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"Paronyme − Dynamisch im Kontrast": A cognitively oriented, multifunctional, dynamic dictionary

The objective of this paper is to introduce the new e-dictionary "Paronyme − Dynamisch im Kontrast" (Paronyms − Dynamic in Contrast), which documents easily confused words in German. These are items which are similar in sound, spelling and/or meaning, such as *effektiv*/*effizient* (*effective*/*efficient*) *or sportlich*/*sportiv* (*sporty*/*athletic*). Since 2018, this new online resource has been freely accessible on the linguistic platform OWID^plus. The three key elements of the new reference guide are its corpus-based foundation, the implementation of meta-lexicographic requirements and a consideration of users' needs/interests.

As a corpus-guided dictionary, it is descriptive in nature, documenting conventionalised patterns and use. It provides information on preferences and tendencies as observed in authentic communication rather than following prescriptive traditions. In order to meet meta-lexicographic demands (cf. Rundell 2012; Kövecses/Csábi 2014) it combines corpus-based methods with cognitive semantics. Entries contain linguistic details which are consistently paired up with conceptual-encyclopaedic information. Lexicographic details adequately reflect ideas such as conceptual structure, categorisation and knowledge. In this way, the linguistic findings correlate better with how users conceptualise language. An entry can consist of up to three lexical items (e. g. *unsozial*/*asozial*/*antisozial* = *unsocial*/*antisocial*) and it is explicitly designed for contrastive consultation processes. User studies have revealed that usage modalities needed to be rethought and a flexible approach to information adopted to meet different needs. As a consequence, information can be adapted flexibly and generated dynamically following a number of navigation and menu options (cf. Kwary 2012). Paronyms are directly compared to each other in visual and explanatory ways. This enables readers to differentiate between definitions, collocates, citations, constructions, sense-related terms and conceptual categories relating to the paronyms as well as the referential domains in which they predominantly occur. Generally, this paper focuses on how the project combined corpus-linguistic and cognitive-semantic approaches when developing a new online lexicographic resource. Furthermore, the new dictionary has decisively moved towards a Cognitive Lexicography (Ostermann 2015, Geeraerts 2007) by successfully combining lexicological and lexicographic aspects while, at the same time, taking different users' needs into account and developing a user-friendly and flexible interface. With the help of examples, these characteristics will be elucidated in more detail.

Depending on personal interests, the depth of information is realised as a two-level consultation view, i. e. a short overview and an optional detail view. All information is extracted, analysed and lexicographically interpreted from corpus material, thus exemplifying authentic conventionalised communication. While the overview supports a quick identification of similarities and differences as well as serving as a general navigation guide, the detail view offers more extensive descriptions and citation examples. Both levels contain conceptually driven details closely linking linguistic information with contextual structure, categorisation and encyclopaedic knowledge. As a result, users can consult con-

text-dependent linguistic information together with conceptual realisations and discourse-oriented idiosyncracies. This enables them to store linguistic and non-linguistic knowledge together in the mental lexicon. A large section of the paper focuses on the interplay between linguistic and extra-linguistic knowledge, explaining how meaning, concept and discourse are incorporated as information in an entry. Taking the example of *effektiv*, guidewords, conceptual categories and exemplifying domains or reference play an essential role in the identification and navigation of contextual meaning. This adjective is semantically disambiguated as follows (see table 1):

