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Paul Michel
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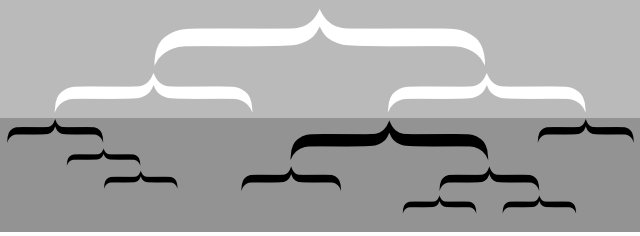
Allgemeinwissen und Gesellschaft



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Die kayserliche Bibliothec [in Wien], aus: Happel, Eberhard Werner, Grösseste Denkwürdigkeiten der Welt oder so genandte Relationes curiosae, in welchen eingeführt, erwogen und abgehandelt werden allerhand historische, physicalische, mathematische und andere merckwürdige Seltzamkeiten, II. Theil, Hamburg: Wiering, 1685; Kupferstich bei Seite 300.

Hans-Ulrich Seifert

Dewey meets Krünitz

A classificatory approach to lexicographic material

1 Introductory remarks on Johann Georg Krünitz and his Ökonomisch-Technologische Enzyklopädie

Johann Georg Krünitz (1728–1796), the founding father of the largest encyclopaedia of its kind, the *Ökonomische Enzyklopädie*, later on *Ökonomisch-Technologische Enzyklopädie*, has almost been forgotten today. Despite the misleading title, his work comprises all classes of knowledge that can be found in reference works of the time such as the French Encyclopédie or the early editions of the Britannica and probably represents one of the greatest editorial works of the German Enlightenment – albeit one that has received little attention. Unlike the French Encyclopédie, the 144 000 pages of accumulated knowledge compiled by Krünitz and his successors did not attract hundreds of researchers and students: the bibliography of the Krünitz studies fits in a single footnote.

Since October 2001, a project has been underway to digitise this encyclopaedia of the German language – the largest ever printed – at Trier University Library. The project is part of one of the funding programmes of the Deutsche Forschungsgemeinschaft (DFG), the central public funding organization for academic research in Germany (http://www.kruenitz.uni-trier.de/). The DFG has already supported the digitisation of other encyclopaedias, such as Zedler's *Universal-Lexikon*, the 64-volume precursor of the French *Encyclopédie*, and the 1811 edition of Adelung's *Grammatisch-kritisches Wörterbuch der hochdeutschen Mundart*. The latter's four volumes seem laughable in comparison to the 242 volumes of Krünitz' *Ökonomische Encyklopädie* that indeed represent »one of the largest works of its kind ever issued«, as Robert L. Collison pointed out in his bibliographical guide to encyclopaedias and their history throughout the ages in 1966. The work began in 1773 as a translation of two French encyclopaedias (the *Dictionnaire raisonné universel d'histoire naturelle* (1764) and the *Encyclopédie Oeconomique ou Systeme générale d'Oeconomie rustique, domestique et politique* (1771/72)). It expanded into a lexicographic monument that reached its full extent only 85 years later, in 1858, with its 242nd and last volume. Krünitz' dictionary – differing in this respect from so many other lexicographic projects of the 19th century that were cut short before reaching their natural conclusion, continued right to the letter ›Z‹, in spite of its founding father's death in 1796. Ironically, Krünitz, who had already written 72 volumes, was about to write

1 Die *Ökonomisch-Technologische Enzyklopädie* von J. G. Krünitz wurde von der bisherigen Forschung vernachlässigt. Das seit 2001 laufende, von der DFG finanzierte Projekt zur Digitalisierung dieser Enzyklopädie möchte der mangelnden Präsenz des 242 Bände starken lexikalischen Monuments Abhilfe schaffen.

Silhouette of Johann Georg Krünitz (1728–1796).
From J. F. G. Unger, Schattenrisse sechs Berlinscher Gelehrten, Berlin 1779.

Silhouette of Melvyl Dewey (1851–1931).
From an old photograph.

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Enzyklopädie (griech., Wissenschaftskunde), im allgemeinen die ›umfassende‹ Lehre aller Künste und Wissenschaften in ihrem Zusammenhang unter sich und mit den höchsten Zwecken der Vernunft (Generalenzyklopädie), im besondern die Darstellung der Grundbegriffe und Hauptwahrheiten einer einzelnen Wissenschaft unter dem Gesichtspunkt der Einheit und des sie durchdringenden obersten Lebensprinzips (Spezialenzyklopädie).

Meyers Großes Konversations-Lexikon, Bd. 5, Leipzig 1908, S. 850/Digitale Bibliothek, Band 100, Berlin 2004, S. 52138.

2 Der heute niedrige Bekanntheitsgrad von Krünitz' Werk kontrastiert zu seinem ursprünglichen Erfolg. Der Verleger der Enzyklopädie, Joachim Pauli, musste sehr bald eine zweite Auflage der ersten Bände auf den Markt bringen. Ebenso sorgte er durch eine geschickte Marketing-Strategie dafür, dass das Werk einen breiten Absatz fand. Die weniger kaufkräftige Kundschaft konnte beispielsweise einen sogenanngen *Auszug aus des J. G. Krünitz ökonomisch-technologischer Encyklopädie* erwerben. Ein Raubdruck sorgte für zusätzliche Verbreitung.

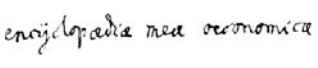
the entry for ›Leiche‹ (meaning ›corpse‹) for volume 73 when he died. The title of this great but little known work, *Oeconomische Encyclopädie oder allgemeines System der Land-, Haus- und Staats-Wirthschaft* (from the 33rd volume onwards it was renamed *Oekonomisch-technologische Encyklopädie*) is misleading. In reality, Krünitz and his smart editor Joachim Pauli (1732–1812) had rapidly recognised that the German-speaking market for encyclopaedias longed for more than agricultural and technological information. They accordingly transformed their economical encyclopaedia into a universal dictionary, whose scope is comparable to the later projects of Chambers or Diderot and d'Alembert as well to the emerging new type of ›Conversations-Lexika‹ that would dominate the European market during the 19th century.

