the Collegium as before until the reformation of schools that took place in 1828.

2. The period from 1835 to 1877

After 1828, due to the reform of the school system in the duchy of Braunschweig, the Collegium Carolinum lost its mediating function between

schools and universities. To avoid a definitive closing it had to be reformed so that in 1835 Abbot Jerusalem's Collegium was divided into three sections, a mercantile, a humanistic and a technical one.⁷ There are only few notes about the library in this period. During his office Eschenburg had reported periodically about his work, but from winter 1835–36 to summer 1863 there are no reports at all. From 1823 G.L.U. Dedekind directed the library while also being the head of the mercantile section and the administrator of accounting, both occupations he will have been engaged with more than with the library. Perhaps this is the reason for the employment of a second librarian in 1844, Johann Heinrich Blasius, who directed the Naturhistorische Museum from 1857 and became head of the library in 1863.

About stock and space is known only what is reported in the university calendars⁸ in the years till 1863–64. A new reading-room is mentioned where journals, serials and new books could be kept and which would be reserved for the teaching staff. When this reading-room was set up is not known. Another change of the school took place in 1862. It was necessary to accommodate the institution to the new developments which were dominated by technical matters. So the Collegium was changed into a so-called polytechnical school with eight sections, including civil, mechanical and chemical engineering, pharmacy and metallurgy. Due to the introduction of these technical subjects the former Collegium Carolinum increased its enrolment of students and in the 1870s the localities at the Bohlweg became too small. A new building was planned.

About the library we are informed by the report made by one of the architects of the new building, Professor Carl Körner, that the situation was very bad.⁹ After nearly 130 years the 120 square metres did not meet the requirements any more. The stock was now at 10000 volumes, the library was used by an increasing number of students, the lighting and environment were disagreeable. The first removal had to be arranged.

3. The Polytechnikum 1877–1945

3.1. *General situation*

In 1877 the polytechnical school moved into its new building situated at the Neue Promenade on the outskirts of the city and was now named Polytechnikum Carolo-Wilhelmina. In 1878 a general resolution decided that the polytechnical schools should be called Technische Hochschulen. So it was at Braunschweig.

The library was placed at the entrance and was endowed with modern and representative equipment. However, while the Technische Hochschule still remained one of the best furnished, the situation of the library soon deteriorated. By 1885 it was not possible to place the books in their systematic order. Patent specifications, kept probably since 1878, were used more and more and needed more space to be laid out. Huisken, head of the library at that time, recommended that those books which were not that important to a technical institution, like ethnology, philosophy or law, be kept in special bookcases;

this was partly accepted but other books, without interest to technical subjects should be stored in the loft.

In 1890 the conditions had gone from bad to worse so that only radical changes could improve the situation. The humanistic literature was given to the Landesbibliothek Wolfenbüttel (now Herzog August Bibliothek) or to the Stadtbibliothek Braunschweig. The request of chancellor Lüdicke in 1897 to have the technical literature of the Landesbibliothek, met with a refusal from the ducal state ministry because this action would disperse the stock of Wolfenbüttel.

Twenty years later the ducal state ministry permitted the exchange or sale of duplicates, or those books which were not necessary for a technical library, even if that library were to be extended later. The books were chosen by a board consisting of the library committee, the respective professors, the chancellor and the head of the Landesbibliothek Wolfenbüttel. The sale was possible only when the books also existed at the Landesbibliothek or the Stadtbibliothek Braunschweig. In this manner 1014 duplicates (so called) were sold in the years 1917 to 1924. The humanistic stock of the Collegium Carolinum was given away more and more to make room for modern literature. Nevertheless the congestion was as grave as before. Hinrichs, who headed the library from 1906 to 1938, soon obtained enlargements but they could improve the situation only for a short time. The Technische Hochschule had no money, the library was the first department where expenses could be cut!

In 1937 the stock of pedagogical literature had to go and was given to the Pädagogische Hochschule, founded one year before and moved into its own building.

The next delivery of books occurred in 1943 and was caused by the war. One hundred thousand volumes were stored in some restaurants in the surrounding areas, while the patent specifications, much used manuals and reference books, recent journals and all the catalogues remained at the library.