Synonym guidewords	REFERENCE	Discourse domains	*Collocational examples*
wirtschaftlich optimal wirksam	BEREICH PROZESS STRUKTUR	Wirtschaft, Politik	*Kontrolle, Arbeit, Verwaltung, Bereich, Strukturen…*
allgemein erfolgreich	PROZESS STRATEGIE SACHVERHALT	–	*Lernen, Spielweise, Idee, Unterricht, Strategien…*
technologisch ressourcenschonend	ANLAGE GERÄT	Technik, Technologie	*Technologien, Antriebe, Motoren, Technik, Anlagen…*
wirkungsvoll	KRIMINALITÄT KRISENBEKÄMPFUNG	Polizeiberichte	*Bekämpfung, Strafverfolgung, Selbstverteidigung, Techniken, Polizeiarbeit…*
medizinisch wirksam	THERAPIE MEDIKAMENT	Medizin, Biologie	*Ganzkörpertraining, Mikroorganismen, Training, Therapie, Selbstverteidigung…*
ökologisch nachhaltig	MASSNAHME RESSOURCE	Umweltschutz	*Wärmedämmung, Klimaschutz, Umgang, Energieeinsparung, Energienutzung…*
real, tatsächlich	GELDBETRAG	Finanzwesen	*Jahreszins, Zins, Zinssatz, Steuerbelastung, Jahreszinssatz…*

Table 1: Contextual uses of *effektiv*

This table demonstrates how patterns of usage encompass conceptual categories as central ideas instead of the sufficient logical criteria of semantic distinction. Synonyms, references, discourse domains and concrete illustrative examples of collocations help users to distinguish patterns, encode/decode contexts and identify metonymic and metaphoric mappings. Users can relate the adjective to its meanings more easily and then relate these to the preferred contextual reference (here modified co-occurring nouns). Collocates are treated as family members, as prototypes and fillers in contexts, e. g.

- *effektiv* means 'economically optimal' with respect to an AREA, PROCESS, STRUCTURE (often occurring in business and political discourse), for example *control, work, administration, area, structures …*

In the overview, all of the information relating to *effektiv* is documented horizontally in a line and also vertically aligned with *effizient*, depending on their degree of similarity (see figure 1).
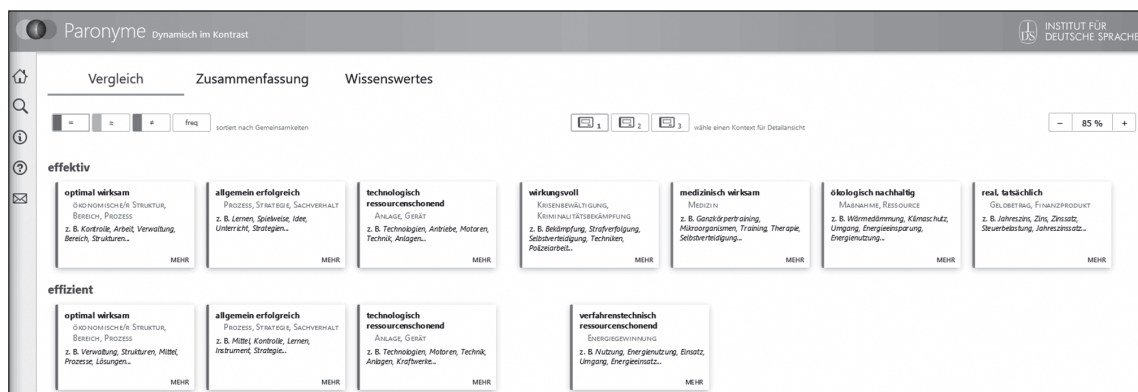
Figure 1: Overview entry of similar and different contextual uses of *effektiv/effizient*

In such comparative entries, users can instantly familiarise themselves with the presence of semantic overlap and differences. Different types of contexts and degrees of similarity are captured visibly by using a specific order and colour scheme. Identical, similar and distinct contexts form separate semantic groups. The menu options (see buttons at the top left of figure 1) enable different information to be highlighted by choosing different parameters, which, for example, change the order of contextual uses according to overlap, differences or frequencies. Accordingly, the positions of the elements change, meaning that users activate facets of structural knowledge on demand. In this way, this reference guide shows alternative access routes to language in actual usage events.