2 The editor and how the work was propagated

Pauli, and, after his death, his wife Louise (1774–1823) used their position as publishers and printers in Berlin, the capital of the Prussian state, to promote the sales of their product. They were granted official recommendations from King Friedrich Wilhelm II and his minister Freiherr vom Stein. The first volumes sold so quickly that Pauli had to produce a second edition (continued until volume 108) while the publication of the basic work continued along its way. The essence of the encyclopaedia, moreover, was published in so-called extracts (*Auszug aus des J. G. Krünitz ökonomisch-technologischer Encyklopädie*). 34 volumes, amounting to 25 000 pages, came out between 1786 and 1830 and extended from the letter ›A‹ to the lemma ›Reitsker‹ (i.e. ›lactarius‹). They were intended for less wealthy buyers and probably increased Pauli's profits from the Krünitz project quite comfortably. Very long articles (›Beer‹, ›Bees‹, ›Country parson‹, ›Elder‹, ›Gardening‹, ›Rural School‹, ›Thrashing‹) were published separately in independent volumes. 127 volumes of a pirated edition were printed virtually simultaneously to the extracts, from 1787 until 1823, by Joseph Georg Trassler in Brno – today the second largest town of the Czech Republic and one of the foremost manufacturing towns of the Austrian empire during the nineteenth century. Unfortunately, the archives of the publishing houses involved in the distribution of the Ökonomisch-Technologische Enzyklopädie were destroyed and we can only guess at how many copies of the work were definitively distributed. But everything that is known about publishing practices in Germany

Oekonomische
Encyklopädie,
oder
allgemeines System
der
Staats- Stadt- Haus- u. Landwirthschaft,
in alphabetischer Ordnung:
von
D. Johann Georg Krünitz

Logo in the Walbaum-type. Krünitz' whole Encyclpaedia is printed with this logo. It is also used for the digital version produced at Trier University Library (http://www.kruenitz.uni-trier.de).


encyclopædia mea oeconomica

Krünitz' handwriting in a letter to Albrecht von Haller from Berlin, 24 October 1773: *Mitto tibi iam encyclopaedia mea oeconomica tomum secundum, quem benevole accipies, et in Novis Litterariis Gottingensibus, ut spero, recensebis* (Burgerbibliothek Bern).

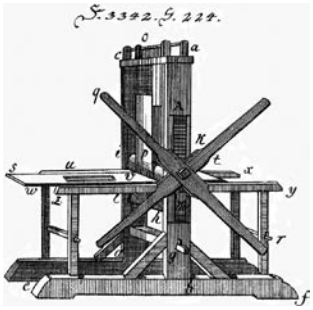
during the eighteenth and nineteenth centuries together with occasional remarks made by Pauli and his successors in their introductions to several volumes of the encyclopaedia make it reasonable to assume that 3 000 to 4 000 copies of the first half of the work were printed and 2 000 to 3 000 copies of the second half.

3 How the work was organised and what distinguishes it from comparable enterprises

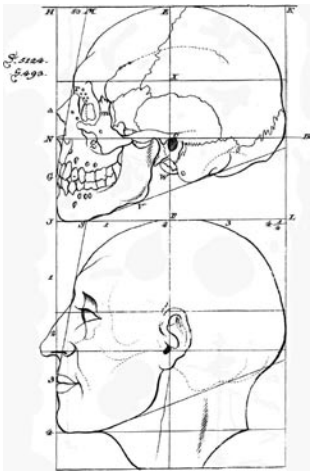
Although Krünitz had to stop work on his opus before the first half of the alphabet had been finished (at the letter ›L‹) at a point when less than two thirds of the 242 volumes had been printed (later editors ensured their employment by inflating the volume with remaining articles from Krünitz' original list and adding new entries – an obviously solid and loyal base of subscribers did not prevent them from doing so), it still remains basically his work, as his fundamental plan was followed right to the end. More so than in other encyclopaedias, the great quantity of material together with its long publishing history led not only to complexity, but also to a lack of clarity.

When Krünitz wrote the entry on ›electricity‹ for his huge work in 1785 (in 1772, he had translated Priestley's *The History and present state of electricity* into German), he could not have imagined that 50 years later others would still be working on his Enzyklopädie nor how the application of electricity would develop in the nineteenth century. His successors tried to compensate for this shortcoming that was due to rapid technological growth by writing new entries on the same subject. So the six-page article ›Electricität‹ from 1785 (Vol. 10, p. 698–704) was updated in 1855 with the 294-page article ›Vis electrica‹. Similarly, an article on fermentation from 1786 (›Gährung‹, Vol. 15, p. 616–624) is tackled again 69 years later in ›Vis fermentativa (Vol. 226, p. 15–45). The same procedure can be found for non-technological entries like ›Italy‹ (Vol. 31, 1784, p. 87–132) that was entirely rewritten in 1856 under another lemma to be lodged with the last letters of the alphabet (›Welschland‹, Vol. 238, p. 1–191). The admirable inventiveness of Krünitz' successors (more about them on the Krünitz Website at Trier University Library under http://www.kruenitz.uni-trier.de) in finding ways to retouch information in former volumes that had been superseded by new developments has unpleasant consequences for readers of the 21st century. It is true that Krünitz, in a similar way to that of editors of the French Encyclopédie, provided his work with cross-references to other articles and combined lexicographic entries with thousands of illustrations that are also cross-referenced. But unlike his predecessors, he did not establish an internal classification system for all articles that makes it possible to see on which branch of the tree of knowledge a given article hangs. His encyclopaedia is not as ›highly organised‹ and ›modern‹ as the *Encyclopaedia Britan-*

3 Die grosse Menge an Information ebenso wie der technische und wissenschaftliche Fortschritt im Verlauf der Publikation – die 242 Bände erschienen zwischen 1778 und 1858 – führte zu gewissen Problemen. Erstens mangelt es dem riesigen Lexikon mancherorts an Klarheit und Kohärenz, zweitens mussten gewisse Artikel dem neuen Wissensstand angepasst werden. Die obsoleten Informationen des in Band 15 erschienenen Artikels ›Gährung‹ wurden beispielsweise in Band 226 durch den Artikel ›Vis fermentiva‹ aktualisiert.

