Munich to Manhattan: German *Bibliothekswissenschaft* and the beginnings of North American library science education

The achievements of German librarians in establishing *Bibliothekswissenschaft* – the science of libraries – were internationally acknowledged in the nineteenth century. The first part of this article traces the evolution of the theoretical discussion of *Bibliothekswissenschaft* in Germany from Schrettinger to Graesel. The second part of the article explores the extent to which this theoretical debate was translated into practice in early library science education. It contends that while there was a gulf between theory and practice in Germany, *Bibliothekswissenschaft* fell on more fertile ground in North America. In particular, the syllabus adopted at Columbia College in 1887 – the first library science curriculum in the United States – can be seen to reflect German ideas on the scope and structure of *Bibliothekswissenschaft*, with the push for professionalization as a significant common factor.

Keywords: library science education, Germany, United States, nineteenth century, *Bibliothekswissenschaft*

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There is much that we can learn of Europe in bibliothecal science.[1]

Introduction

In a letter to the bookseller Henry Stevens from the middle of the nineteenth century, the American librarian Charles Coffin Jewett praises European libraries and librarianship, highlighting not only the British Museum Library (‘by far the best regulated library in the world’), but also the achievements of German librarians in laying the foundations of

Bibliothekswissenschaft, the science of libraries.[2] Underscoring the pioneering work of the Germans in this area, he remarks that this is a term for which, as yet, there is no English equivalent. In his second annual report as Librarian of the Smithsonian Institution from 1849, Jewett pays tribute to the awareness shown by European librarians of 'the importance of so arranging, cataloging, and keeping the library, as to facilitate the researches of each', and in this context again emphasizes the Germans' achievements in establishing *Bibliothekswissenschaft* as a science, or in 'reduc[ing] it to system'.[3] One of Jewett's best-known works, his *Notices of Public Libraries in the United States of America* (1851), provides evidence of his familiarity with Robert Naumann's German-language library journal *Serapeum* – specifically, with a substantial article on libraries in the United States by Hermann Ludewig, which Jewett acknowledges as 'the work of a pioneer' and as 'the fullest and most correct account' of American libraries currently in existence.[4] Alongside Julius Petzholdt's *Anzeiger fur Bibliographie und Bibliothekwissenschaft*, Naumann's *Serapeum* was the leading library journal in nineteenth-century Germany; and it is quite likely that Jewett's knowledge of *Bibliothekswissenschaft* was gained through this source, perhaps via Edmund Zoller's substantial review article 'Die Bibliothekwissenschaft', which appeared in *Serapeum* in serialized form in 1848.

Jewett's assessment that German librarians had reduced *Bibliothekswissenschaft* 'to system' by the mid-nineteenth century is accurate enough, as we will see in the first part of this article, which follows the theoretical discussion of *Bibliothekswissenschaft* in nineteenth-century Germany. Jewett's favorable account of the Germans' contributions in this field also anticipates later developments in North American library science education, where *Bibliothekswissenschaft* can be seen to have exerted some influence. The second part of this article explores these

intersections between nineteenth-century German and North American librarianship. It also emphasizes that while *Bibliothekswissenschaft* may have fallen on fertile ground in the United States, the ambitious theoretical discussion of library science in nineteenth-century Germany was in no way matched in practice on native soil – in library science education in Germany.

Defining *Bibliothekswissenschaft* in nineteenth-century Germany

It is generally accepted that the term *Bibliothekswissenschaft* – or rather its earlier form, *Bibliothek-Wissenschaft* – was coined by the Munich librarian Martin Schrettinger for his *Versuch eines vollständigen Lehrbuchs der Bibliothek-Wissenschaft*, which was first published in three parts between 1808 and 1810 then subsequently reissued, with a new fourth part, in 1829. Schrettinger, however, was not the first to write on what might be termed library science. The French librarian Gabriel Naudé is generally credited with having laid the foundations with his *Advis pour dresser une bibliothèque* of 1627, which was the first work to address library technical organization and administration in any significant capacity, albeit within a principally literary framework. Of importance in this context is also a treatise by Albrecht Christoph Kayser, court librarian in Regensburg, bearing the unwieldy title *Ueber die Manipulation bey der Einrichtung einer Bibliothek* (1790). Kayser's treatise, which influenced Schrettinger, is noteworthy for its emphasis on the importance of cataloguing (over classification and shelf-arrangement) in information retrieval, but makes no claims to scientific status.[5] Schrettinger, on the other hand, can be credited not only with coining the term *Bibliothek-Wissenschaft*, but also with providing the first systematic and thoroughgoing treatment of the subject.

Schrettinger's *Versuch eines vollständingen Lehrbuchs der Bibliothek-Wissenschaft* is extensive, but his definition of *Bibliothek-Wissenschaft* is relatively succinct: '"*Bibliothek-Wissenschaft"* ist also: *der auf feste Grundsäze systematisch gebaute und auf einen obersten Grundsaz zurükgeführte Inbegriff aller zur zwekmässigen Einrichtung einer Bibliothek erforderlichen Lehrsäze*.'[6] An effective translation of this sentence is almost impossible; it is easier and more illuminating to describe Schrettinger's meaning than to attempt a direct translation. His first point is that *Bibliothek-Wissenschaft* must be 'systematic' and follow established lawful rules ('auf feste Grundsäze systematisch gebaut'). Next, that it must be possible to reduce this science to a single ruling principle ('auf einen obersten Grundsaz zurükgeführt'). The core of his definition – *Bibliothek-Wissenschaft* as the 'Inbegriff aller zur zwekmässigen Einrichtung einer Bibliothek erforderlichen Lehrsäze' – hinges on an understanding of the term *Einrichtung*, which again is far from easy to translate effectively into English, but which might be rendered in this context as 'technical organization'. The adjective 'zwekmässig' means 'fit for purpose' and its use in this context is further elucidated by Schrettinger's understanding of what that purpose should be – namely, 'das schnelle Auffinden' [fast finding], which he identifies as the single ruling principle ('oberster Grundsaz') to which *Bibliothek-Wissenschaft* should be capable of being reduced.[7] Bearing all of this in mind, Schrettinger's definition may be seen to run as follows: *Bibliothek-Wissenschaft* is the sum or essence of all the axioms or principles necessary to a technical organization that is fit for purpose (i.e. that facilitates fast finding); as a science, it must be systematic and lawful, and it must be capable of being reduced to a single ruling principle.

Two aspects of Schrettinger's definition of *Bibliothekswissenschaft* merit particular attention: firstly, his concern with 'fast finding' as the ruling principle of library science;

secondly, his emphasis on *Einrichtung* (which we have rendered as 'technical organization') and its derivative, *Einrichtungskunde* (the study and knowledge thereof), as the cornerstone(s) of *Bibliothekswissenschaft*. The ideal of fast finding was far from uncontroversial in Schrettinger's day, but he nonetheless identifies it as the principle which should guide all library practice and theory, notably *Einrichtung* and *Einrichtungskunde*: a *zwekmässige Einrichtung* (i.e. one that is fit for purpose) is one that facilitates fast retrieval; and *Einrichtungskunde* encompasses all that pertains to organizing a library to serve this predominantly functional purpose. In practice, this means that, for Schrettinger, what we would nowadays call 'technical services' occupies center stage; indeed, he effectively reduces *Bibliothekswissenschaft* to this head. His *Lehrbuch* reflects this emphasis, for it takes cataloguing as its main area of focus, followed by classification and shelf-arrangement.

