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WAYS OF LIFE, COMMUNICATION AND THE DYNAMICS OF WORD USAGE

How did German dictionaries cope with socio-cultural aspects and evolution of word usage and how could future systems do even better?

Abstract Words and their usages are in many cases closely related to or embedded in social, cultural, technical and ideological contexts. This does not only apply to individual words and specific senses, but to many vocabulary zones as well. Moreover, the development of words is often related to aspects of socio-cultural evolution in a broad sense. In this paper I will have a look at traditional dictionaries and digital lexical systems focussing on the question how they deal with socio-cultural and discourse-related aspects of word usage. I will also propose a number of suggestions how future digital lexical systems might be enriched in this respect.

Keywords Digital lexical systems; extended search; vocabulary organization in dictionaries; forms of representation in digital lexicography

1. Introduction

Word usages and their development as well as the organization of the lexicon and its dynamics are both intimately related to aspects of social and cultural evolution in a broad sense. Institutional structures, the evolvement of topics, cultural contacts, new technologies etc. are mirrored in a complex way in our modes of communication and the words we use thereby. Considering the relationship between word usage and this complex architecture of multiple aspects of ways of life and given the historical evolution of almost all aspects of this interrelation, one can ask:

- How did traditional dictionaries of German cope with both the structure and the evolution of word usages in their socio-cultural settings?
- In this respect, what might be fruitful perspectives for future digital lexical systems?

In this paper, I should like to proceed in three steps: First, I should like to give an overview of the interrelatedness of ways of life (“culture”), word usage and their evolution over time. I will discuss this aspect using examples from both modern times and the history of the German language (section 2). Secondly, I should like to demonstrate how different aspects of culture and cultural evolution have been treated (or have *not* been treated) in dictionaries of German (section 3). Thirdly, I should like to give examples and propose suggestions of how future digital systems might improve the documentation and the analysis of word usage and lexical groups in the context of culture and cultural evolution (section 4).

2. Ways of life (“culture”) and word usage: interrelations and evolution over time

Word usage and its dynamics are intimately related to social, political, cultural and intellectual structures and to changes in all major aspects of ways of life (Wittgenstein’s “Lebensform”, ‘way of life’).¹ This is true not only for individual words but also for “zones” of vocabulary that can be grouped according to different socio-cultural and communicative criteria. Take, e. g., nutrition, health, sports, sex, technology, the “ecology” of ideas, controversial public topics like immigration, abortion, nuclear energy or climate change, views on beauty or health, tourism, economic developments, the world of labour, aspects of gender and the relation of men, women and persons with other identities, forms of clothing, the things we use in everyday life and so on. Moreover, there are words used for specific communicative functions, e. g. evaluation in film reviews (*grandios* ‘grandiose, magnificent’) or means of politeness (*freundlicher Weise* ‘kindly, please’, *gefälligst* ‘please, by courtesy’), which may change over time. And then there is a plethora of traditional lexicological aspects like word formation, the spatial profile of words, the question of the history of foreign words, semantic relations (e. g. *Vetter* and *Cousin* ‘cousin’), words that are adopted from languages for specific purposes, etc. Most of these lexicological aspects and their dynamics can have a “cultural” background as well.

I will now illustrate these points with several examples for relations between the socio-cultural and the lexical. Some are fairly obvious, others might not be trivial, some are meant to show that the aspects of the socio-cultural and the communicative are intertwined in an intricate way.

The first example highlights the vocabulary of public administration. In the annual report 2015 of the psychiatric clinic for children and adolescents of the “Kanton” Zurich, Switzerland, there is a preface, which was signed:²

- (1) **Regierungsrat Dr. Thomas Heiniger**
Gesundheitsdirektor Kanton Zürich

A common understanding of the key expressions in this signature is that *Regierungsrat* is an expression for a certain rank in a system of public administration and that *Gesundheitsdirektor* is used to refer to a specific function in the medical sector of Swiss public administration. Moreover, we can infer that the role of a Swiss *Gesundheitsdirektor* is somehow related to the political unit “Kanton” in Switzerland. What readers not familiar with the Swiss administration and its political system probably do not know: What exactly is the position of this rank in the system of ranks? What exactly are the function, the rights and duties, etc. of a *Gesundheitsdirektor* and how does the structure of the surrounding medical administration look like in which this role is embedded? Obviously, contributing prefaces is one of his/her duties, but what else is he or she responsible for? The question “What is an X?” is closely related to “How is the word X used?” In a lexical system, we would probably not expect to find all answers to the abovementioned questions, but we expect at least basic information

¹ “Das Wort ‚*Sprachspiel*‘ soll hier hervorheben, daß das Sprechen der Sprache ein Teil ist einer Tätigkeit, oder einer Lebensform” (Wittgenstein 1969, pp. 300 = PU §23); (The word *Sprachspiel*, ‘language game’ here is meant to emphasize that the speaking of language is a part of an activity, or a *Lebensform*, a way of life). For a systematic exposition cf. Hacker (2011).