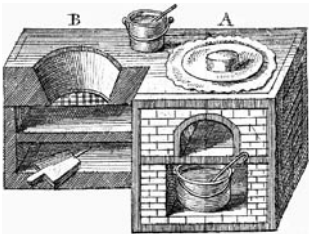


Krünitz Vol. 56 (1792), Fig. 3342, Article ›Kupfer-Druckerey‹ (Copperplate printing): Kupferdruckmaschine.



Krünitz Vol. 88 (1802), Fig. 5124, Article ›Mensch‹ (Man): europäischer Menschenkopf, Größe und Proportionen.

4 Das erwähnte Fehlen einer durchgehenden Systematik beziehungsweise an innerer Kohärenz stellte für die Produzenten der Online-Version eine grosse Herausforderung dar. Sie waren gezwungen, nach einem adäquaten System zu suchen, um die immense Fülle an Material einfach und gleichwohl umfassend zugänglich zu machen.



Krünitz Vol. 27 (1783), Fig. 1543, Article ›Hut‹ (Hat): Ofen des Steifmachers.

Krünitz Vol. 27 (1783), Fig. 1506, Article ›Hut‹ (Hat): Enthaaren eines Biberfells.

Krünitz Vol. 27 (1783), Fig. 1565(3), Article ›Hut‹ (Hat): Chapeau à l'angloise.

nica claims to be (CD-ROM-edition of 1997, article ›Encyclopaedias and Dictionaries‹), so that it is more or less left to chance whether a reader will find supplementary entries written maybe half a century after the original article.

4 How to put things together that belong together

This lack of coherence within the enormous amount of information contained in the 242 volumes of Krünitz' encyclopaedia was a reason for the producers of the online version of this work to look for ways of making all the material more accessible within a clear and easy system. It would have been interesting to use the ›classes of knowledge‹ of the French *Encyclopédie* to bring order to the Krünitz material and allow comparison of the two great 18th century encyclopaedias at a semantic level. As the digitised version of the *Encyclopédie* developed within the Project for American and French Research on the Treasury of the French Language (ARTFL) allows automatic identification of the classes used for systematisation and to show them in descending order by frequency, it looked as if it would not be too difficult to access the hidden contents within Krünitz' work with Diderot's help. But a closer look at the Diderot/d'Alembert system (it was in fact the chevalier de Jaucourt's job to attribute class descriptions to entries supplied by 140 collaborators) shows that the encyclopaedians were not able to maintain the descriptions of the branches of their arbre du savoir rigorously. More than half of the class descriptions refer to only one lemma, which means that they are merely self-descriptive. And the descriptions that refer to a great number of entries are often used in a quite ambiguous way. An analysis of the 50 most important classes of the Diderot/d'Alembert system leads to results that do not recommend it for online purposes: There are, for example, 4756 entries for geography, 4203 for géographie moderne, 2622 for géographie ancienne, but there is no way of showing them all together. The abbreviations used to describe the classes within the corpus of the *Encyclopédie* are handled inconsistently within the body of the work: we find ›geog. anc.‹ beside ›geogr. anc.‹ and ›belles lettres‹ next to ›litt.‹ and ›litter.‹ (for littérature) and so on. The system is not organised hierarchically: ›Medecine‹, ›Terme de chirurgie‹ and ›anatomie‹ (and many other class descriptors) must all be consulted to access all the entries referring to medical sciences.

The makers of the concurrent digital version of the *Encyclopédie*, Redon publishers, who produced an excellent CD-ROM for an equally excellent price (the whole work for about 200 Swiss Francs) have partially revised Jaucourt's job and restructured his classes of knowledge. This makes it possible to browse through the encyclopaedia independently of alphabetical order. The Redon solution is fine (it offers 1185 domaines) and was not too expensive to carry out. But it leaves open the problem of creating semantic hierarchies that do not allow consultation of entries that belong

Oeconomische Wörterbücher, Oeconomische Lexika, Lexica Oeconomica, werden diejenigen Bücher genennet, in welchen die Kunst-Wörter und Erklärungen dererjenigen Sachen nach alphabetischer Art vorgetragen werden, welche in einer vollständigen Landwirthschafft und Haußhaltung von Acker-, Feld-, Holtz-, Hopffen-, Obst-, Wein- und Gartenbau, Wiesewachs, Fischerey, Jägerey, Bierbrauerey, Brannteweinbrennerey, Vieh-Zucht zu wissen nöthig; ingleichen dessen, was hiernächst vom Bau-Wesen, bey Anlegung gantzer wirthschafftlicher Gebäude, wie auch von Maschinen, Instrumenten und Werckzeugen, oder sonst bey täglicher Verrichtung im Hause, Küche und Keller vorzukommen pfleget.

Article ›Oeconomische Wörterbücher‹ from Zedler's Universal-Lexikon, vol. 25, Leipzig 1740.

to a broader or narrower term of research such as, for example, ›animals‹ or ›mammals‹ without an in-depth knowledge of the descriptors used in the classification.

5 A look at Dewey's Decimal classification system for non-librarians

This is the reason why the makers of the online edition of Krünitz Ökonomisch-Technologische Enzyklopädie turned to an unusual solution to reorganise the lexicographic material they had to deal with. Most of them being librarians, they were all more or less familiar with Melvil Dewey's Decimal Classification system (DDC), the most widely used library classification system in the world. And they asked themselves whether it would not be possible to use a classification system originally intended to bring order to the shelves of a library to classify entries in a lexicographic monument such as Krünitz' Enzyklopädie. Dewey, born in a small town in upper New York State in 1851 and considered nowadays to be the father of modern librarianship, first published his system in 1876, 18 years after the last volume of Krünitz' work had appeared. Since then, the system has been continuously revised and expanded in numerous editions. Compared to the above described classification systems, Dewey's Decimal Classification system offers several advantages:

- DDC is a general knowledge tool for organisation that is continuously revised to keep pace with knowledge.
- DDC is the most widely used classification system in the world. Libraries in more than 135 countries use the DDC to organise and provide access to their collections, and DDC numbers are featured in the national bibliographies of more than 60 countries.
- DDC has been translated into over 30 languages. Translations of the latest full and abridged editions of the DDC are completed, planned, or underway in Arabic, Chinese, French, German, Greek, Hebrew, Icelandic, Italian, Korean, Norwegian, Russian, Spanish, and Vietnamese.
- DDC is available in digital form.