Despite the fact that time would prove Schrettinger right about many matters relating to libraries and how best to organize them for efficient use, his *Lehrbuch* provoked considerable hostility among his contemporaries, who objected to its utilitarian character. In particular, Schrettinger's reduction of *Bibliothekswissenschaft* to *Einrichtung* and *Einrichtungskunde* sparked criticism, for example from Zoller writing in *Serapeum*, who objects that Schrettinger's treatment of *Bibliothekswissenschaft* is incomplete and recommends to his readers a different, 'more detailed and exhaustive', contemporary account.[8] The account in question is that of Friedrich Adolf Ebert in his article 'Bibliothekwissenschaft', published in 1823 in the vast *Allgemeine Encyclopädie der Wissenschaften und Künste* compiled by Johann Samuel Ersch and Johann Gottfried Gruber. Here, the Dresden librarian Ebert divides *Bibliothekswissenschaft* into two equally weighted parts: *Einrichtungskunde* and *Verwaltungskunde* [the study and knowledge of library management or administration]. The former – which Ebert conceives along the same

lines as Schrettinger – is made up of *Anordnung* [classification], *Aufstellung* [shelf-arrangement], *Consignirung* [notation], and *Verfertigung der Kataloge* [cataloguing]. The latter, *Verwaltungskunde*, involves ongoing maintenance of a library's 'internal' organization (*Erhaltung und Fortführung der innern Einrichtung*), selection and acquisitions (*Ankauf neuer Bücher*), and equipping the library for public use (*Eignung* der Anstalt *für den öffentlichen Gebrauch*).[9] Of *Verwaltungskunde*, Ebert emphasizes that it is 'der bei weitem schwierigste und bisher am wenigsten behandelten Theil der Bibliothekwissenschaft' [by far the most difficult part of library science, which heretofore has been neglected] and that not even the best *Einrichtung* can subsist without it.[10] This emphasis on the importance of *Verwaltungskunde* in *Bibliothekswissenschaft* leads Ebert to conclude that the ideal librarian should possess not only scholarly and technical knowledge in order to be able to organize a library properly, but also the qualities of 'ein erfahrner und geübter Geschäftsmann' [an experienced businessman] in order to be able to meet the administrative requirements of his role.[11]

It is worth pausing briefly to consider the context to this account. Certainly, Ebert disliked Schrettinger's utilitarianism, particularly his laboring of the principle of 'fast finding' in libraries. In his best-known work, *Die Bildung des Bibliothekars* (1820), he holds Schrettinger's obsession with fast finding responsible for his one-sided view of *Bibliothekswissenschaft* as *Einrichtungskunde* and eschews both as unrepresentative of the age.[12] Bearing these opinions in mind, it is unsurprising that Ebert should accord *Verwaltungskunde* particular importance in his 'Bibliothekwissenschaft' article. Equally, as *Die Bildung des Bibliothekars* also documents, Ebert was deeply disenchanted with the scholar-librarian type well represented in eighteenth- and nineteenth-century Germany. This helps explain why he places particular emphasis on the idea of the librarian as a capable administrator, and not merely as a scholar or bookman.

In his discussion of *Verwaltungskunde*, Ebert attaches particular significance to the part of library operational management that involves maintaining continuity: a good administrator, he argues, will take care to retain the *Einrichtung* that his predecessors have established, provided that it is effective. Ebert believed that German librarians of his time were peculiarly disinclined to uphold continuity as a result of their vanity, which urged them to leave their mark on their institutions by introducing new but unnecessary systems of classification.[13] Against this backdrop, *Verwaltungskunde* may well appear less attractive to the librarian than its companion, *Einrichtungskunde*: 'Wer richtete nicht gern ein und organisirte, wäre es auch nur deshalb, weil es uns schmeichelt, eine neue Schöpfung hervorzubringen und dabei unsre individuellen Ansichten, Wünsche und Bedürfnisse zu realisiren und zu befriedigen' [Who doesn't enjoy organizing things, if only because it flatters us to create something new and thereby to realize and satisfy our individual views, wishes and needs?].[14] The more immediately appealing part of *Verwaltungskunde* – its more obviously managerial side – Ebert reserves largely for what we might nowadays term public services work: equipping a library to serve the public, he emphasizes, requires not only policy-making (the establishment of library rules, statutes, etc.), but also staff management skills, since effective information retrieval systems can only be created by effective employees. Overall, for Ebert the fact that librarianship demands individuals with broad and varied abilities and qualities – scholarship in addition to professional knowledge and experience, an eye for detail as well as awareness of the bigger picture, attention to both past and future, and so on – means that, at its upper levels, it should be esteemed more highly than academic scholarship, a field in which narrower knowledge and skills suffice.

Ebert's account of the scope of library science was popularized by the article 'Bibliothekswissenschaft' in Meyer's *Großes Conversations-Lexikon* (52 volumes; 1840-1855),

the most important German-language encyclopedia of its time. Following Ebert in all significant particulars, *Bibliothekswissenschaft* is here again described as involving both *Einrichtungskunde* (classification, shelf-arrangement, notation and cataloguing) and *Verwaltungskunde* (maintenance and upkeep, acquisitions, and public services). A couple of noteworthy additions to Ebert's account occur here under *Verwaltungskunde*: the maintenance of library buildings and collections from a physical perspective (largely damage prevention);[15] and circulation and borrowing (under public services).[16] As has already been noted, Ebert's definition of *Bibliothekswissenschaft* also found the approval of Zoller, who not only recommends Ebert's account to his readers as the most comprehensive and compelling current system in his *Serapeum* article, but also bases his own attempt to outline the scope of library science in his monographic study, *Die Bibliothekwissenschaft im Umrisse* (1846), on that of Ebert. Zoller's 1846 system is as follows:

> Einleitung: Begriff, Bestimmung; Mittel zu ihrer Erreichung. Geschichte der Wissenschaft. [Introduction: concept and purpose of *Bibliothekswissenschaft*. Means of attaining this purpose. History of the science.]
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> I. Einrichtungskunde. [Organization.]
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> 1. Ihre Voraussetzung: das Lokal. [As prerequisite: premises.]
> 2. Anordnung des Materials. [Classification.]
>   a. Aufstellung. [Shelf-arrangement.]
>   b. Konsignirung. [Notation.]
> 3. Katalogisirung. [Cataloguing.]
>
> Anhang: Supplementarisches Geschäft. [Appendix: supplemental activities.]
>
> II. Verwaltungskunde. Dotazion. [Library administration. Donor relations.]

1. Innere Verwaltung. [Internal administration.]
    a. Erhaltung der Bibiothek. [Maintenance of the library.]
    b. Erwerb des Neuen. [New acquisitions.]
    c. Personal. Im Allgemeinen. Bildung und Geschäft der Bibliothekare. [Staff. In general. Training and responsibilities of librarians.]
2. Wirksamkeit nach Außen. [External impact.]

    Benützung der Bibliothek. [Public use of the library.]

Schluß: Die Statuten. [Conclusion: statutes.][17]

Although Zoller follows Ebert in the essentials, he fleshes out his account in several places. He adds an introductory section, devoted to the theory and history of *Bibliothekswissenschaft*. Under *Einrichtungskunde*, he adds a section on physical premises, emphasizing its particular significance in relation to establishing or setting up a library; *Einrichtungskunde* hereby gains a temporal dimension beyond that already suggested by the verb *einrichten*, which the Grimms' dictionary glosses with both *ordnen* [organize] and *instituere* [establish, set up]. Under *Verwaltungskunde*, Zoller draws out a distinction between internal and outward-looking aspects of library administration that is present in Ebert's account, albeit in a less pronounced form. Under *Verwaltungskunde* (internal), he further adds a section on staff, covering organizational structure, qualifications of librarians, and their duties and function. Finally, library statutes, insofar as they pertain to both internal and external affairs of a library, form the concluding section of *Verwaltungskunde* in Zoller's account.