² *Regierungsrat* refers to a high official in public administration; *Gesundheitsdirektor* refers to the chief official of the public health administration in a Swiss Canton.

on what a *Gesundheitsdirektor* is and how the word was used in space, time, different text types, etc. Consider a further example, Uwe Johnson's "Mutmassungen über Jakob" (1959): In speaking about the (dead) protagonist's profession, the author uses the word *Dispatcher*. Today's reader might want to know whether this was Eastern German or if this word was just from some earlier era of railroad transportation. This kind of information can be crucial in analyzing the lexical profile of literary works and how they relate to social and cultural aspects. A further example from administrative language in a literary text is Musil's use of *Sektionschef*, which poses similar questions related to early 20th century Austria.

Broadening the view from single words to vocabulary zones, we can ask for the vocabulary related to public administration and where we might find it. One of the German language sources for this field is the periodical "Behörden-Spiegel", which is devoted to a broad range of topics relevant for the organization of public affairs. The journal is available both on its website and in pdf format on issuu.com. Usually, the work and the language use of public administration does not appear on the radar of citizens as long as things run smoothly. However, making things run smoothly in the public sphere requires a lot of communication. Looking at one issue of the "Behörden-Spiegel" (2022–04), we find words like the following, which for a start I present in an unordered list as they came along while reading:

- (2) *fahrradfreundlich, netzwerkfähig, Digitalisierung, Resilienz, Sperrmüll, Multimobilität, Geschäftsbereichsleiter, Teamleiterin, zeitnah, Beschwerdeverfahren, Open Source, Best Practices, Bürgerdienste, Videokommunikation, Chief Executive Officer, CEO, Cyber-Angriff, repräsentative Umfrage, Steuerbetrügereien, Steueridentifikationsnummer, Dienstunfall, Arbeitsunfall, Dienststelle, Changemanagement, Fallbearbeitung, Nachrichtendienst, Verwaltungsvereinbarung, Cloud, Interimslösung, Großschadenlage, Einsatzkommunikation, Transportflugzeug, Transformation, desolat.*³

On closer inspection, we recognize certain internal lexical fields, e. g. for topics around the digital (*Open Source*), for aspects of the internal organization of public administration (*Changemanagement*), in respect of different task sectors like civil security and protection (*Großschadenlage, Cyber-Angriff*) or tax administration (*Steueridentifikationsnummer*) and also expressions for goals (*Multimobilität*). Most of these and other fields have a long history, e. g. the social organization of unemployment. Consequently, there is a textual cosmos and a specific vocabulary sector related to this topic since the second half of the 19th century. Obviously, dictionaries are not ideal instruments for analyzing the structure or narrating the history of whole vocabulary zones, but they may serve as the place for the documentation of the words that are part of a structural analysis or a historical narrative in some kind of monographic form.⁴

I now turn to a second example for the relatedness between word usage and socio-cultural aspects, which highlights the connection between word usage and public debates about

³ DeepL provides the following equivalents: *bike-friendly, network-enabled, digitization, resilience, bulky waste, multi-mobility, business unit manager, team leader, timely, grievance process, open source, best practices, citizen services, video communications, chief executive officer, CEO, cyber attack, representative survey, tax fraud, tax identification number, service accident, work accident, office, change management, case management, intelligence, stewardship agreement, cloud, interim solution, major incident, mission communications, transport aircraft, transformation, desolate.*

⁴ Cf. the combination of monograph and dictionary component in the discourse projects of Heidrun Kämper, e. g. 2012 (monograph) and 2013 (dictionary) on the German discourse on democracy in the late 1960s. An earlier example for such a combination is Schirmer's (1911) historical dictionary and lexicological monograph ("mit einer systematischen Einleitung") on the language and vocabulary of merchants.

controversial topics. It is one of the crucial assumptions in the linguistic study of discourses on public topics that the use of specific words plays a crucial role in formulating and supporting positions, in propagating views and in following specific goals in a controversy. The team around Georg Stötzel and Martin Wengeler (e. g. 1995) has provided many studies on forms of discussing controversial topics in post-WWII history like military rearmament, immigration, nuclear energy, sexuality or abortion. Heidrun Kämper conducted four projects on word usage in times of change,⁵ thereby developing a specific format with an organized combination of a monography and a discourse dictionary. The dictionary components are available within the IDS's lexical portal (www.owid.de).