4756 geog. 4203 geog. mod. 2622 geog. anc. 1653 marine. 1428 jurisprud. 1198 gram. 1135 hist. mod. 1016 hist. nat. 948 gramm. 863 hist. nat. bot. 841 hist. anc. 711 commerce. 587 geogr. 543 comm. 505 geogr. mod. 504 mythol. 457 botan. 451 jurispr. 449 jardinage. 434 litterat. 398 geogr. anc. 385 myth. 370 medecine. 362 hist. nat. botan. 336 hist. eccles. 327 jurisp. 263 mat. med. 257 chimie. 252 archit. 231 art milit. 227 terme de blason 220 manege. 215 morale. 202 theol. 201 theolog. 197 medec. 190 antiq. rom. 189 architect. 178 marechal. 175 terme de chirurgie 163 geog. anc. et mod. 155 med. 154 anat. 149 venerie. 148 geom. 140 botan. exot. 133 critiq. sacree. 130 litter. 123 physiq. 121 gram. a jurisprud. 116 belles-lettres. 115 hist. rom. 111 mytholog. 111 hydr. 109 critique sacrée. 108 jurisprudence. 107 jardin. 105 bot. 104 com. 103 peinture. 100 etc ...

The 50 most important classes of knowledge from the ›Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers‹ (1751–1765) by frequency of articles.
The same colour is used to show differing abbreviations for the same class and classes belonging to the same higher level class.

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5 Die Hersteller der elektronischen Version von Krünitz' Lexikon entschieden sich für einen neuartigen Weg, um das umfassende lexikographische Material zu reorganisieren, indem sie sich der 1876 publizierten Dezimalklassifizierung von Melvil Dewey bedienten. Dabei handelt es sich um das verbreitetste System zur Ordnung von Bibliotheken, doch zur Systematisierung einer Enzyklopädie war es noch nie verwendet worden. Aufgrund einer Reihe entscheidender Vorteile wie z. B. die universale und ständig aktualisierte Abdeckung der Wissensgebiete, die Verfügbarkeit in über 30 Sprachen, das Vorhandensein in digitaler Form sowie die feingliedrige hierarchische Organisation, erwies es sich jedoch als ausserordentlich tauglich für diesen Zweck.

- DDC is organised hierarchically and in the Krünitz online-edition it can be opened as the well known MS Explorer.
- The classes of the system are annotated using Arabic numerals.

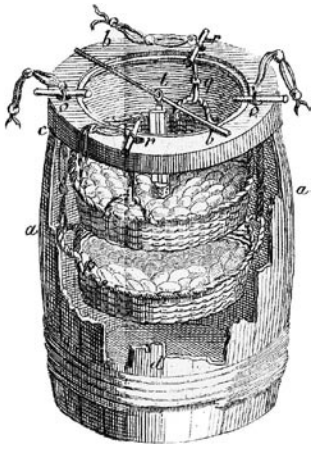
As it is easy to get detailed information on DDC through the web (chiefly from the OCLC Dewey Services page: http://www.oclc.org/dewey/), it is not necessary to describe the system in depth here. Suffice to say, that, at its broadest level, DDC is divided into ten main classes, which together cover the entire world of knowledge.

000	Generalities/Allgemeines/GÉNÉRALITÉS/etc.
100	Philosophy/Philosophie, Psychologie/PHILOSOPHIE/etc.
200	Religion/Religion/RELIGION/etc.
300	Social sciences/Sozialwissenschaften/SCIENCES SOCIALES/etc.
400	Language/ Sprache/LANGUES/etc.
500	Natural sciences/Naturwissenschaften & Mathematik/SCIENCES NATURELLES/etc.
600	Technology/Technik/TECHNOLOGIE/etc.
700	The arts/Künste; Bildende Kunst und Handwerk/ARTS/etc.
800	Literature/Literatur und Rhetorik/LITTÉRATURE/etc.
900	Geography & history/Geographie & Geschichte/GÉOGRAPHIE, HISTOIRE/etc.

These classes are annotated using Arabic numerals. The corresponding descriptions are available in many languages – as many as there are translations of the DDC. And this applies not only to the main classes, but also to thousands of annotations, that are organised hierarchically.

The main classes are subdivided in 100 subclasses, each of which is subdivided in further classes by supplementary digits, as the following example, drawn from main class 500, shows:

500	Natural sciences & mathematics	**501**	Philosophy & theory
502	Miscellany	**503**	Dictionaries & encyclopaedias
504	[Unassigned]	**505**	Serial publications
506	Organisations & management	**507**	Education, research & related topics
508	Natural history	**etc.**	.....
etc.	.....	**595**	Arthropods
596	Chordates	**597**	Cold-blooded vertebrates; fishes
598	Birds	**599**	Mammals



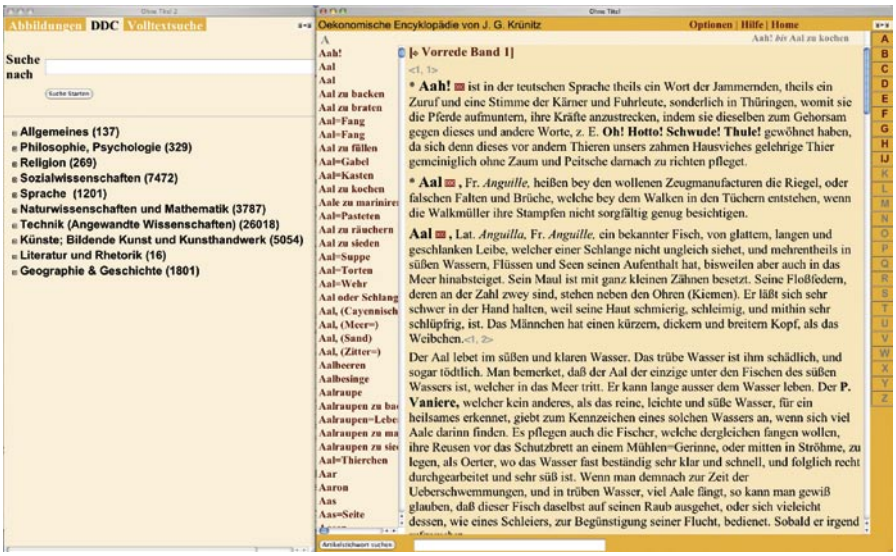
Krünitz Vol. 26 (1782), Fig. 1489g, Article ›Huhn‹ (Chicken): Brutfass zum Ausbrüten von Hühnereiern.