In *Die Bibliothekwissenschaft im Umrisse*, Zoller forges a clear link between *Bibliothekswissenschaft* and professionalization. Right at the beginning of this work, he states that the purpose of trying to define the scope of *Bibliothekswissenschaft* is to establish it as a

science in its own right and as an independent field of study and training; the consequence of this, he continues, should be a move away from the old view that librarian positions are sinecures.[18] With these ideas, Zoller picks up where his predecessor Ebert had left off. Ebert, as we have seen, had argued that librarianship should be valued more highly owing to the breadth of experience and knowledge it requires and, relatedly, had also asserted that it should no longer be regarded as a 'job on the side' (*Nebenamt*) for scholars and clergymen. Tending in a slightly different direction, Zoller emphasizes the connection between establishing *Bibliothekswissenschaft* as an independent field of knowledge and recognition of librarianship as a profession in its own right (as opposed to either a sinecure or part-time activity). It is not surprising that he should choose to develop Ebert's briefer narrative account of *Bibliothekswissenschaft* into a more elaborate and systematic-looking structure in his 1846 monograph.

In the same year in which Zoller's *Bibliothekwissenschaft im Umrisse* was published, both his and Ebert's accounts of the scope of library science were challenged by perhaps the leading German librarian of the day, Julius Petzholdt, in his *Anzeiger der Bibliothekwissenschaft*.[19] Petzholdt, long-time librarian at the Sekundogenitur-Bibliothek in Dresden, objects that *Einrichtungskunde* and *Verwaltungskunde* taken together still do not constitute *Bibliothekswissenschaft*, but merely a subcategory of it, namely *Bibliothekenlehre* (the theory of libraries, rather than the *science* thereof). In Petzholdt's view, *Bibliothekswissenschaft* should include not only *Bibliothekenlehre*, but also another element that is of equal importance: *Bibliothekenkunde* – the study of libraries from an historical or empirical perspective.[20] Petzholdt's system, which he claims as his own in the *Anzeiger der Bibliothekwissenschaft* in 1846, takes the following form:

0. Einleitendes und Allgemeines. [Introductory and general.]
    a. Von der Bibliothek überhaupt. [The library in general.]
    b. Von dem Bibliothekar. [The librarian.]

Historisch-litterarisches. [*Historia Literaria*: history of scholarship and literature.]

1. Bibliothekenlehre. [Theory of libraries.]

Historisch-litterarisches. [*Historia Literaria*.]

(Bibliothek als Bücherort sowohl als Büchersammlung.) [Library as both locale for books and collection of books.]

    a. Einrichtung. [Organization.]
        i. Gründung. [Establishing a library.]
        ii. Anschaffung. [Acquisitions.]
        iii. Verzeichnung u. Aufstellung. [Cataloguing, classification and shelf arrangement.]
    b. Verwaltung. [Administration.]
        i. Bewahrung.
        ii. Unterhaltung. [Maintenance and upkeep.][21]
        iii. Benutzung. [Use.]

2. Bibliothekenkunde. [(Historical and empirical) study of libraries.]

Historisch-litterarisches. [*Historia Literaria*.]

(Bibliotheken einzelner Länder und Oerter.) [Individual libraries.][22]

With characteristic confidence, Petzholdt presents this outline as one that is not only more complete, but also more lucid than the systems of Zoller and Ebert before him. Aside from the new division of *Bibliothekswissenschaft* into *Bibliothekenlehre* and *Bibliothekenkunde*, the most

immediately noticeable addition is the presence within each section of *Historia Literaria* – the history of scholarship and literature, here as it pertains to *Bibliothekswissenschaft*, *Bibliothekenlehre* and *Bibliothekenkunde* respectively. An element with a strong historical pedigree, *Historia Literaria* has been described by some as the precursor of library science in Western Europe.[23]

For elucidation of Petzholdt's system, we can look to his seminal *Katechismus der Bibliothekenlehre*, first published in 1856. The fact that library science – or at least the theoretical part of it, *Bibliothekenlehre* – can feature in the Leipzig publisher Weber's series of 'illustrated catechisms' alongside common and popular subjects such as music and cooking speaks for its growing currency among a broad educated public, as Petzholdt remarks in the preface to this work.[24] In the *Katechismus*, he proceeds through *Bibliothekenlehre* essentially as he had approached it in the *Anzeiger der Bibliothekwissenschaft* a decade earlier, although interestingly enough avoids any coverage of *Historia Literaria*, possibly because of the popular aspirations of the 'catechisms' series. He begins with an introduction that treats of *Bibliothekswissenschaft* broadly (libraries in general; the librarian). Next, under *Einrichtungslehre*, he discusses library architecture and location, furniture and fittings and the like, all under the heading *Gründung* (foundations – again underscoring the associations of *Einrichtung* with beginnings); collection scope and acquisitions (*Anschaffung*); and classification, shelf-arrangement and cataloguing. Under *Verwaltungslehre*, he explains the difference between *Bewahrung* and *Unterhaltung* as resting in the particular that whereas the former implies conservation of what is already in existence, the latter suggests development and improvement of the current environment (rather as Ebert had drawn a distinction between upholding continuity and implementing change under *Verwaltungskunde*). Petzholdt then

proceeds to treat of both these elements, *Bewahrung* and *Unterhaltung*, as they pertain to three topics: library premises, funds and collections. Finally, under *Benützung*, he discusses the duties and responsibilities of a library to its public and vice versa, distinguishing between in-house and external use and treating the latter (i.e. borrowing and circulation) with noteworthy conservatism.

Bibliothekenkunde, the other branch of *Bibliothekswissenschaft*, does not feature in Petzholdt's *Katechismus*, but informs another of his popular undertakings: the *Adressbuch deutscher Bibliotheken* (1844), which ran through numerous editions in its compiler's lifetime. This directory of libraries in the German-speaking world provides brief details on practical matters such as current opening hours and staff; where available, it also includes basic historical and statistical information on questions such as year of establishment, available funds, number of volumes and so on.[25] Together with similar works from France and Great Britain, Petzholdt's *Adressbuch* exerted a considerable influence on nineteenth-century North American efforts to gather historical and statistical information about libraries, some of which would achieve great currency: Jewett's *Notices of Public Libraries in the United States of America* (1851); its successor, William J. Rhees's *Manual of Public Libraries, Institutions, and Societies, in the United States, and British Provinces of North America* (1859); and, most famously, the 1876 Bureau of Education report, *Public Libraries in the United States of America*.