While the methodology of investigation on word usage in controversial discourse is well established and we have quite a number of good case studies, there is still a lot of work to be done regarding the discourse characteristics of many words. E. g., at present, there are no fully developed dictionary entries⁶ for the word *Generationengerechtigkeit* ('intergenerational equity') which is a core word in a number of controversial topics.⁷ However, the open DWDS corpora provide more than 500 instances, the corpora at the IDS and the DWDS, that are available after registration provide several thousands of instances. In addition, there are Google results, which are not quantifiable in a reliable way. More importantly, Urban/Ehlscheid (2020, p. 25) write in "Aus Politik und Zeitgeschichte", an important periodical on political research and education:

„Generationengerechtigkeit“ ist eine Kernvokabel der zeitgenössischen Debatte über Gegenwart und Zukunft des Sozialstaates. Begriffe wie „Generationensolidarität“ und „Generationenkrieg“ bilden einen Rahmen, innerhalb dessen sich eine Vielzahl von Deutungen der Generationenverhältnisse bewegt. Dabei stehen der Generationen- und der Gerechtigkeitsbegriff selbst in den an umstrittenen Begriffen reichen Sozialwissenschaften und der Philosophie hervor.⁸

In order to write a fully-fledged article on discourse vocabulary like *Generationengerechtigkeit* it takes more than giving a definition and it is an open question how the suggestions of discourse dictionaries or narrative lexicography can be adopted for general dictionaries or "all purpose" digital lexical systems (see section 4).

My third example comes from the arts; it highlights several aspects of the German vocabulary of jazz and its evolution (cf. Gloning 2022). Roughly speaking, the history of jazz music in the German speaking countries began in the 1920s. While some were enthusiastic about jazz, it was also the object of acidic verdicts (*Negermusik*). Since the 1950s new styles of playing evolved with new loan words like *Cool Jazz*, *Bebop* or *Fusion*. In many cities an infrastructure was developed (*Jazzkeller*, *Jazzclub*, *Jazz matinée*). But most importantly, the artistic and social developments were accompanied by a growing body of texts, e. g. a dedi-

⁵ Demokratiediskurs 1918–25; Schulldiskurs 1945–55; Protestdiskurs 1967/68; Schlüsselwörter 1989/90.

⁶ In the Duden portal one finds the following explanation of the meaning of the word: „gerechter Ausø gleich der zu tragenden gesellschaftlichen Lasten (z. B. Rentenbeiträge, Staatsverschuldung) zwischen den Generationen (2)“ (22.7.2022).

⁷ The article "Generationengerechtigkeit" in Wikipedia includes information about discourse developments and its chronology but not a systematic documentation of word usage in German. Cf. Deutsch (2022) for reflexions on the role of specialized lexicography in times of Google and Wikipedia.

⁸ DeepL translates: *Generational justice* is a core vocabulary of the contemporary debate on the present and future of the welfare state. Terms such as *generational solidarity* and *generational war* provide a framework within which a variety of interpretations of generational relations operate. In this context, the concepts of generation and justice stand out even in the social sciences and philosophy, which are rich in controversial terms.

cated journal like the “Jazz Podium” or the “Jazz-Buch” (1953) by Joachim Ernst Berendt, one of the first of early overall presentations of jazz in German. The systematic organization of Berendt’s book comes with a rich body of vocabulary items, which mirrors the “system” of jazz and its positions, e. g. expressions for kinds of musicians (*Tenorsaxofonist*), for instruments (*Klarinette*), for genres (*Ballade*) or aspects of musical theory (*Offbeat*). Some of these words, e. g. *Klarinette*, are not restricted to the field of jazz, but they are indispensable when writing about jazz, other words like *Ballade* have jazz-specific senses. Again, the role of loan words, foreign words and of word formation becomes evident for the development of jazz vocabulary. Radio and TV broadcasts, feuilleton articles and specialized websites equally contribute to a rich communicative cosmos of jazz with a broad and well-organized vocabulary. Similarly, these kinds of interrelations between artistic, social, textual, medial and lexical developments can be studied in other fields as well (e. g. theatre, painting, dance). E. g., the praxis of artistic dancing has changed and this was mirrored in the history of its vocabulary. A word like *Ausdruckstanz* (‘expressive dance, expression dance’) refers to one of the ‘new’ directions of 20th century artistic dance. The word *Laban-Notation* or *Labanotation* was used for a specific notation system for dance movements, invented by Rudolf von Laban in the 1920s. The history of a cultural field is also the history of its vocabulary.