599 ›Mammals‹ points to subclasses like ›Marsupiala‹ or ›Carnivora‹ and these lead to further subdivisions. In the final branches of the Carnivora class, the user finally finds what he was probably searching for – the names of mammals like lynx, lion, panther, dog or fox and so on.

The above represents a simplified overview of the DDC system but what has been said so far should provide an idea of how it is structured and how it could be applied. Its usefulness lies in its internal logic that makes it superior to less formalised systems.

6 A look on the Online Edition of Krünitz' Encyclopaedia

In the online version of the encyclopaedia, the DDC classification of the lemmata is offered in a separate window of the screen:

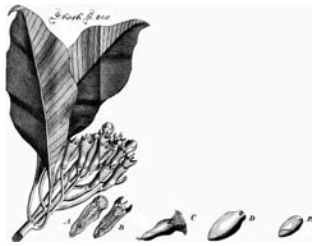


The screen is divided into two windows. At the extreme right, there is an alphabetical index that permits navigation within the alphabet. ›A‹ is the default position in which the database starts. The producers hope to arrive at ›Z‹ by 2006.

The left-hand column of the right window contains the list of lemmata as they can be found in Krünitz' work. A click on the required lemma calls up the corresponding article in the centre of the right-hand window. If somebody is interested in ›Aal-Suppe‹ (Eel Soup), a click on the lemma will lead to the article. Each main entry in the encyclopedia is equipped with a DDC classification – easily recognised by the red DDC symbol. The DDC classification number and the description of its DDC class can be accessed by running the mouse over the entry. Eel Soup appears under Cooking Eel and has been classified DDC 641.5 = Cooking/Kochen. The descriptions are given in German, but once the whole work is finished, foreign language descriptions for the whole work can be easily produced within a couple of days in every other DDC language that is electronically

6 In der unter http://www.kruenitz.uni-trier.de/ abrufbaren Online-Version der Krünitzschen Enzyklopädie ist jeder Eintrag dem Dewey-System folgend klassifiziert. Auf diese Weise sieht der Benutzer sogleich, in welcher Thematik er sich befindet, und er kann sodann gezielt und akkurat nach sachverwandten Einträgen suchen. Sogar eine thematische Bildsuche ist möglich. Die Dezimalklassifizierung von Dewey, so das Fazit, ist folglich hervorragend geeignet, um riesige Datenberge auf eine logische und intuitive Art und Weise zu ordnen bzw. zugänglich zu machen.

Krünitz Vol. 102 (1806), Fig. 6010, Article ›Nelke‹ (Clove): Ableger einer Nelke (zwecks Vermehrung).



Krünitz Vol. 102 (1806), Fig. 6016, Article ›Nelke‹ (Clove): Gewürznelke, offene Blume, Frucht und Same.

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Ich war immer für Klarheit und Einfachheit gewesen – nur keine Vermanschungen! – Und nun sah ich, wie einfach im Grunde so eine Kartothek war, wenn man sie nur richtig organisierte. Mir schwirrte der Kopf. Also lebende Dinge hellblau, tote Dinge rot; Regenschirm unter den toten Dingen suchen, also grüne Mappe nachsehen; dann Unterabteilung Wasser, siehe Naturschauspiele, oder siehe braune Mappe für Wasserfall und Wolkenbruch. Wunderbar.

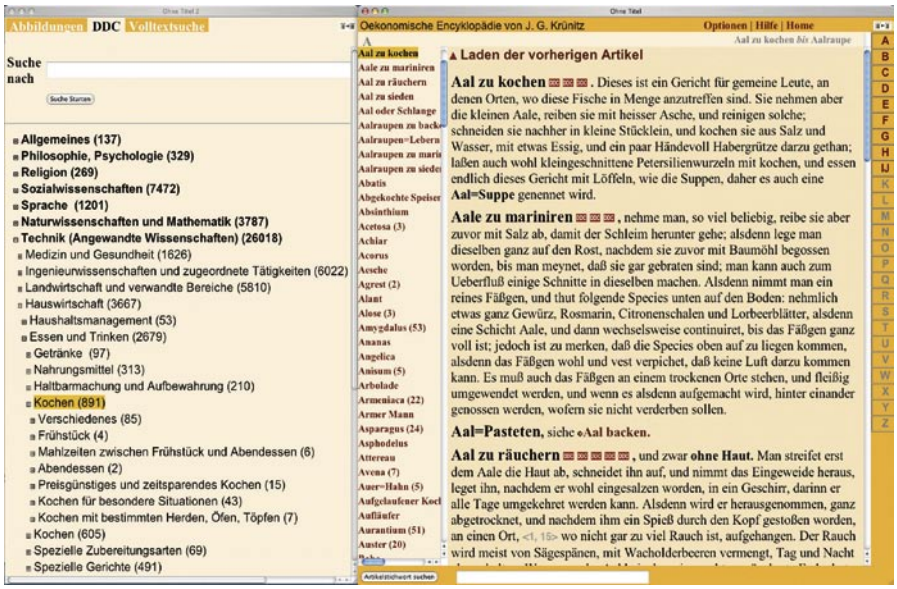
George Grosz, Ein kleines Ja und ein großes Nein. Sein Leben von ihm selbst erzählt, Reinbek bei Hamburg 1974, p. 240.