Petzholdt's contributions were equally authoritative in the German-speaking world, with his *Katechismus* in particular achieving canonical status. In the final decade of the century, Arnim Graesel – librarian at the University of Halle and later director of Göttingen University Library – was commissioned by the publisher Weber to produce a new edition of the *Katechismus*, which was published as *Grundzüge der Bibliothekslehre* in 1890 and later reissued as *Handbuch der Bibliothekslehre* (1902). Graesel changes the structure of Petzholdt's text

considerably, but in the absence of other significant scholarly works on *Bibliothekswissenschaft* from the second half of the nineteenth century chooses to retain his predecessor's view of the scope of the science:

> Die auf eine Bibliothek bezüglichen theoretischen Fragen sowohl wie die Geschichte des Bibliothekswesens überhaupt und der einzelnen Büchersammlungen insbesondere bilden den Gegenstand einer eigenen Wissenschaft, der Bibliothekswissenschaft. […] So ist die Bibliothekswissenschaft […] der systematisch geordnete Inbegriff aller unmittelbar auf die Bibliothek bezüglichen Kenntnisse, und zerfällt als solcher in die Bibliothekslehre und die Bibliothekskunde, von den die erstere die Bibliothek sofern darunter eine Büchersammlung überhaupt verstanden wird, im allgemeinen betrachtet, und die letztere, sofern darunter bestimmte, d. h. frühere sowohl als noch bestehende Büchersammlungen gedacht werden, im besonderen ins Auge faßt. Die Bibliothekslehre und die Bibliothekskunde sind zwei einander gleichstehende koordinierte Teile der Bibliothekswissenschaft.[26]
>
> [The set of theoretical questions that pertain to libraries in general as well as to the history of individual libraries form the basis of a discrete science, library science. […] Library science is the sum of all knowledge pertaining to libraries, organized systematically, and as such is comprised of the theory of libraries (*Bibliothekslehre*) and the study of libraries (*Bibliothekskunde*), with the former treating of the library as a collection of books in general and the latter focusing on particular libraries, both past and present. The theory of libraries and the study of libraries are the two equal, coordinating parts of library science.]

In opposition to earlier writers – Ebert, Zoller, and also the Danish librarian Molbech –, Graesel follows Petzholdt in emphasizing the significance of *Bibliothekskunde*, reiterating the point made by his predecessor that *Bibliothekskunde* is as essential to *Bibliothekswissenschaft* as *Kriegskunde* is to *Kriegswissenschaft*, *Rechtskunde* to *Rechtswissenschaft* and so on.[27] In other key particulars, however, he diverges from his original. He drops the 'catechism' structure and – most importantly from our perspective – abandons the old established division of his subject into *Einrichtungslehre/-kunde* and *Verwaltungslehre/-kunde*. Graesel justifies this sea change with the argument that *Einrichtung* and *Verwaltung* cannot be cleanly separated from each other and that the tendency of earlier writers (Petzholdt included) to place *Einrichtung* chronologically before *Verwaltung* in the life of a library is untenable: administrative issues loom large even as we establish a library, and are not predominantly associated with ongoing maintenance and upkeep. The *Grundzüge der Bibliothekslehre* attempts a new division of its subject, commencing with coverage of premises, staff and funding (which Graesel identifies as the foundational elements in every library), then proceeding to examine the library as a collection of books (*Bücherschatz*; compare Petzholdt's *Bücherort* in his 1846 outline) from three separate angles: *Einrichtung* (which here encompasses both the establishment of a collection and its organization), *Vermehrung* (selection and acquisitions) and *Benützung* (use, both in-house and external).

Early library science education in Germany and North America against the backdrop of *Bibliothekswissenschaft*

Extensive theoretical discussion of *Bibliothekswissenschaft*, in particular of its scope and structure, took place in nineteenth-century Germany. But what influence did this discussion have on practice, namely library science education? It is generally accepted that, outside of earlier isolated efforts to establish qualifications and instruction for librarians, the first significant advances in library education in Germany were made in Prussia at the end of the nineteenth century.[28] In 1886, at the University of Göttingen, Germany acquired its first professor of library science, or strictly speaking of 'supporting' or 'auxiliary' sciences of librarianship (*Bibliothekshilfswissenschaften*) – Karl Dziatzko, who held this position until his death in 1903, in conjunction with serving as university librarian.[29] Dziatzko chaired the committee that established the first *Berufsordnung* for German librarians, or set of regulations for entry into the profession in Germany, the *Festsetzung von Bedingungen für die Zulassung zum Bibliotheksdienst* (1888),[30] which ultimately passed into more general currency as the *Erlass* […] *betreffend die Befähigung zum wissenschaftlichen Bibliotheksdienst bei der Königlichen Bibliothek zu Berlin und den Königlichen Universitäts-Bibliotheken*, a decree issued by the Prussian Ministry of Intellectual Affairs in 1893. This document stipulates that preparation for librarianship should involve two years' voluntary service (*Volontärdienst*) either at the Königliche Bibliothek or at one of Prussia's university libraries, together with a professional examination (*bibliothekarische Fachprüfung*). Eligibility for both is granted by a completed undergraduate degree and a doctorate or licentiate. Whereas the *Volontärdienst* should enable a candidate to gain familiarity with 'all branches of library business', the examination should test theoretical knowledge, with particular attention being paid to *Verwaltungslehre*, bibliographic tools and *Historia Literaria*, and some additional coverage of foreign languages and of the

history of the book and of printing; a distinction will be awarded to candidates demonstrating proficiency in paleography or incunabula.[31]

The Prussian decree of 1893 raises a number of questions when considered in the context of *Bibliothekswissenschaft*. Firstly, the rather uneasy blend of traditional scholarly requirements (e.g. bibliography, *Historia Literaria*, languages and paleography) with *Verwaltungslehre* in the list of topics covered by the (theoretical) examination gives us pause for thought as to how *Verwaltungslehre* is here conceived. Secondly, the document makes no mention at all of the 'technical' side of things – *Einrichtungskunde* or *Einrichtungslehre*; should we assume that this will be taken care of by the *Volontärdienst*, which promises to teach 'all branches of library business'? Furthermore, how are candidates to be prepared for the examination? Evidence of completion of university courses in library science is stated as an optional rather than mandatory requirement, so are we to assume that the *Volontärdienst* will prepare candidates for both the practical and theoretical sides of librarianship?

Some insights into the first question are offered by a glimpse into Dziatzko's activities in his capacity as Professor of *Bibliothekshilfswissenschaften* at Göttingen. In his obituary of Dziatzko, Paul Schwenke adopts a suitably laudatory tone, describing Dziatzko's *Lehrthätigkeit* as one 'die ihn nötigte, alle Zweige des Bibliotheks- und Buchwesens historisch und systematisch zu bearbeiten' [that required him to treat of all branches of library and book science historically and systematically].[32] According to Schwenke, Dziatzko lectured on the history of writing and the book in antiquity, on the history of printing and the book trade and also, not least, on *Bibliotheksverwaltungslehre*, which he apparently elected to refer to as *Geschichte und Entwickelung des modernen Bibliothekswesens* [history and development of modern libraries/librarianship]; in addition to giving lectures, he also set his students 'bibliographic

exercises'.[33] What all this suggests is that Germany's sole professor of library science at the end of the nineteenth century was teaching *Verwaltungslehre* as an historical topic (alongside other topics more overtly historical in nature) using traditional scholastic methods of instruction. This is arguably a far cry from what Ebert had hoped for decades earlier when he introduced *Verwaltungskunde* into *Bibliothekswissenschaft* as precisely that part of librarianship that requires something other than traditional scholarly abilities – practical acumen rather than bookishness.