Other examples could be given from technology, medicine, politics, military and military technology, sports, gender topics, beauty ideals, sexuality, food and nutrition, tourism, knowledge systems of all kinds, and many others in respect of both their current state as well as their historical manifestations. They all would show that almost all aspects of our culture, our “ways of life” are intricately related to word usage, but in different ways. In addition, many of these fields show an evolutionary dynamic regarding the relation of expert usages and the use in more popular contexts.

3. Word usage, culture and cultural evolution in dictionaries of German

I shall now have a look at some of the dictionaries and digital lexical systems⁹ of German and ask how they deal with these social, cultural and discourse related aspects of word usage. Here, one can take two different perspectives.

- a) First, one can start from the dictionaries and ask what they (can) contribute in respect of the relation of word usage to social and cultural aspects, also in an historical perspective.
- b) Secondly, one can look from specific words, senses or vocabulary zones and ask what different dictionaries (can) contribute to their description and to the documentation of their social and cultural aspects.

Looking from either perspective, there are four questions: 1) (How) Are words and senses pertaining to social, cultural and discourse developments documented in German dictionaries? 2) Are the social, cultural, discourse-related aspects of the use of words part of their description and documentation? 3) Do we get information on the interrelations between words within specific cultural, social or discourse-related vocabulary zones? 4) Are there ways of searching for or addressing specific vocabulary zones and the words that are their elements?

⁹ On the conception of Digital Lexical Systems see the seminal article by Klein (2004).

However, in answering such questions we must be aware of what we cannot reasonably expect from dictionaries or from digital lexical systems in their current form. This caveat will lead to the question what might be new features of next generation systems (section 4).

3.1 (How) Are words and senses pertaining to social, cultural and discourse developments documented in German dictionaries?

It is obvious that in this article I cannot answer such a complex question in a straightforward and exhaustive manner. Therefore, I should like to mention only some aspects that are pertinent to this question.

One of the most important questions for users is: Do I find a word I am looking for, e. g. the word *Generationengerechtigkeit*? Now it is easy and cheap to say that certain words are missing in dictionaries and digital lexical systems. Nevertheless, I have to say that as of May 2022 I did not find the word in OWID, in DWDS nor in other sources. However, if one does not find a specific word in the dictionary components, the digital lexical systems at the IDS and the BBAW will at least provide corpus findings that allow users to investigate the word usage her- or himself. Furthermore, in a digital environment it is possible to add new articles on an (almost) daily basis. Interactive web elements can invite users to propose new articles they are interested in. If we compare the situation with the “Deutsches Wörterbuch”, there is, e. g., no article on *Naturschutz*. The topic was not yet relevant in the years before 1889, when Matthias von Lexer worked on the N-articles. It developed to a complex discourse topic during the 20th century, an article *Naturschutz* is now available via zdl.org. This example shows that digital systems allow for a more timely reaction if it becomes apparent that a key term of a public discussion is not yet available. Digital systems also allow for interactive article management if the project teams want to implement such an option.

Apart from cases where one does not find a word in question, there are many examples for words and senses pertaining to social, cultural and discourse aspects that *are* explained and documented in different dictionaries or digital lexical systems. If, however, one looks for specific lexical fields, it is difficult to determine, whether the words and senses related to specific socio-cultural fields or aspects are documented in a systematic way. The work on the structure and the development of the Covid vocabulary at both the IDS and the DWDS has shown what it takes to document one vocabulary zone systematically over two years. So far, we have no publicly available instruments to check, if the words related to HIV/AIDS and many other topics are covered in a systematic way in our dictionaries and lexical systems.