All this was severely damaged when in the night of 15 October 1944 the buildings of the Technische Hochschule were nearly totally destroyed, the patent specifications, the alphabetical subject catalogue and the recent numbers of the journals were ruined completely. Another bomb hit in March 1945 and caused further damage. In total 7% of the stock was destroyed.¹⁰

3.2. *The personnel situation*

As said before, in 1844 the head of the library was assisted by a second professor chosen out of the college, and both were still teaching. This situation changed in 1910 when finally a librarian was employed on a full-time basis. The then engaged assistant was neither a professor nor a teacher anymore but a fiscal officer. From 1906, the head of the library was subordinated to the above mentioned library committee. The committee was composed of the heads of the departments and the chancellor, and had been organized in 1895. Without this committee the head of the library could not take decisions. He had to present his ideas as recommendations to the committee meetings.

Because of his competence these proposals were accepted most of the time, or at least they served as models.

Hinrichs reported that in 1916 the library had the highest budget of the libraries of Braunschweig and nearly as many users as the public library, but it had the smallest number of personnel. The library committee proposed the permanent employment of three persons for the library. Only in 1928 was the first trained librarian engaged, and she worked until 1934 without salary!

Because of the money scarcity and the resulting poor salaries it was very difficult to find personnel, and those who had been engaged soon left Braunschweig to earn more in other cities. This personnel scarcity made it necessary, for example, to close the alphabetical subject catalogue. In 1937 there was one librarian as head of the library, five assistants and two stock assistants, while the stock was 128 333 volumes.¹¹

3.3. *Budget and accession*

The first statement of costs dates from 1849–54 and was made by Professor Blasius. The first budget of the library was documented in 1881 and runs up to 2400 Marks.¹² In the 1890s the library received as much money as was spent for excursions of the whole Technische Hochschule.

The budget of 3700 Marks in 1906, however, had to be spent on journals, their indexes and binding. Little money was left for the acquisition of monographic publications. That was the reason for a reorganization of accession so the institutes ordered their literature independently as before, but they had to show the orders to the librarian so that he was able to avoid duplicates. The books, however, bought with the funds of the institutes, belonged to the central library, they were accessioned and catalogued there and then given to the institutes as permanent loans. In this way the stock of all institutes was available for all users. This was the situation until 1946 because of the low library budget, which was ameliorated only by donations, by selling theses and by charging access fees.

3.4. *Catalogues*

The first printed catalogue of the library was published in 1880. Nothing is known about other catalogues after Eschenburg's of 1782. The printed list of 1880 recorded the literature of the technical subjects and their auxiliary sciences. Mathematics, natural sciences, technology, mechanics, civil and mechanical engineering and arts formed the first section; the second, containing the humanistic sciences, was never published. The titles were arranged according to the above mentioned scheme; they were enumerated in alphabetical order, journals and serials listed at the end. Entries consisted of author, title, translation (where necessary), edition, size, place and date of publication. Until 1900 this catalogue was completed by 20 lithographic additions, based on a card catalogue, probably started in 1880. At the same time this card catalogue acted as an accession book.

When the library was reorganized at the turn of the century the shelf order was also reformed. The result was a shelf classification which arranged the

literature by the different subjects symbolized by a roman figure, followed by a capital letter distinguishing the subsections;¹³ an arabic figure gave the accession sequence. The books were registered in a book catalogue which had the double function of an accession book and shelf register.

The alphabetical card catalogue followed the same system and was used by the librarians until 1946 but it was never placed at the users' disposal. An alphabetical subject catalogue, started in 1916, and a list of the periodicals, were accessible as sheaf catalogues. These catalogues were complemented by other special ones and were used until 1946 when, after the war damage, the new start brought numerous reforms and changes.

4. The University Library from 1945 to the present

4.1. The library buildings

With the destruction of the buildings and catalogues hard times began for the library. In June 1945 circulation was resumed, in spite of all the difficulties due to the damage and the lost shelving!

The 100 000 volumes had to be fetched back; the restaurants now needed the rooms that had served as stacks. At first the books were shelved in the building of the Pädagogische Hochschule (now called Kant-Hochschule), and in the Institute of Electrotechnics, but the Technische Hochschule (TH) started again with its work and the space was needed for lessons so the books had to be removed. They were stored in several rooms, some of them even on shelves, whereas others had to be piled up in the reconstructed and closed lobby of the old college building. The circulation of these books was impossible because one could not get them out of the piles. Another difficulty was finding the books because most of the catalogues were destroyed. The maintenance of lending depended on the memory of the librarians; other possibilities did not exist.