The question raised by the 1893 Prussian decree of how instruction in librarianship should be delivered in general is a thornier one. An insight into how it was answered in Germany at the turn of the twentieth century is offered by a paper delivered at the fourth annual meeting of the *Verein deutscher Bibliothekare* in Halle in October 1903. The paper in question, by Karl Gerhard (Halle) and Hans Schnorr von Carolsfeld (Munich), discusses both the content of instruction in librarianship as well as its method of delivery. With respect to the former, the authors do not diverge from the 1893 decree, identifying knowledge of languages, book history and paleography, *Historia Literaria* and bibliography and, finally, *Verwaltungslehre* as the essential requirements. The question of how instruction in these subjects should be delivered is debated at some length, but ultimately both presenters reach the same fundamentally conservative conclusion: the university is not a suitable venue for instruction in librarianship. Gerhard arrives at this view via consideration of an 1874 proposal by Friedrich Rullmann to make *Bibliothekswissenschaft* a university course of study (to which we will return shortly); his main objection to Rullmann's plan is that university instruction would create 'Schablonen-Bibliothekare' – cookie-cutter librarians, as it were, with a homogenous library education, but without further unique subject knowledge of any kind.[34] Schnorr von Carolsfeld follows suit,

arguing that library education is best offered at a library by a cohort of experienced librarians rather than at a university not only because of the emphasis on practice that this method brings, but also in order to help ensure a rounded education, in distinction from the one-sided instruction that a single university professor would deliver.[35]

Despite plentiful and ambitious theoretical discussion of *Bibliothekswissenschaft* as a science over the course of the nineteenth century in Germany, discussion of the education of librarians – the practical sphere in which *Bibliothekswissenschaft* might have flourished – thus made negligible progress. Movements to define the scope of library science dating back to the early decades of the century failed to leave their mark on discussions of the content of instruction in librarianship from the turn of the twentieth century, which remained beholden to scholarly tradition in emphasizing historical and literary subjects. Ideas on the method of delivery of instruction also stayed within conservative bounds, with an emphasis on practical training within a library setting and eschewal of the idea of *Bibliothekswissenschaft* as a university course of study despite arguments in favor of its status as an established science. As late as 1950, the Jena librarian Albert Predeek could still lament the absence of a proper university curriculum for library science in Germany, and indeed of any general understanding of what such a course of study should aim to teach.[36]

Although the theory of *Bibliothekswissenschaft* and the practice of library education were not aligned in late nineteenth-century Germany, *Bibliothekswissenschaft* fell on more productive ground elsewhere, notably in the United States. North American librarians' general familiarity with and interest in European works on libraries and librarianship in the middle of the nineteenth century are well documented by Reuben Guild's *Librarian's Manual* of 1858, a work aimed at a broad audience of librarians concerned with the improvement of North America's public

libraries. The second part of the *Manual* is made up of sketches ('notices') of some of the major public libraries in the United States and Europe; Guild's line-up of European libraries features the Imperial Libraries at Paris and St. Petersburg, the British Museum Library, and two German libraries – the Royal Libraries at Munich and Berlin.[37] The first part of the work, a bibliography of books 'considered to be of the first Importance for a *Library Apparatus*',[38] is particularly interesting in our context, since it contains a surprisingly large number of foreign-language publications. Here, under the heading 'Classification of Books and Management of Libraries, or Library Economy', we find a representative selection of German-language works on library science that includes not only the major sources – Schrettinger's *Lehrbuch* (and also his later *Handbuch der Bibliothek-Wissenschaft* (1834)), Ebert's *Bildung des Bibliothekars* and Petzholdt's *Katechismus* –, but also lesser-known works such as Hermann Ludewig's *Zur Bibliothekonomie* (1840) and Johann August Friedrich Schmidt's *Handbuch der Bibliothekswissenschaft* (1840). The first of these is a brief work concerned principally with catalogues and cataloguing; the second is a more substantial treatment, which emphasizes historical and literary studies (manuscript studies, history of printing and the book trade, bibliography, *Historia Literaria*), but devotes a solitary chapter to *Bibliothekenkunde* (history of libraries – some years before Petzholdt) and *Bibliothekonomie*. The term *Bibliothekonomie* (library economy) was popularized by the French-language work *Bibliothéconomie: instructions sur l'arrangement, la conservation et l'administration des bibliothèques* (1839) by Leopold Auguste Constantin-Hesse, where it is construed as embracing both technical and administrative aspects of library work; sometimes, however, as in Schmidt's *Handbuch*, *Bibliothekonomie* was taken in a narrower sense, as synonymous with the older *Einrichtungskunde* (i.e. cataloguing, classification, notation and shelf-arrangement).

More specifically, the influence in North America of German ideas on library science education is documented by the seminal 1876 Bureau of Education report, *Public Libraries in the United States of America*. Under the heading 'The Study of Library Science', we here find an abridged translation of the aforementioned German-language proposal by the Freiburg librarian Friedrich Rullmann: *Die Bibliothekseinrichtungskunde zum Theile einer gemeinsamen Organisation, die Bibliothekswissenschaft als solche einem besonderen Universitätsstudium in Deutschland unterworfen* (1874). The first part of Rullmann's proposal emphasizes the importance of German libraries agreeing on a uniformity of practice in classification and cataloguing. The second part, which is more important for our purposes, makes a case for arriving at uniformity in qualifications and education for librarianship too. Rullmann here outlines the syllabus for a three-year university course in *Bibliothekswissenschaft* that includes supporting or auxiliary studies (*Bibliothekshilfswissenschaften*) – foreign languages, history, diplomatics, 'encyclopedic' studies, history of literature, manuscript studies, the history of printing and the book trade, and some aspects of fine arts – and also, more importantly, a core of discrete professional studies and training (*besondere Fachwissenschaft*); the latter is comprised of the following elements:

- History of *Bibliothekswissenschaft.*
- History of libraries (*Bibliothekenkunde*).
- *Bibliothekonomie* (which Rullmann takes in a more theoretical sense than is typical, conflating it with *Bibliothekenlehre*).
- Practical training in cataloguing and classification (*Practicum*, to take place at a university library).
- Archival studies (*Archivwissenschaft*).[39]

Rullmann's syllabus is not without its oddities, but measured against the Prussian decree of nearly two decades later, this 1874 proposal can hardly fail to strike us as progressive. The group of traditional, historical and literary, subjects that form the core of preparation for librarianship according to the 1893 document are here overtly identified as supporting or auxiliary sciences and the backbone of Rullmann's proposed curriculum, his *besondere Fachwissenschaft*, is constituted by professional studies and training of both a theoretical and practical nature, evidencing a sound understanding of librarianship as an independent field of knowledge. His outline of the scope of *Fachwissenschaft* in librarianship shows the influence of earlier writers on *Bibliothekswissenschaft*, notably Petzholdt and Schmidt. As we have already seen, Rullmann's proposal did not resonate with his colleagues in Europe, and its inclusion in the 1876 United States Bureau of Education report is all the more surprising in the light of this lack of local impact. The English translation in *Public Libraries in the United States of America* differs from the German original in one particular that is worth noting – namely, that it does not follow the author in distinguishing between auxiliary sciences and a core of professional studies and training, but simply lists the elements of his syllabus together under a single heading ('Lectures'):

1. General history and collateral studies, e.g. diplomacy.
2. Systematic universal encyclopaedia of sciences […].
3. Universal history of the more important literary productions […].
4. Knowledge of manuscripts.
5. History of the art of printing.
6. History of the book trade.
7. Some knowledge of the fine arts […].