There is another aspect where traditional lexicographical practices and the demands of describing and documenting social, cultural and discourse-related vocabulary are in conflict. Traditionally, word formations, which may be understood compositionally, were often not documented in dictionaries, even if they had a specific function and it would have been interesting, e. g., to document the time frame of usage in relation to topic careers. The expression *Dieseldesaster*, it seems, had a short career during the public discussion of VW’s scandal about the manipulation of technical data. The term *Scud-Rakete* is another example for words that are related to specific fields of discourse. The career of military topics in public discourse is the basis of frequency profiles of words like *Scud-Rakete*, *Patriot-Rakete* or *Panzerhaubitze*. Lexical systems with a corpus component provide users with information about the use of a word, even if there is no fully-fledged article. In dwds.de, there is an article

Panzerhaubitze,¹⁰ both [dwds.de](https://www.dwds.de) and [owid.de](https://www.owid.de)¹¹ have a number of corpus quotations mostly from newspapers.

It is a task for future metalexicographical work to determine to what extent dictionaries of German cover different social, cultural or discourse-related vocabulary zones. One strategy to analyze the coverage of specific fields in dictionaries and lexical systems is the following: First, compile a body of texts which represent the field in question. Secondly, based on these texts make a list of words and/or senses that seem relevant. Thirdly, compare your list with what you already find in the dictionaries and lexical systems. Fourthly, decide and explain what is reasonably left out in the dictionaries (according to their or your criteria) and what is missing. To give a first example from military technology, a field with a very long history: In the 1980s the “Militärverlag der Deutschen Demokratischen Republik” published several booklets (“Militärtechnische Hefte”) on subfields of military technology like “Kanonen und Haubitzen”, “Panzerabwehr” or “Jagdflugzeuge”. The whole series and its items mirror the knowledge system about military technology which in turn brings about a well-structured vocabulary with categories like (types of) military weapons (e.g. *Panzerabwehrlenkrakete*; *Granatwerfer*, *Panzerhaubitze*), types of persons (e.g. *Richtkanonier*), properties of military weapons (e.g. *Kaliber*, *Feuerkraft*) and many others. Such texts can be used to get an overview of the “specialized” side of knowledge fields and their vocabularies. To give a second example: between 1870 and 1930 there were many different reform movements with their respective textual cosmos and a specific vocabulary. A handbook on these movements (Kerbs/Reulecke 1998) combines a short portrait of the main protagonists and ideas with a short bibliography of important texts of each movement. One of these movements was vegetarianism. Since aspects of food and nutrition loom large in present day debates, a diagnosis of how the earlier stages of such discussions are documented in our dictionaries and digital lexical systems might take advantage of such a handbook. I will come back to the question of the coverage and accessibility of words and senses from a specific vocabulary zone in section 3.4.

3.2 Are the social, cultural, discourse-related aspects of the use of words part of their description and documentation?

There are many examples of German dictionaries containing articles on words with a specific social or cultural background. However, sometimes articles fail to explain and to make explicit this background. E.g., searching for *Lauberhüttenfest* and *Laubhüttenfest*, an expression referring to a religious holiday in the Jewish tradition, the DWb only provides two quotations and no descriptive text. FWb-Online refers to the article *laubhütte* (‘aus belaubten Zweigen gebaute Hütte, zumeist zum Zwecke des Laubhüttenfestes errichtet’)¹² where knowledge about the Laubhüttenfest and its cultural context is presupposed but not explained. The site [woerterbuchnetz.de](https://www.woerterbuchnetz.de)¹³ provides access to an article in “Meyers Großes Konversationslexikon” (6th edition, 1905–1909) with encyclopedic information. The article *Laubhüttenfest* in [dwds.de](https://www.dwds.de)¹⁴ gives an example how cultural aspects can be made explicit:¹⁵

¹⁰ <https://www.dwds.de/wb/Panzerhaubitze> (last access: 19-06-2022).

¹¹ <https://www.owid.de/artikel/224321> (last access: 19-06-2022).

¹² DeepL translates: *hut built from leafy branches, mostly erected for the purpose of the Feast of Tabernacles.*

¹³ <https://woerterbuchnetz.de>.

¹⁴ <https://www.dwds.de/wb/Laubhüttenfest>.