Krünitz Vol. 78 (1800), Fig. 4450, Article ›Licht‹ (Light): Zerstückeln von Talg

»L'intérêt croissant pour des inventions obsolètes [...] contribuait à entretenir le souvenir d'artisanats anciens [...]. À ce sujet, Krünitz cite une collection de serrures conservée dans le cabinet d'objets d'art de l'électorat de Dresde, ainsi qu'un groupe d'instruments de musique, à Cassel, que le landgrave Carl avait fait reproduire d'après des originaux anciens. À partir de là, il n'y avait plus qu'un petit pas à franchir pour en arriver à l'étude des stades du développement. Ainsi, Krünitz mentionne l'importance des séries, qui démontrent le perfectionnement graduel de certains instruments, du baromètre, par exemple. Car »il est particulièrement agréable et instructif de pouvoir embrasser l'amélioration complète, graduelle, d'importants instruments de physique et de les comparer entre eux dans les cabinets d'objets d'art.«

Tous les savoirs du monde: encyclopédies et bibliothèques, de Sumer au XXIe siècle, Paris 1996, 324.

available. A click on the DDC symbol in the right-hand window produces a change on the left-hand side: The DDC tree of knowledge opens at the corresponding class 641.5 Kochen or Cooking. The number in brackets after the description indicates the number of articles that have been classified 641.5 Cooking: 891:



The hierarchic structure of the classification system: the main classes 0 to 6 are shown. from Generalities to Technology, and as ›Cooking eel‹ has been classified in the sixth class, the tree shows the sub-branches of this class and the subdivision of the branch 641: Food and drink. If 891 hits are too many (when the whole work is classified, there will probably more than 20 000 entries for 641.5 ›Cooking‹), users can go to a point deeper down in the system, such as, for example, 641.7 ›Specific cooking processes and techniques‹ or 641.8 ›Specific kinds of composite dishes‹. Double clicking on the class shows the corresponding lemmata in the left-hand column of the right window and a click on the lemma leads to the corresponding article. Sometimes, one article gives two, three or more DDC numbers, as in ›Abschäumung‹ (skimming off), depending on its content. A glimpse at what is written there makes it clear why it is accessible not only via ›Cooking‹, but also for domains like 667 (cleaning, colour, coating and related technologies) or 668.12 (soaps).

Talking about the ›tree of knowledge‹ almost automatically leads to the article ›Ast‹ (bough, limb or branch), that has been classified 575 (specific

parts and physiological systems in plants) and 634 (orchards, fruits, forestry). For 575 there are 157 hits that are shown in the left-hand column of the window on the right:

In this way, users of the online edition of this work can discover other »specific parts and physiological systems in plants« treated in the encyclopaedia like, for example, the ›Aubier‹, the not-entirely-developed white wood between the outer bark (cortex) and the heart (or duramen) of a tree. Historians and linguists as well as historians of literature and culture will be glad to find information of this kind, that cannot be found elsewhere (aubier has never been lemmatised in any other German dictionary, even the Grimm brothers ignore it). As the whole Krünitz material has been fed into several search engines, the risk that this information will get lost in the deeper recesses of the Web (where Google, Lycos and Yahoo don't penetrate) has been minimised.

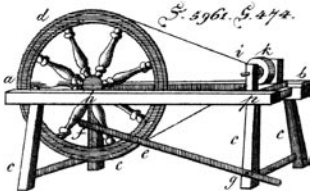
As ›the whole Krünitz material‹ includes the iconographic material of the original edition, it was treated in the same way as the lemmata and made searchable, as well as using verbal search entries drawn from the text of the encyclopaedia, also using DDC classification numbers.

As Screenshot 3 above shows, iconographic material is automatically implicated in DDC researches (the hit list on the right side gives quite a number of pictures, recognised by the abbreviation Fig. (for figure). But the Krünitz interface also allows for searches of iconographic material. At the top of the left-hand window, supplementary search options can be activated: Pictures (Abbildungen) and Full text search (Volltextsuche). Screenshot 4 shows the result of a picture search for bee-keeping (Imkerei): among others, it shows an illustration of an interesting technique of bear-hunting. Krünitz had probably discovered it in an edition of the Gentleman's Magazine and immediately incorporated it into his book:

Licet sapere sine pompa, sine invidia

Krünitz' personal device, as it is given in his introductory remarks to the 4th volume of his Ökonomisch-technologische Enzyklopädie (1774). It comes from Seneca's Epístolae morales ad Lucilium (ep. 103) and means, that it is possible to be wise and reasonable without ostentation and envy. Seneca advises Lucilius to turn to philosophy, but to do it without affectation. The same device is cited by Montaigne (Essais, Livre 1, chap. 25):

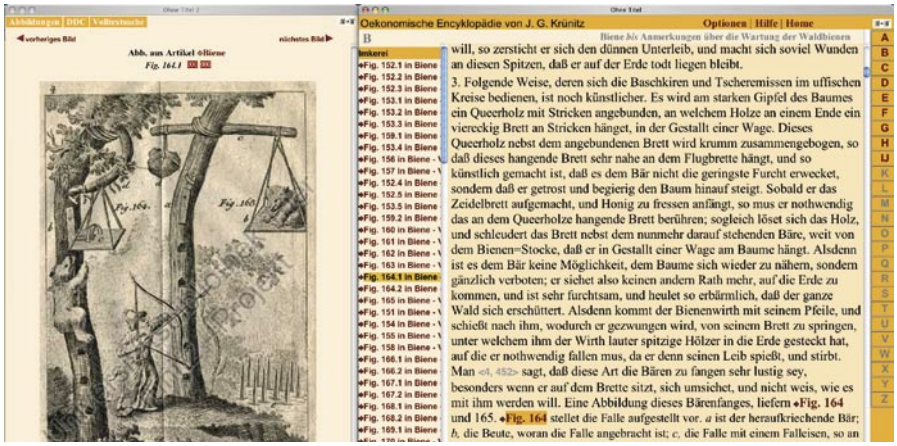
En cette escole du commerce des hommes, j'ay souvent remarqué ce vice, qu'au lieu de prendre cognoissance d'autruy, nous ne travaillons qu'à la donner de nous : et sommes plus en peine d'emploiter nostre marchandise, que d'en acquerir de nouvelle. Le silence et la modestie sont qualitez tres-commodes à la conversation. On dressera cet enfant à estre espargnant et mesnager de sa suffisance, quand il l'aura acquise, à ne se formalizer point des sottises et fables qui se diront en sa presence: car c'est une incivile importunité de choquer tout ce qui n'est pas de nostre appetit. Qu'il se contente de se corriger soy mesme. Et ne semble pas reprocher à autruy, tout ce qu'il refuse à faire: ny contraster aux moeurs publiques. Licet sapere sine pompa, sine invidia.