8. Gradual development of library science and introduction to it.
9. The most interesting data concerning the well known libraries of the world: "bibliothecography."
10. Library economy (administration, financial management, etc.).
11. Practical exercises in cataloging and classifying […].
12. Management of archives.[40]

Thanks to its inclusion in *Public Libraries in the United States of America*, Rullmann's progressive proposal will have been familiar to the doyens of the American library movement: indeed, one commentator describes it as 'perhaps the earliest discussion of special schooling for librarians that we can safely say Dewey knew about'.[41] However, for several years after Dewey's *annus mirabilis*, discussion of library science education in North America nevertheless took a more conservative course, for example at the 1883 American Library Association conference in Buffalo, where Dewey would unveil the following program of lectures for his proposed school of library economy at Columbia College:

1. Practical Bibliography proper: To teach what author and treatise is wanted.
2. Books: To teach what edition is best to buy or borrow, whenever there is a choice of editions.
3. Reading: To teach how to get from the book what is wanted, and no more, most quickly and most easily.
4. "Literary methods" (for want of a better name): To teach how to remember, record, classify, arrange, index, and in every way make available for future use, what has been gotten from the books.[42]

The emphasis on bibliography and research methods in this program is further reflected in the idea that the proposed school should be headed up by a Professor of Bibliography (rather than of library economy, library science or similar). Discussion of Dewey's presentation at the Buffalo conference revolved around the problem of whether theoretical preparation for librarianship adopting scholastic methods of instruction such as lectures – as outlined in Dewey's proposal – suffices, or whether practical training – to be delivered in a working library, and not at a university or college – is more important. Ultimately, Dewey would reveal that the proposed program at Columbia will also include a 'laboratory' element: 'We plan to have actual work done under the careful personal supervision of an expert who excels in explanation.'[43] In this early discussion of library science education by leading figures in the American library movement, we can observe a tendency to polarize theory and practice that is reflected not only in the overall tenor of the discussion (i.e. whether theory or practice is more important in preparation for librarianship), but also, indeed, in Dewey's proposed program itself, which distinguishes between lectures covering the requisite bibliographic and methodological knowledge and a 'laboratory' component offering practical training and experience.

At Columbia College, the resolutions put forward in May 1884 by a special committee of seven (including Dewey) charged with investigating training for librarianship would tend in a quite different direction, but are arguably little more successful in harmonizing theory and practice in library science education. The lectures in bibliography and research methods are here decoupled from the proposed school of library economy and are instead attached to the college library as 'library lectures'.[44] The idea of a Professorship of Bibliography is now abandoned in favor of having the chief librarian (simultaneously director of the proposed school) bear the title of Professor of Library Economy. It is repeatedly emphasized that the aim of the school is

practical, which is to be reflected in both the methods of instruction, in which 'something more than the ordinary scholastic method is essential' because the school aims to train its students, rather than just impart information to them,[45] as well as in the subjects of study, which 'will include the antiquarian or historical only where necessary to illustrate or enforce modern methods'.[46] Utilitarianism also characterizes logistical matters: instruction is to be delivered by members of the library staff and in the library building; additional expenses should not be incurred.

All the more surprising in the light of these polarizing beginnings is the broad and varied course of subjects of study unveiled by Dewey in his 1886-87 *Circular of Information* for Columbia College Library and the School of Library Economy, which would open its doors to students in January 1887. The new syllabus commences with two foundational theoretical sections:

> *Library economy*.
>
> Discussion of the general field, the object and plans of the school, and of library periodicals, associations, education, and training.
>
> *Scope and usefulness of libraries*.
>
> The library as an educator, the people's university; the library in relation to schools and the young; library lectures, museums, galleries, etc.; library as a public recreation.[47]

These are followed by four groups of topics focusing on the practical and physical aspects of establishing a library: raising interest, funding, sources of first acquisitions, etc. (under the heading *Founding and extension of libraries*); location and configuration of premises, disaster prevention, environmental conditions, furniture and fittings, etc. (under *Buildings*); and *Government and service* and *Regulations for readers* – the former involving what might be

described as internal library administration (including hiring, staff qualifications and duties, and operational matters such as hours, salaries, and rules for staff) and the latter addressing administrative issues arising in the context of the library's relationship to its public (circulation policies, fines, theft, etc.). Next, under the heading *Administration – Departments*, comes a lengthy list of topics relating to the running and ongoing maintenance of various units and activities within the library: 'executive' (including book selection, library supplies, relations to readers, and library reporting and statistics); 'accession' (ordering, receiving, processing of materials); 'catalogue' (types of catalogue as well as cataloguing practice); 'shelf' (classification and disposition of materials); 'reference' (including both materials and relations to readers); 'loan' (circulation and interlibrary lending); 'binding and repair'; 'duplicate' (sale or exchange); and 'building' (upkeep, in distinction from initial establishment).[48] These 'administrative' topics are then followed by three sections devoted to the study of libraries: *Libraries on Special Subjects* (i.e. 'special' libraries, e.g. law libraries, music libraries and so on); *Libraries of Special Countries or Sections* (France, Germany, New England and New York City are mentioned as examples); and *General Libraries* (i.e. all those (in North America) not limited to special subjects). Three further sections feature topics from Dewey's original program of lectures: *Reading and Aids*, *Literary Methods* and *Bibliography*. Finally, concluding the list of subjects for study, comes *Catalogues of General Collections* – the study of all types of extant book catalogues, including booksellers' and auction catalogues, in both classed and alphabetical forms.[49] In addition to unveiling this extensive syllabus, the 1886-87 *Circular of Information* also reveals an ambitious set of plans concerning instructors. These are no longer to be drawn only from library staff already in situ, but will include external lecturers from two pools: academic faculty from other Columbia College departments, who will teach the bibliography of

their respective subjects; and outside experts from the field of librarianship, or prominent members of the library community, to not only teach on various systems and theories in modern librarianship, but also to offer practical advice based on personal experience.[50]

Evolution of the Columbia College syllabus between 1883 and 1887 is attributed by Dewey to several factors: the suggestions of experienced librarians; the consideration of needs expressed by prospective students; and practical experience gained via experimental teaching.[51] Under the first of these headings, a particularly important role was played by the ALA committee appointed at the 1883 Buffalo conference to consider 'all projects and schemes for the education of librarians'.[52] The tenor of the sentiments of the two most prominent members of this group, Charles Ammi Cutter and Samuel Swett Green, is already apparent from the discussion of Dewey's initial Columbia College proposal at the 1883 conference. Cutter here disagrees with his colleague William Frederick Poole that working in a library is adequate preparation for librarianship, arguing that it tends to offer one-sided training and little opportunity for reflective practice: 'No one is thoroughly fit to have charge of a library who has not pursued some comparative study and learned to reason about what he does.'[53] Green – after reminding the gathering that the idea of a library school is not a new one, but was discussed extensively in connection with the 1877 'international' conference of librarians in London – follows Cutter in expressing surprise to hear colleagues say that instruction in librarianship should be given exclusively in libraries and agrees that library experience alone, at least insofar as it is received in a single library, tends to produce 'narrow views'.[54] Reports of this group at subsequent ALA conferences have a liberal, humanistic flavor that leaves its mark on the 1887 Columbia College syllabus. At the Lake George conference in 1885, William Eaton Foster reflects on library education generally, emphasizing the importance of an adequate grounding in languages,

literature and history, as well as of experience of literary and bibliographic study in a large library.[55] At the Thousand Islands conference in 1887, reporting on a recent visit to the new library school at Columbia, Samuel Swett Green and Hannah James praise a course of instruction that they found to be 'thorough, liberal, and profuse', and underscore the importance in library science education of avoiding an exaggerated focus on 'instrumentalities' and of retaining awareness of the higher purpose of libraries – the broad dissemination of knowledge.[56]