The next years were dominated by several removals of parts of the stock. Immediate loans were no longer possible because of the different, sometimes distant, depositories, but the users preferred to wait some days for the books. With the increasing number of students at the TH the users of the library also became more numerous. Besides the need for new and more rooms for staff the library was in urgent need of a reading room and a room to keep periodicals. Another removal of the complete library took place in 1950 and this was a real advance. In a remodelled factory the library now established 25 places in a reading room, all 130 000 books were shelved, although only 70 928 were catalogued, library administration and public services were united again; the disadvantage was the distance of nearly 2 km between the TH and its library.

Unlike this removal the next one proved to be a disadvantage. In 1953 the library had to leave the former factory because production started again. It was moved into the 1877 building but now it was located in the basement. The

lending department and the reading room were well dimensioned, but from the outset the stacks were not sufficient. Because of the distances between library and stacks immediate loans became impossible once more.

Although the library obtained rooms for stacks, it was never enough because the areas were not built for housing book stock. There were no shelves, therefore the books could only be stored in piles along the walls. In 1961 the director had to give away the patent specifications due to the lack of space. The reading room soon became too small; 25 places there had to serve 4000 students! In 1964 the reading room was set up in the original office of the chancellor who had now moved into a new administration building in front of the edifice dating to 1877. Now the library boasted a reading room with 32 seats.

In 1968, when the Technische Hochschule became Technische Universität, the last piles were removed, the books were shelved and the situation gradually improved. After the relocation of the university administration a new building for the library became more and more urgent. It had been projected with the administration building and the Auditorium Maximum by Professor Friedrich Wilhelm Kraemer but had to be changed several times because of the increasing space requirements. Finally in 1969 work began and on 5 February 1972 the library director Josef Daum inaugurated the new building at the Forumsplatz. Architecturally it was a considerable building with a stock capacity of 600 000 volumes, reading rooms with 350 places, and open-access area of 60 000 volumes. The administration occupied 1600 square metres. In total 8000 square metres were at the disposal of the library and books and staff were united again in one building.

In 1964 the Wissenschaftsrat had published recommendations for research libraries; the building of this new library was one of the consequences. When approximating to these recommendations the library expanded both stock and staff. What in 1972 seemed to be sufficient for many years ahead is now, in 1990, already at its limits. Again books have to be stored in auxiliary stacks. In the stacks books are frequently moved and the reading space has had to be reduced to make room for the shelving of more books. But there is hope. The necessary building extension, projected from the beginning as a second stage of the construction, will soon be realized. Construction work will probably begin next year.

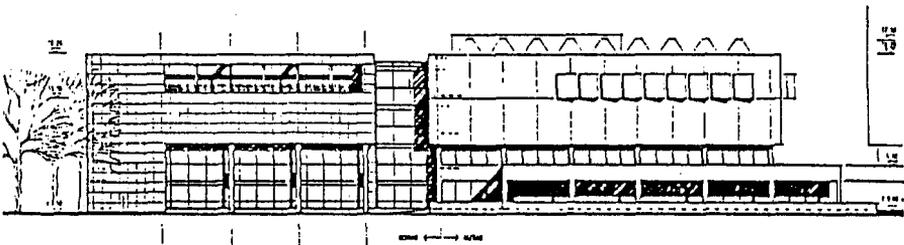


Fig. 1 Sectional view of library and annex

4.2. Staff

At first the situation had to stabilize after the war, but as soon as 1946 things changed enormously. The first academic librarian with librarian training was engaged! He directed the library, starting with two graduate librarians and five employees without library training, and supernumerarily he disposed of one senior grade employee, one middle grade and two others without library training. In 1955 the staffing was still insufficient; the library of Braunschweig was the only library of a technical university with less than two permanent senior grade established posts and the head of the library, Fritz Meyen, became director only in 1958.

After the expert opinion of the Deutsche Forschungsgemeinschaft¹⁴ in 1957 and the recommendations of the Wissenschaftsrat of 1964 it was planned to expand the staff up to 76 positions within eight years, i.e. eight senior positions, 22 upper grades and 46 positions for other employees. That would have been 48 more than the 28 in 1964. Like the beginning of the construction of the new library building, staff development did not advance in a satisfying way. At the time of the inauguration of the new building there were eight senior employees, 34 upper and 26 middle and lower grades.