¹⁵ DeepL translates: *Jewish religion -- seven-day festival celebrated by Jews in September or October to commemorate the Exodus of the Israelites from Egypt. -- Synonymous with Sukkot -- The festival is*

Bedeutung DWDS-Vollartikel

▼ **jüdische Religion** im September oder Oktober von den Juden begangenes siebentägiges Fest, das an den Auszug der Israeliten aus Ägypten erinnert **Das Fest wird vom 15. bis 21. Tag des ersten Monats des jüdischen Mondkalenders (Tischri), fünf Tage nach Jom Kippur, mit Errichtung einer provisorischen Laubhütte, in der gegessen und gegebenenfalls genächtigt wird, und weiteren Bräuchen begangen.**

Synonym zu [Sukkot](#)

KOLLOKATIONEN:

mit Adjektivattribut: das jüdische **Laubhüttenfest**

als Akkusativobjekt: das **Laubhüttenfest** feiern

als Genitivattribut: der Beginn des **Laubhüttenfests**

BEISPIELE:

So erinnert das **Laubhüttenfest**, das auf den 15. des siebten [religiösen, bzw. weltlich ersten] Monats festgelegt ist, an die Wüstenwanderung nach dem Auszug der Israeliten aus Ägypten und das Wohnen in Laubhütten[...]. [Badische Zeitung, 09.07.2013]

Bei öffentlichen Treffen mit Interessierten soll es [...] um jüdisches Leben und jüdische Feste gehen – etwa um Pessach, das eng mit dem christlichen Osterfest verwoben ist, oder das **Laubhüttenfest**. [Saarbrücker Zeitung, 12.12.2020]

Im Judentum gab es zwei Erntefeste im Jahreskreislauf: das Pfingstfest als Getreide-Erntefest und das **Laubhüttenfest** als Wein- und Gesamt-Erntefest. [Mittelbayerische, 02.10.2020]

... [3 weitere Belege](#)

What does it mean to describe and to document social, cultural or discourse-related aspects of the use of words and their senses in dictionaries or digital lexical systems? Which elements of articles may be used for these purposes? In the first place, the definitions and further descriptions of aspects of the usage provide an opportunity to make these relations explicit. Secondly, there are techniques of explicitly relating a word or a specific sense to a specific cultural, social or discourse-related “entity” or field of language use, e. g. by using a descriptor like “Jüdische Religion”. Thirdly, it is essential, to give textual examples that show the relation to a specific cultural, social or discourse-related fields in the range of textual sources that are typical for the use of a given word or sense. This principle applies equally for the documentation of historical word usage. If most of the historical corpus quotations for a word like *Laubhüttenfest* come from anti-judaic sources, the corpus needs adjustment.

As for the aspect of documentation of word usage with textual examples, the question what texts are used for quotations is equally important. It seems to me that the strategy of using general, all-purpose corpora should be complemented by designing specific corpus components for specific social, cultural and discourse-related fields.

3.3 Do we get information about interrelations between words that belong to specific cultural, social, discourse-related vocabulary zones?

It is one thing to give information about social, cultural and/or discourse-related relations in a word article or in the article sections for specific senses of words. E. g., one can describe that a specific sense of Middle High German *trucken* (‘humorally dry’) is rooted in the sys-

celebrated from the 15th to the 21st day of the first month of the Jewish lunar calendar (Tishri), five days after Yom Kippur, with the erection of a temporary leaf hut in which to eat and, if necessary, spend the night, and other customs.

tem of humoral pathology and one can provide an explanation what the word means in old medical texts based on humoral thinking. It is a different task, however, to make clear in a dictionary or lexical system what the other words and senses are that belong to the same field. In printed dictionaries diasystematic predicates like “Jagdsprache” (‘language of hunting’) or “Medizin” (‘medicine’) are not searchable. In digital systems such predicates could be searchable, but in some cases they are not, e.g. the descriptor “jüdische Religion” in the article *Laubhüttenfest* in *dwds.de* is not. Following the link “Synonym zu *Sukkot*”, we find that the descriptor “jüdische Religion” is not yet part of the article *Sukkot*. But it is evident, that a kind of markup of articles or senses with searchable descriptors like “jüdische Religion”, “Jagd”, “Militärtechnik” and others is the way to go. This will allow to integrate social, cultural and discourse-related aspects in a system of faceted search in digital lexical systems.

Extending the perspective from the question “What are words related to X in a specific vocabulary zone?”, the next step is the question for these vocabulary zones, their elements and the ways they may be addressed in dictionaries and digital lexical systems.

3.4 Are there ways of searching for or accessing specific vocabulary zones and the words that are their elements?

Dictionaries do not usually provide search facilities to access specific vocabulary zones and their elements. This includes those zones that are specifically related to social, cultural or discursive aspects. There are, however, notable exceptions.