In addition to this general liberal influence, a number of similarities can be observed between the Columbia College syllabus of 1887 and the system of *Bibliothekswissenschaft* as it had evolved in theoretical discussion over the course of the nineteenth century in Germany. As far back as Zoller, *Bibliothekswissenschaft* had featured an introductory component devoted to the science itself, its history, theory and purpose; this element is emphasized by Petzholdt in his 1846 system as well as in his later *Katechismus der Bibliothekenlehre*. The list of subjects for Columbia College similarly begins with foundational sections on *Library economy* and *Scope and usefulness of libraries*, forming a theoretical introduction to the study of libraries and the science thereof. The Columbia syllabus is structured around a distinction between establishing a library – under which conceptual heading we find the four sections *Founding and extension of libraries*, *Buildings*, *Government and service* and *Regulations for readers* – and maintaining it into the future, which forms the conceptual backdrop to the lengthy list of topics ranked under the heading *Administration – Departments*. As we have seen, this distinction had a long history in Germany, dating back to the earliest discussions of *Bibliothekswissenschaft* in the opening decades of the nineteenth century, and the old bipartite division of the subject into *Einrichtungskunde* and *Verwaltungskunde*: departing from connotations of the verb *einrichten*, *Einrichtungskunde* had associations with temporal beginnings, while *Verwaltungskunde* was

generally associated with ongoing maintenance and upkeep. Petzholdt in particular would emphasize this distinction in both his 1846 outline of *Bibliothekswissenschaft* and his influential *Katechismus*; Graesel would highlight it in his 1890 reworking of Petzholdt, but ultimately, as we have seen, would reject it. Broadly speaking, the Columbia College syllabus upholds a similar distinction insofar as it identifies 'administrative' topics as those that pertain to the ongoing running of a library; an exception is formed by the topics listed under *Government and service* and *Regulations for readers*, which may be seen to represent the administrative aspects of establishing a library.

The emphasis that is placed in the 1887 Columbia syllabus on the administrative side of librarianship is also reminiscent of tendencies in nineteenth-century German *Bibliothekswissenschaft*. As far back as Ebert, *Verwaltungskunde* had occupied a particularly important position in *Bibliothekswissenschaft* owing to its connections with arguments supporting professionalization. As we have seen, Ebert was the first to emphasize that *Verwaltungskunde* is the part of librarianship that requires something other than scholarly aptitude and abilities – i.e. practical and business acumen; building on this, the idea of *Verwaltungskunde* as an essential component in librarianship flew in the face of the traditional view that library positions could readily be held as sinecures and 'side jobs' by scholars and clergymen. By classifying so many aspects of librarianship – from the lowest to the highest operational activities – as 'administrative' topics, the Columbia College syllabus is conceivably also underscoring the fact that librarianship has its own discrete set of duties that require students to acquire professional knowledge and training in addition to learning of a more traditional scholarly nature. Important in the same context are the three sections on libraries in the Columbia syllabus – *Libraries on Special Subjects*, *Libraries of Special Countries or Sections* and *General*

Libraries –, which can legitimately be seen as an English-language equivalent of German *Bibliothekenkunde*. First mentioned by Schmidt in his 1840 *Handbuch*, this element was emphasized by Petzholdt as the historical and empirical component of *Bibliothekswissenschaft* and as an essential part of the subject; it was later reasserted as a vital component by Graesel in his *Bibliothekslehre* of 1890. As we have already noted, the idea of *Bibliothekenkunde* as an integral part of *Bibliothekswissenschaft* added further fuel to arguments in favor of professionalization among German writers on library science, since *Bibliothekenkunde* could be used to assert the parity of the fledgling science, *Bibliothekswissenschaft*, with older, more established areas of study such as jurisprudence and the science of warfare, which had long had their historical, empirical subfields (*Rechtskunde, Kriegskunde* and so on).

While none of these similarities can be traced back to direct influence, North American librarians' general familiarity with German library science is strongly indicated in the second half of the nineteenth century. As early as the 1840s, Jewett would draw attention to German librarians' achievements in establishing *Bibliothekswissenschaft* as a science. Guild's 1858 *Librarian's Manual*, a well-publicized work that reached a large audience, includes a surprisingly large number of foreign-language works on libraries and librarianship, not least a representative selection of German-language publications, in its list of books 'considered to be of the first Importance for a *Library Apparatus*'. Later in the century, the pages of the *Library Journal* provide ample evidence of American librarians' continuing engagement with European library science, notably those pages devoted to 'Bibliography' (later 'Bibliografy') under the editorship of Cutter in the 1870s and 1880s, which increasingly incorporate reviews of both English- and foreign-language works. Of particular importance in the present context is a review of Graesel's remaking of Petzholdt's *Katechismus*, the *Grundzüge der Bibliothekslehre*, in the

Library Journal in 1891, which not only describes the *Katechismus* as 'one of our classics', but also remarks that Graesel's new edition is already likely to be even better known among North American readers than its predecessor.[57] In addition to documenting engagement with Petzholdt specifically,[58] these comments hint at an enduring North American interest in German-language works on library science more generally at the threshold of the twentieth century. Further indications of this interest are suggested by an abstract in the *Library Journal* for 1896 of Karl Dziatzko's *Entwickelung und gegenwärtiger Stand der wissenschaftlichen Bibliotheken Deutschlands* (1893).[59] Published in connection with the German library exhibit at the Columbian Exposition in Chicago and serving a promotional as well as informational function, Dziatzko's study aims to raise awareness of advances in German libraries and librarianship over the course of the nineteenth century. To this end, both Dziatzko and his North American abstractor highlight the Germans' achievements in establishing librarianship as a profession in its own right distinct from the professorial role, and attendant improvements in technical and public services. *Bibliothekswissenschaft* presides over all of these developments.

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[1] J. Winsor, 'Libraries, American versus European,' *Boston Daily Advertiser*, 69 (1877), n. pag.
[2] *Report of the Commissioners appointed to inquire into the Constitution and Government of the British Museum* (London: Clowes, 1850), p. 265. Jewett's letter was included in the evidence presented to the special parliamentary committee charged with inquiring into the British Museum Library under Panizzi.
[3] In M. J. Harris, ed., *Charles Coffin Jewett and American Librarianship, 1841-1868* (Littleton, CO: Libraries Unlimited, Inc., 1975), pp. 96-7.
[4] C. C. Jewett, *Notices of Public Libraries in the United States of America* (Washington, DC: Printed for the House of Representatives, 1851), p. 6. The article in question is H. Ludewig, 'Bibliographie und Bibliotheken in den Vereinigten Staaten von Nordamerika,' *Serapeum*, 6 (1845), 209-24, and *Serapeum*, 7 (1846), 113-22, 129-44, 145-59, 161-71, 177-92, 204-5.
[5] For discussion of the significance of Kayser's treatise, see C. J. Minter, 'Systematic or Mechanical Arrangement? Revisiting a Debate in German Library Science, 1790-1914,' *Libri*, 67.3 (2017), 193-203 (here 194).
[6] M. Schrettinger, *Versuch eines vollständigen Lehrbuchs der Bibliothek-Wissenschaft* (Munich: Im Verlage des Verfassers, 1808), vol. 1, p. 16. The italics are Schrettinger's own.
[7] Ibid. p. 17.
[8] E. Zoller, 'Die Bibliothekwissenschaft,' *Serapeum*, 9 (1848) 33-6, 129-37, 268-71, 285-7 (here 131).
[9] F. A. Ebert, 'Bibliothekwissenschaft,' in J. S. Ersch and J. G. Gruber, eds., *Allgemeine Encyclopädie der Wissenschaften und Künste, Zehnter Theil: Bibel–Blei* (Leipzig: Gleditsch, 1823), pp. 69-73.
[10] Ibid. p. 71. This and all other translations are the author's own.