In the meantime more than 16000 students are studying at the Technische Universität Braunschweig; the tasks of the library have changed in several fields but they have not diminished. Whereas the recommended figure (1964) of 76 employees has not yet been reached 73 persons are now working at the university library. Due to the reduction of working hours we have lost the equivalent of two employees and new positions cannot be expected because of the general financial situation.

4.3. Budget and collection development

Since 1946 the library has been independent to a certain degree; as a central university institution it has a budget of its own, and the supervision of the institutes was reduced more and more and finally relinquished in the 1960s.

The development of the budget does not differ from that of building and staff. Only after 1964 did the situation improve but the book fund of 405 000 DM, recommended by the Wissenschaftsrat, was not obtained before 1968. From 1970 onwards the budget continuously increased and is now at about DM 2.1 million.¹⁵ The increasing budget enabled a considerable build-up in the collection. In 1950 the stock was at 130461 volumes; today it amounts to 900 000 volumes and about 3500 periodicals.

The remains of the humanistic library of the Collegium Carolinum — about 5000 volumes — were in a very poor condition after the war; the *Journal des Scavans* was found in the loft where it had been stored, probably at the turn of the century. Now these parts of the stock have a room of their own. Another special stock is the collection of children's books which was integrated into the stock of the university library when this was united with that of the Kant-Hochschule in 1969.¹⁶ There are about 11 000 volumes.

The special subject field of pharmacy deserves a mention. Within the special subject field programme of the Deutsche Forschungsgemeinschaft the

university library cares for the pharmaceutical literature and tries to present to interlibrary loan clients the best possible service, answering the orders within 24 hours now using the modern technical equipment such as telefax.

4.4. *Catalogues*

The first head of the library with librarian training, Fritz Meyen, reformed the catalogue. After 1946 a new alphabetical catalogue was started, one for the monographic literature, one for periodicals and serials. It was catalogued according to the Preussische Instruktionen. This card catalogue is still used, but the cards now are produced by the Bibliotheksrechenzentrum Niedersachsen at Göttingen, the electronic union catalogue of nearly all libraries of Lower Saxony.

The systematic catalogue dates from this time too and is based on the Dewey Decimal classification adapted to cater for the special needs of the library. An alphabetical and a numeric index complete this subject catalogue. At the beginning of the 1970s the humanistic sciences were removed from the subject catalogue and were covered by an alphabetical subject catalogue combined with an author catalogue. In addition the library now offers lists of new books, lists of the textbook collection, special indexes of new pharmaceutical monographs and periodicals and the alphabetical catalogue on microfiche (books after 1980).

Unfortunately there are no terminals at the users' disposal; most of the workstations are still not automated, particularly in the lending department, but perhaps this unsatisfactory situation will change in the near future.

5. **The present situation**

Today the university library of the Technische Universität Braunschweig has an accessions budget of about DM 2.1 millions and a stock of about 900 000 volumes and ca. 3500 periodical subscriptions.

The staff of 73 employees presents the services of the library to ca. 24 000 users, including more than 16 000 students, the rest are members of the public, and since December 1989, members of East-German universities have also used the library. Nearly 1400 volumes are borrowed each day, which means more than 500 000 lendings in 1989, while the number of interlibrary loans is 28 000, of which 22 000 were answered positively.

For the regional interlibrary lending systems the university library of Braunschweig is the so-called 'Leitbibliothek' where the interlibrary loan forms are checked for bibliographic correctness.

The library holds the most extensive collection of pharmaceutical literature in Central Europe as a special collection field of the Deutsche Forschungsgemeinschaft, a collection of old children's books, and a fascinating stock of herbals. The considerable old stock of architectural and technical literature, especially from the 19th century, still has to be catalogued.

The university library offers special catalogues of the new pharmaceutical monographic literature and the pharmaceutical periodicals and a catalogue of

Table 1 Universitätsbibliothek der Technischen Universität Braunschweig Pockelsstraße 13, D-3300 Braunschweig, W. Germany

Stock:	monographs	873 907
	periodicals	3513
Borrowings:	516 423	
Budget:	6 140 313	
Book fund:	2 116 906	
Staff:	73	
Users:	23 612	

Special collection fields:

Pharmacy (about 30 000 volumes, about 700 periodicals); children's books (about 11 000 volumes); herbals; architectural and technical literature of the 19th century.