Krünitz Vol. 100 (1805), Fig. 5691, Article ›Nadel‹ (Needle): Maschine zum Anspitzen von Nadeln.

Krünitz Vol. 100 (1805), Fig. 5972, Article ›Nadel‹ (Needle): Schere, um den Knopfdraht in mehrere Knöpfe zu zerschneiden.

Krünitz Vol. 100 (1805), Fig. 5973, Article ›Nadel‹ (Needle): Feile.



Summing up, it can be said that the DDC, even if not intended for this purpose, allows classification of a huge body of lexicographic data in a rather logical way. It is commonly known and, even if it does not look easy at first glance, is actually relatively simple to understand. In the United States, it is used in children's libraries and taught to them. Its hierarchic structure permits classification of highly complex historical material in descending order of detail. Its numeral structure makes it independent of language and also allows it to be combined with hundreds of languages. The online version of Krünitz' Encyclopaedia will make it usable, really usable, perhaps for the first time in over 200 years.

Dr. Hans-Ulrich Seifert | Trier University Library

Thanks to Ania Dardas from words & web for making this bitter batter better.

Résumé

Parmi les nombreux ouvrages encyclopédiques du 18ième siècle, l'Encyclopédie économico-technologique de Johann Georg Krünitz (1728–1796), 242 volumes avec plus de 140 000 pages et presque 10 000 illustrations parus entre 1773 et 1858, occupe une place particulière. L'envergure de l'entreprise et sa longue période de publication la rendent unique, mais aussi difficile à aborder. Des informations appartenant à des centres d'intérêt déterminés sont disséminées à travers l'ouvrage entier sans que des renvois systématiques permettent de repérer les entrées qui forment un ensemble thématique. C'est pourquoi les éditeurs de la version numérisée du ›Krünitz‹ ont eu recours à la Classification Décimale dite de Dewey (DDC), développée vers 1876 pour des besoins de classification en bibliothèques et devenue aujourd'hui le système classificatoire le plus répandu de son genre, pour faciliter l'accès aux contenus multiples de l'Encyclopédie économico-technologique. A côté des voies d'accès classiques d'ouvrages de référence en ligne (liste des lemmes, recherche plein texte, etc.), le ›Krünitz‹ (texte et images) peut être exploré à partir des dix classes de base de classification décimale en suivant les ramifications de plus en plus fines de cet arbre des sciences qui sort des pépinières d'outre-mer du 19ième siècle mais qui se prête parfaitement aux besoins de recherche de l'ère numérique. L'article trace brièvement l'histoire de la publication de l'ouvrage de Krünitz et en décrit la structure principale. S'y ajoute une explication des fonctions élémentaires du système classificatoire de Dewey et la présentation de son application dans la version numérisée de l'Encyclopédie économico-technologique.

Allgemeinwissen und Gesellschaft. Akten des internationalen Kongresses über Wissenstransfer und enzyklopädische Ordnungssysteme, vom 18. bis 21. September 2003 in Prangins