[11] Ibid. p. 73.
[12] F. A. Ebert, *Die Bildung des Bibliothekars* (Leipzig: Steinacker und Wagner, 1820), p. 8.
[13] Ebert dwells on this problem in his first published work, *Ueber öffentliche Bibliotheken* (1811), blaming it for the chaos that prevailed in many German libraries of the time.
[14] Ebert, 'Bibliothekwissenschaft,' p. 71.
[15] 'Bibliothekswissenschaft,' in J. Meyer, ed., *Das große Conversations-Lexikon für die gebildeten Stände, Vierter Band, Vierte Abtheilung: Beauforts–Bona pace* (Hildburghausen: Druck und Verlag des Bibliographischen Instituts, 1845), pp. 881-9 (here pp. 886-7).
[16] Ibid. pp. 888-9.
[17] E. Zoller, *Die Bibliothekwissenschaft im Umrisse* (Stuttgart: Weise, 1846), p. 7.
[18] Zoller, *Bibliothekwissenschaft im Umrisse*, p. v.
[19] Formerly known as *Anzeiger für Literatur der Bibliothekwissenschaft* (1840-44), later (after 1850) as *Anzeiger für Bibliographie und Bibliothekwissenschaft*, and finally as *Neuer Anzeiger für Bibliographie und Bibliothekwissenschaft* (after 1856).
[20] J. Petzholdt, 'Einleitendes,' *Anzeiger der Bibliothekwissenschaft*, [2] (1846), pp. i-lxiv (here p. iii).
[21] The distinction between *Bewahrung* and *Unterhaltung* is a fine one. Taken together, they encompass all that is involved in keeping a library running; see more on this below.
[22] Petzholdt, 'Einleitendes,' p. vii.
[23] For a perspective on the relationship between *Historia Literaria* and the roots of library science, a topic that is beyond the scope of this article, see P. Vakkari, 'The Roots of Library Science in the Internal and External Discourse of *Historia Literaria* in Germany,' *Bibliothek: Forschung und Praxis*, 18.1 (1994), 68-76.
[24] J. Petzholdt, *Katechismus der Bibliothekenlehre* (Leipzig: Weber, 1856), p. v.
[25] The list of questions dispatched to the individual libraries by Petzholdt is included in some editions, e.g. J. Petzholdt, *Adressbuch deutscher Bibliotheken* (Dresden: Adler & Dietze, 1848).
[26] A. Graesel, *Grundzüge der Bibliothekslehre* (Leipzig: Weber, 1890), p. 7.
[27] Ibid. p. 8.
[28] For an overview of those earlier efforts, see G. Leyh, 'Der Bibliothekar und sein Beruf,' in G. Leyh, ed., *Handbuch der Bibliothekswissenschaft, Zweiter Band: Bibliotheksverwaltung* (Wiesbaden: Harrassowitz, 1961), pp. 1-112 (here pp. 8-15).
[29] It is worth noting that in 1903, the year of Dziatzko's death, his was still the only professorship of library science in Germany. See F. Neumann, 'Karl Dziatzko, 1842-1903: An Obituary and Bibliography,' *Library Journal*, 28 (1903), 105-10 (here 105).
[30] On this document, see Leyh, 'Bibliothekar,' p. 16.
[31] The 1893 decree is reprinted in full in the *Jahrbuch der deutschen Bibliotheken*, 1 (1902), 122-5.
[32] P. Schwenke, 'Karl Dziatzko,' *Zentralblatt für Bibliothekswesen*, 20 (1903), 133-7 (here 135). A less glowing picture is painted by Leyh, 'Bibliothekar,' p. 19.
[33] Schwenke, 'Karl Dziatzko,' 135.
[34] K. Gerhard and H. Schnorr von Carolsfeld, 'Die Vorbildung zum bibliothekarischen Beruf,' *Zentralblatt für Bibliothekswesen*, 21 (1904), 6-26 (here 12).
[35] Ibid. 17. Clearly, the underlying assumption here is that the Göttingen model of the sole library science professor (here Dziatzko) will continue as the norm.
[36] A. Predeek, 'Die Bibliothekswissenschaft als Disziplin und Universitäts-Lehrfach,' in *Aus der Welt des Buches: Festgabe zum 70. Geburtstag von Georg Leyh* (Leipzig: Harrassowitz, 1950), pp. 169-84 (here p. 169 and passim).
[37] Guild's sketches of libraries follow in the footsteps of Jewett's 1851 *Notices*, which, as noted above, was influenced by European predecessors, not least Petzholdt's *Adressbuch*.
[38] R. Guild, *The Librarian's Manual; a Treatise on Bibliography* (New York: Norton, 1858), p. 5.
[39] F. Rullmann, *Die Bibliothekseinrichtungskunde zum Theile einer gemeinsamen Organisation, die Bibiothekswissenschaft als solche einem besonderen Universitätsstudium in Deutschland unterworfen* (Freiburg: Wagner, 1874), pp. 23-4.
[40] Department of the Interior, Bureau of Education, *Public Libraries in the United States of America, their History, Condition, and Management* (Washington, DC: Government Printing Office, 1876), p. xxv.
[41] C. White, *A Historical Introduction to Library Education: Problems and Progress to 1951* (Metuchen, NJ: Scarecrow Press, 1976), p. 40.
[42] M. Dewey, 'School of Library Economy,' *Library Journal*, 8 (1883), 285-91 (here 285).
[43] Ibid. 290.

[44] Columbia College, *Library; School of Library Economy: Circular of Information* ([New York: Columbia College,] 1884), p. 17.
[45] Ibid. p. 27.
[46] Ibid. p. 33.
[47] Columbia College, *Library; School of Library Economy: Circular of Information* ([New York: Columbia College,] 1886-7), p. 39.
[48] Ibid. pp. 40-1.
[49] Ibid. pp. 41-2.
[50] Ibid. pp. 31-2. The latter group would include figures such as Bowker, Spofford, S. S. Green, Caroline Hewins and Hannah P. James. See W. Wiegand, *Irrepressible Reformer: A Biography of Melvil Dewey* (Chicago: American Library Association, 1996), pp. 93-4.
[51] Columbia College, *Circular*, 1886-87, pp. 25-6.
[52] 'School of Library Economy,' *Library Journal*, 8 (1883), 293-4 (here 294). This was originally a group of five: Cutter, S. S. Green, W. E. Foster, M. A. Bean and H. P. James.
[53] Dewey, 'School of Library Economy,' 290.
[54] 'School of Library Economy,' 294.
[55] W. E. Foster, 'Report of the Committee on the Proposed School of Library Economy,' *Library Journal*, 10 (1885), 291-4 (here 292).
[56] 'Report of the Committee on the School of Library Economy,' *Library Journal*, 12 (1887), 426-8 (here 427).
[57] C. H. Hull, [Review of Arnim Graesel, *Grundzüge der Bibliothekslehre*], *Library Journal*, 16 (1891), 118-19.
[58] This is further suggested by an informal note on Petzholdt's retirement some years earlier (*Library Journal*, 10 (1885), 3).
[59] L. Ambrose, 'Dr. Dziatzko on German Libraries,' *Library Journal*, 21 (1896), 53-9.