Optionally, more data can be provided for each contextual use in the detail view. Users can access more information for a single use of one paronym or, alternatively, up to three contexts can be chosen for contrastive studies (see figure 2).
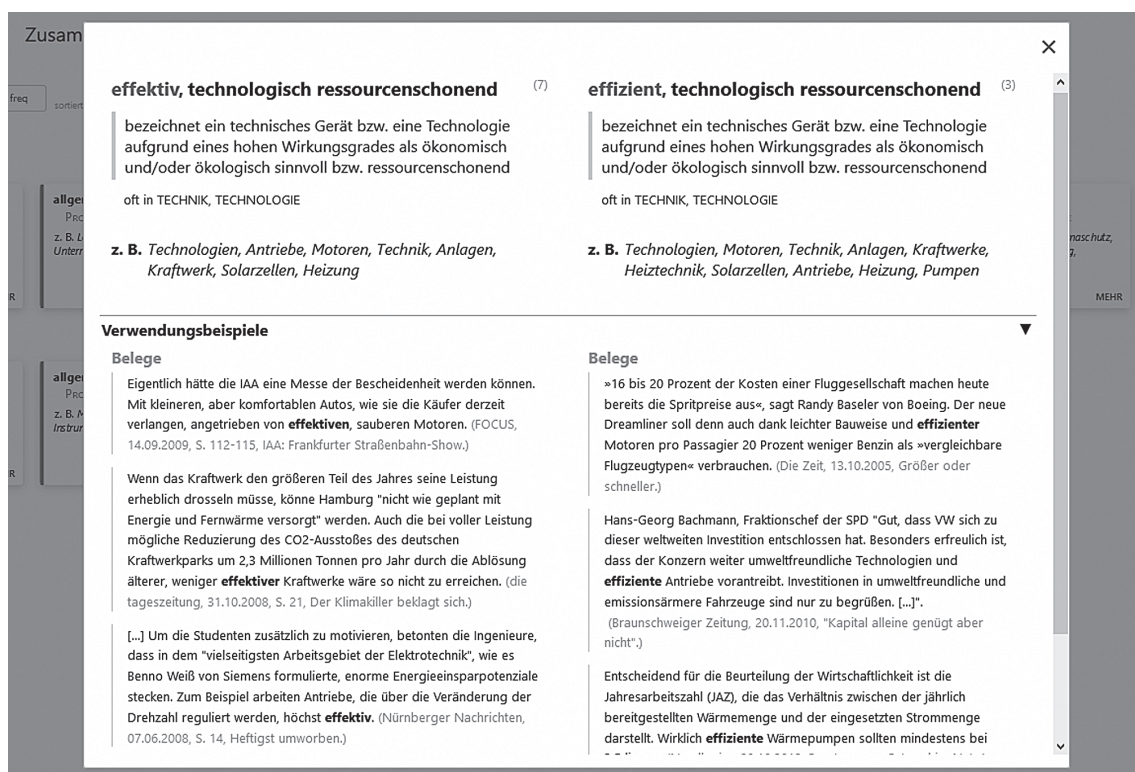

Figure 2: Contrastive detail view of two contextual uses

The detail view contains an explanatory definition which incorporates semantic subtleties and important encyclopaedic aspects. Typical lexical combinations, corpus examples, synonyms/antonyms and typical constructions are also listed. As figure 2 shows, all related information is presented side by side for parallel perusal. Longer definitions plus corpus examples, relevant topic areas, conceptual categories and prototypical lexical realisations can be consulted side by side without switching between information or even entries.

The new dictionary is not only a unit of corpus- and cognitive lexicography but also a dynamic resource. In situations of linguistic doubt, native speakers and learners alike can learn about thematic domains and semantic environments in which confusable words are likely to occur, together with their natural lexical preferences. Users gain direct access to the meaning and use of two or three easily confused words in concise contrastive overviews or in detailed contrastive descriptions. The entries partly reflect how linguistic, encyclopaedic knowledge and human experience are inextricably linked in language use and in the mental lexicon. User-adaptable access to details and dynamic search options enable different perspectives on linguistic information, and authentic examples reflect prototypical structures. Overall, the new dictionary "Paronyme – Dynamisch im Kontrast" represents a radical change from existing German lexicographic conventions.

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