Both Hermann Paul and Friedrich Kluge had the idea of providing an index to the words in their historical dictionaries, and the groups they built included social and cultural aspects, the notion of public discourses was not on their agenda. The latest edition of Paul’s dictionary (2002) still includes the “Sachregister – Wegweiser zum Wortschatz” [Index – a guide to the vocabulary]. The criteria for grouping words together are manyfold, from types of linguistic development (e.g. “Bedeutungsgeschichte”) to languages for specific purposes, prominent authors and many others. The connection with social and cultural aspects is evident in groups like “Aberglaube”, “Amtssprache”, “Anrede”, “Begriffs- und Bedeutungsprägung” (with many entries on relevant key words for ideas and cultural items), “Bergmannssprache”, “Bildungssprache”, “Biologie”, “Bühnensprache”, “Computersprache”, “DDR”, “Demospruch/Losung”, “Derbes, Obszönes” (which includes a small portion of the lexis of sexuality), to name but a few examples. The groups of this “Wegweiser” are organized alphabetically, therefore this index does not provide a structural system of the social and cultural world which is mirrored in the structure of the vocabulary.

This brings us to the historical thesaurus built into the OED. Its hierarchical, taxonomic organization is meant to make explicit a certain view of the external world, the mind and of society. It is obvious that a clear-cut division of such “realms” is problematic, because an aspect like “Health and disease” is not only a group in “The external world” but includes many expressions that refer to medical ideas or to social aspects of health care. Nevertheless, we have here an attempt to provide a complex guide to categories and different levels of subcategories down to groups like “educational buildings” with subgroups like “college or university buildings” and its 49 entries. In German, we have no such historical thesaurus as part of one of the historical dictionaries, nor do we have such built-in tools in the dictionaries for modern German. What we do have though are onomasiological dictionaries like

the one by Franz Dornseiff, but they are not up to date and they are not interoperable given their idiosyncratic structures. There have also been discussions about the use of GermaNet as a part of WordNet, but the nodes in WordNet are not social, cultural or discourse-driven points of reference but terms that constitute so-called synsets. Nevertheless, this attempt to organize lexicological substance in a non-alphabetical way deserves our attention with respect to the possibilities of implementing network structures beyond the alphabetic organization in digital lexicographic systems.

In addition, several dictionaries focus on specific social, cultural or discourse-related aspects of word usage. I already mentioned the discourse dictionaries produced by Heidrun Kämper and her teams that are combined with monographic investigations. In these books and in the web dictionaries a specific discourse topic is the organizing framework for the choice of articles and for their organization, e. g. in respect of the “Schulddiskurs” in post-WWII Germany. A completely different example is Ernest Bornemanns “Sex im Volksmund” (1984), an attempt to document the sexual vocabulary in German in an alphabetically organized dictionary and to combine the dictionary with a thesaurus. The problem with this endeavor is that it was not based on documented examples of “real” language use. In a “funny” passage, Bornemann tells us the story of his project. At some point, all kinds of people suggested sexual words and phrases to him, including sexworkers, which are introduced in the dedication with names like *Fischbüchsenpaula* or *Kitzler-Witzler*.

Als die Barriere des Schweigens nach ein paar Jahren dann langsam abgetragen wurde, war der Informationsstrom allerdings kaum aufzuhalten. Am Telefon, an der Haustür, zu den erstaunlichsten Tages- und Nachtzeiten meldeten sich die erstaunlichsten Wesen, die meine Verwandten, Freunde und Nachbarn je erblickt hatten. (Bornemann 1984, unpag. Dedication)¹⁶

The construction of his “sexual thesaurus” is a good suggestion, if somewhat outdated in respect of the plurality of practices and new ways of thinking. More problematic is that there is no documentation for the lexical items from real word usage and that the material of the thesaurus is much broader than the items in the dictionary.

There are many more examples of publications that relate to specific aspects of the connection of word usage and cultural, social and discourse-related aspects in the history of German lexicography and lexicology, e. g. dictionaries for professional fields (e. g. Schirmer 1911; Kluge 1911) or monographs on economic sectors like forestry (e. g. Kehr 1964). Moreover, there are meta-lexicographical statements that emphasize the importance of the cultural and culture-pedagogical mission of German lexicography, most notably in the work of Oskar Reichmann (e. g. 2012).