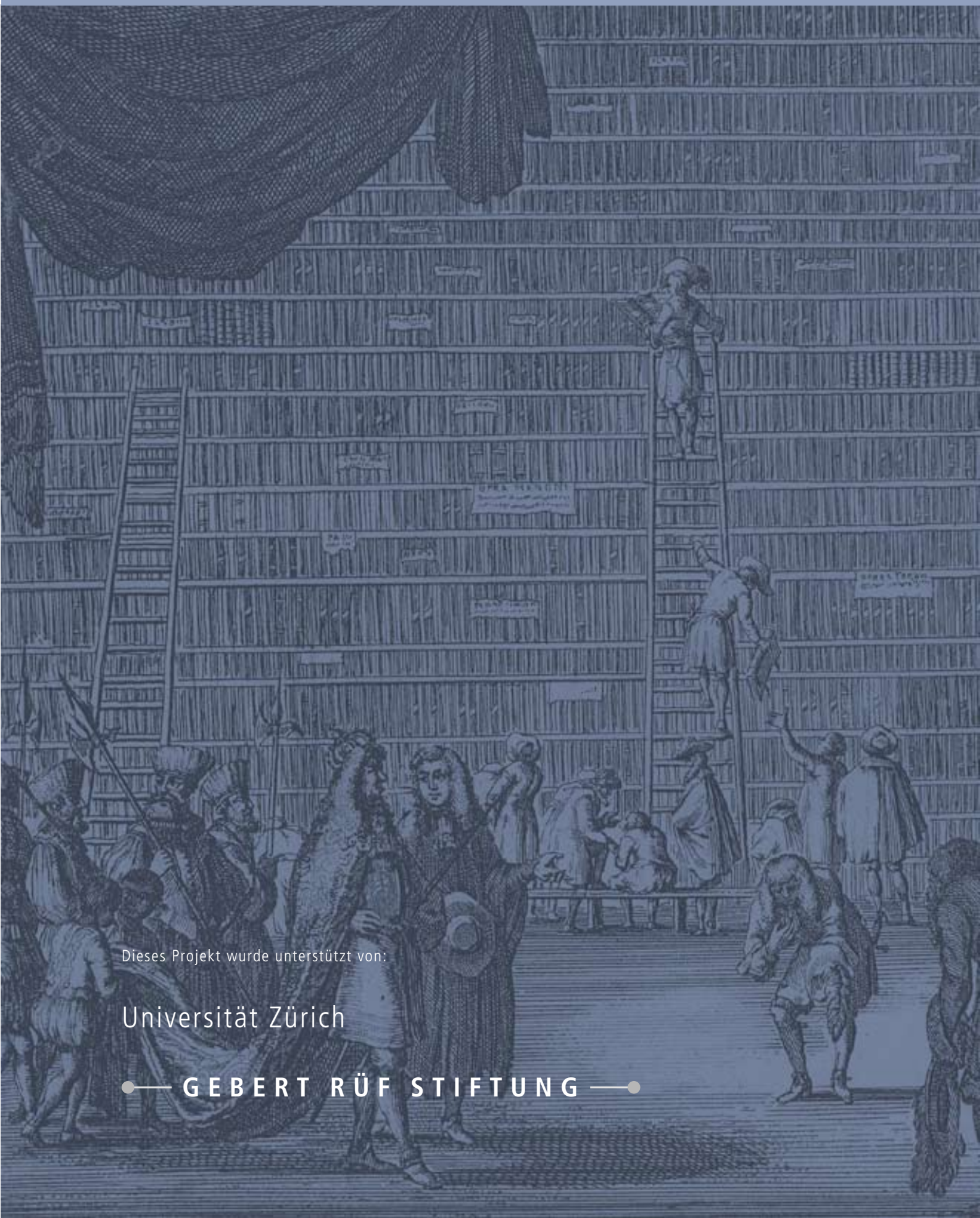
»Allgemeinwissen« ist ein gesellschaftliches Konstrukt, dessen Nachfrage ebenso erfunden ist wie seine Inhalte und die Formen seiner Anordnung – aber wer sind die Akteure im Prozess der Vermittlung von Wissen, Bildung und Information und in welchem Verhältnis stehen sie zur Gesellschaft? Der Band diskutiert die Problematik »Allgemeinwissen« am Beispiel einer scheinbar stabilen und angeblich einheitlichen Form des Wissens: den Enzyklopädien. Wie sich diese Medien des Kulturtransfers verändern, wie sie mit dem Dilemma umgehen, einerseits stabiles und andererseits aktuelles Wissen zu reproduzieren, ist Gegenstand einer Debatte, die sich weder auf die Enzyklopädien der Neuzeit noch auf ausschließlich europäische Beispiele beschränkt. Enzyklopädien tragen zur Popularisierung von Werten und Ideen im Alltäglichen bei, und ihre Erforschung erlaubt es, die Verbreitung von gesellschaftlichen und politischen Ordnungsvorstellungen nachzuvollziehen. Die Beiträge sind interdisziplinär und global vergleichend konzipiert, sie untersuchen Verlegerdynastien, fragen nach dem Einfluss von Zivilgesellschaften und thematisieren die Rolle politischer Machthaber bei der »Bildung« von Gesellschaften. Die nationalstaatlichen Interessen im Entstehungsprozess von Enzyklopädien in Indien und Australien stehen demnach ebenso zur Debatte wie die in die Antike zurückreichenden Vorstellungen, wie Wissen geordnet sein sollte. Die Mechanismen der Zensur in Frankreich des 18. Jahrhunderts wie auch Formen des Sammelns und Ordnens in demokratischen und totalitären Systemen der Neuzeit werden genauso berücksichtigt wie die Frage, durch welche deontologischen Grundprinzipien die Suche nach Wissen gelenkt wird.

All you need to know. Proceedings of the international congress on knowledge transfer and encyclopaedic ordering principles: Prangins, 18–21 September 2003

»General knowledge« is a social construction. All its aspects, ranging from the need for it, to its content and its forms of organisation, are invented. But who are the protagonists in the process of transfering knowledge, education and information and what is their role in society? This volume discusses the issue »general knowledge« using the example of an apparently stable and supposedly consistent form of knowledge: encyclopaedias. Questions like how these medias of cultural transfer change through time, how they deal with the dilemma of reproducing stable and at the same time current knowledge are treated through a wide range of examples, including non-European and non-modern texts. Encyclopaedias contribute to the popularisation of values and ideas in everyday life, and research on encyclopaedias can reveal notions about social and political order. The articles are designed to be interdisciplinary and comparative on a global scale. They examine publishing dynasties, enquire about the influence of civil societies and deal with the role of political rulers in efforts to »educate« societies. The interests of nation states in the production of encyclopedias in India and Australia are debated along with ideas dating back to the ancient world on how knowledge should be organised. Mechanisms of censorship in 18th century France and ways of collecting and organising knowledge in democratic and totalitarian systems of modern times are considered just like the question, through which deontological principles the search for knowledge is regulated.

Les labyrinthes du savoir. Actes du congrès international sur la transmission du savoir et les principes d'ordre encyclopédiques, 18–21 séptembre 2003 à Prangins

Le concept de »culture générale« est une construction humaine. Ses exigences, ses contenus et la forme de sa présentation sont des produits artificiels – mais qui sont les acteurs dans cette transmission du savoir, de la culture et des informations et quel rôle jouent-ils dans une société? Le volume présent pose ces questions liées à la »culture générale« à partir d'un exemple du savoir accumulé que l'on croit acquis et uniforme: les encyclopédies. Quels transformations ont subi ces médias du transfert culturel? Comment ont-ils géré le dilemme d'être à la fois garant d'un savoir acquis sans pourtant négliger l'actualité? Ce débat ne se limite ni aux encyclopédies des temps modernes ni aux exemples européens. Les encyclopédies apportent dans la vie quotidienne des systèmes de valeurs et des concepts intellectuels; leur analyse permet de reconstituer la diffusion des systèmes de classification d'ordre social et politique. Les contributions reflètent une approche interdisciplinaire et comparative au niveau global. Ainsi elles analysent des dynasties d'éditeurs, l'influence de la société civile ou du pouvoir politique sur le concept de »culture générale« d'une société. Le débat s'ouvre sur des thèmes aussi variés que les intérêts nationaux dans la création d'encyclopédies en Inde ou en Australie, les concepts de classification remontant à l'antiquité, la censure dans la France du XVIIIe siècle et les différentes formes de donner un ordre aux collections dans des régimes démocratiques et totalitaires. Enfin, nous trouvons la question cruciale de savoir quels sont les principes déontologiques qui nous dirigent dans notre recherche du savoir.



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