Data (1989).

periodicals and serials held at the university library, the libraries of the institutes, of the research institutes at Braunschweig, of the public libraries and those of other colleges of the region South-East Lower Saxony. Computer searching in current databases is part of the library service as well as library instruction by leaflets, tape-slides and guided tours.

Another important topic of interest is the 'allegro-C'-software, a database system by B. Eversberg, who works as a subject specialist at the library.

In addition to everyday works book exhibitions are shown with different themes, sometimes accompanied by a catalogue compiled by the staff.

6. Summary

The stock of the former library of the Collegium Carolinum originated in a ducal book collection with humanistic character. Today it has been arranged for the requirements of a technical university library which is used by 16 000 students and 8000 other patrons. In the course of more than 240 years the library has had to modify its stock to several changes made by the collegium, it has suffered several removals, a nearly continuous lack of space, low budgets and few employees. These conditions accompanied the library up to the present time, with the exception of a few years.

To change the present situation hope is pinned on the building expansion which will start next year and the automation of the departments with the aim of having an automated catalogue with terminals for users to use.

Notes

1. Vorläufige Nachricht von dem Collegio Carolino zu Braunschweig, 3. Ausg., Braunschweig 1745. More literature on the history cfr.: D. BRANDES (ed.): Fünfzehn Jahre im eigenen Hause. Aus der Arbeit der Universitätsbibliothek Braunschweig 1971-1986, Braunschweig 1986. - J. DAUM: Zur Geschichte unserer Universitätsbibliothek, in: Mitteilungen der

- Technischen Universität Carolo-Wilhelmina zu Braunschweig. 7, H.1, 1972 (Sonderheft zur Einweihung der Universitätsbibliothek), pp. 4-8. – G. KANNENGIESSER: Die Bibliothek wie ich sie erlebt habe 1928-1962. Braunschweig 1971 (Kannengießers was the first graduate librarian at the library). – F. MEYEN: Aus der Geschichte der Bibliotheca Collegii Carolini (1748-1835), Braunschweig 1952 (Beiträge zur Geschichte der Bibliothek der Technischen Hochschule Carolo-Wilhelmina zu Braunschweig, H.1.). – B. NAGEL: Zur Geschichte der Universitätsbibliothek der Technischen Universität Braunschweig 1748-1972, Braunschweig 1988 (Veröffentlichungen der Universitätsbibliothek Braunschweig, H.1).
2. Original in the Niedersächsisches Staatsarchiv Wolfenbüttel, cited by MEYEN, *op. cit.* 1952, p. 16.
 3. MEYEN, F. Die Bibliothekare des Collegium Carolinum und der Technischen Hochschule Carolo-Wilhelmina zu Braunschweig 1748-1945. *Braunschweigisches Jahrbuch*, 55, 1974: pp. 158-174.
 4. ESCHENBURG mentions in his history of the college of 1812 also the collection of Duke ANTON ULRICH but no document proves this statement.
 5. MEYEN, *op. cit.* 1952, p. 9.
 6. *Die Bibliothek der Technischen Hochschule Carolo-Wilhelmina zu Braunschweig, 1. Jahresbericht 1946-47*. Braunschweig, 1947, p. 3.
 7. *Nachricht über die Umgestaltung und Erweiterung des Collegii Carolini zu Braunschweig. Braunschweigisches Magazin*, 38. Stück, 1835.
 8. Personal- und Vorlesungsverzeichnis. Sommersemester 1815, Wintersemester 1815-16, Sommersemester 1817, Wintersemester 1819-20.
 9. Document in the Niedersächsisches Staatsarchiv Wolfenbüttel.
 10. *1. Jahresbericht 1946-47*. p. 6.
 11. The figures are quoted from NAGEL, *op. cit.* 1988.
 12. Documents in the Hochschularchiv, Rechnungswesen 1881-1937.
 13. With exception of section 1 where the capital letters are identical with the initial letter of author or title.
 14. *17. Jahresbericht 1962*. p. 1.
 15. Cfr. Deutsche Bibliotheksstatistik, Teil B - wissenschaftliche Bibliotheken.
 16. Aus der Kinderbuchsammlung von Karl und Margarete Hobrecker. Eine Ausstellung der Universitätsbibliothek Braunschweig, Braunschweig 1986.