4. Social, cultural and discourse-related aspects of word usage in next-generation lexical systems

As for the question: Can dictionaries (alone) with their alphabetical organization and with their “isolated” word-related articles alone provide cultural context and explain the complex lexical connections within cultural, social and discourse-related fields of word usage, it has become evident that it is possible to describe social, cultural and discourse-related aspects

¹⁶ DeepL translates: *When the barrier of silence was slowly removed after a few years, the flow of information could hardly be stopped. On the telephone, at the front door, at the most amazing times of the day and night, the most amazing beings ever seen by my relatives, friends and neighbors came forward.*

of word usage in current dictionaries and lexical systems of German, even if these options are not always used. Moreover, there are limitations that come from the alphabetical organization and word articles as the basic elements of dictionaries and lexical systems. Still, there are a number of possibilities to further improve digital lexical systems in this respect. I propose the following suggestions.

- 1) Describe word usages in ways that explicitly include the social, cultural and/or discourse-related background of specific “senses” of words. As an option, this is already available, but it should become a *general principle* in future systems to use these options in one way or another.
- 2) If available, give links to encyclopedic information that describes cultural fields in which word usages are embedded, in a more “holistic” way. E. g., in order to explain the Medieval and Early Modern senses of *trucken*, *kalt* or *feucht* in old medical texts in the tradition of humoral pathology, it will not be possible to explain the whole system in each article. What can be done in dictionary articles is to briefly explain the role of the relevant sense in a conceptual system, e. g. humoral pathology, and to point the readers to information, where this system is characterized in a coherent way (cf. Gloning 2005). The question of how individual words and senses can be related to their cultural “surroundings” in digital systems is a major concern.
- 3) In order to overcome the shortcomings of the principle of isolated articles one can enrich or combine the dictionary with contributions that focus on specific aspects of word usage across individual articles. These can consist of specific “glossaries” to current topics like the Covid developments that have been produced both at the IDS and the DWDS. Blog posts can be used to answer questions like “What are old and new expressions for professions in German and where do we find them?” Earlier I have suggested so-called “Wortschatz-Miniaturen”, small lexicological portraits that explain specific aspects of the structure and the history of vocabulary zones and that provide links to relevant dictionary entries (cf. Fritz 2020, p. 84 and chap. 2.12). This idea can be combined with thesaurus principles or with work that has been done in historical lexicology (e. g. Gloning 2003). The combination of discourse-related dictionaries and monographic investigations can be used for social and cultural aspects as well, e. g. in dissertation projects.¹⁷
- 4) A powerful system to overcome the limitations of alphabetic order is to use lexicological descriptors for different aspects of vocabulary organization for each sense of a word in a faceted search framework. E. g., if an entry like *Influencerin* (with only one sense) has descriptors like “expression for a profession”, “expression for a female person”, “english origin”, one can formulate queries like: “Show all entries that fit the criteria: ‘expression for a profession’ and ‘expression for a female person’ and ‘quotations from 1950–2022’”, which would produce results like *Influencerin*, *Putzfrau*, *Managerin*, *Dramaturgin* and many others. This technique is much more flexible than the use of thesauri or ontologies, because it allows to combine criteria in different sets.¹⁸

¹⁷ Two Gießen projects may serve as examples, the work of Anna Pfundt on word usage in debates about women’s suffrage around 1900 and Andre Pietsch’s project on word usage in early texts on film and cinema.

¹⁸ This is not to say that ontologies are not useful: E. g. the huge Krünitz encyclopedia from the 18th century has been enriched in woerterbuchnetz.de by markers that refer to the Dewey classification which is extremely helpful. – For an example of extended search facilities beyond the alphabet see the IDS portal on loan words from German in other languages at: <http://lwp.ids-mannheim.de/search/meta> (last access: 19-06-2022).

- 5) Current work on specific developments like the Covid vocabulary has shown that it is fruitful to complement the criterion of frequency with the aim to document specific vocabulary zones. This should become a strategy of lexicographical work not only for extraordinary situations but also for important social, cultural and discourse-related vocabulary zones and the textual cosmos in which the topic in question is situated.

5. To conclude

Words and their usages are in many cases closely related to or embedded in social, cultural, technical, discourse-related, ideological etc. contexts. This does not only apply to individual words and specific senses, but to many vocabulary zones as well. Moreover, the development of words is often related to aspects of socio-cultural evolution in a broad sense. In this paper, I have tried to first elucidate these kinds of connections between word usage and the socio-cultural. I have then tried to show, how these aspects are treated in traditional dictionaries and in digital lexical systems both in respect of words, senses and vocabulary zones. Finally, I have made suggestions as to how future digital systems might be improved and enriched.

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