Article

DICONALE: A Novel German-Spanish Onomasiological Lexicographical Model Involving Paradigmatic and Syntagmatic Information

Paloma Sánchez Hernández

Department of German Philology, Universidad Complutense de Madrid, Ciudad Universitaria s/n, Madrid 28040, Spain; palomash@filol.ucm.es

Abstract: This contribution, based on the DICONALE ON LINE (FFI2012-32658) and COMBIDIGILEX (FFI2015-64476-P) research projects, aims to create an onomasiological bilingual dictionary with online access for German and Spanish verbal lexemes. The objective of this work is to present the most relevant contributions of the dictionary based on two lexemes from the COGNITION conceptual field, the LERNEN/APRENDER subfield. The DICONALE dictionary aims to fill the gap left by the current German–Spanish bilingual lexicography. The novelty is not only the electronic format, but also the inclusion of paradigmatic and syntagmatic information into one dictionary, and the contrastive aspects, subjects that until now have not been found in any onomasiological dictionaries in this area. In addition to the description of the paradigmatic and syntagmatic relationships, it also presents certain characteristics related to the contrastive analysis of the two lexemes. On the one hand, it aims to offer a panoramic view of the most relevant features of the dictionary while, on the other hand, attempting to demonstrate the relevance of said criteria in the contrasting German-Spanish lexicography.

Keywords: paradigmatic and syntagmatic information; lexicography; online dictionary; production

1. Introduction

The research projects (DICONALE ON LINE (FFI2012-32658) and COMBIDIGILEX (FFI2015-64476-P)) upon which this article has been based have the objective of creating a bilingual, onomasiological dictionary with online access for the verbal lexemes of German and Spanish [1]. The research projects have been developed by eight members. Each member works within a semantic field. The studied fields, as of the present time, are (1) SINNESEMPFINDUNG/WAHRNEHMUNGSVERBEN; (perception verbs); (2) MEDIALE ELEKTRONISCHE KOMMUNIKATION (media communication); (3) BESITZWECHSEL (RAUBEN/STEHLEN) (property change); (4) MITMENSCHLICHE WILLENSBEZIEHUNG AUTORITÄTSBEKUNDUNG/ AUTORITÄTSEMPFANG (authority relations); (5) KONSUMATION NAHRUNGSAUFNAHME, NAHRUNGSZUFÜHRUNG (food); (6) KOGNITION subfield DAS LERNEN (cognition, subfield das Lernen); (7) WIDERSPRUCH (contradiction). The methodology to get the final microstructure was as follows: (1) We studied the current status of the matter concerning conceptual dictionaries in Spanish and German; (2) Each member selected a conceptual field randomly; (3) Each member used the same descriptive model for the analysis. We had to agree on the descriptive model and on the corpora that we used, because we work from the examples of the corpora. This means that we selected one hundred examples (randomly) from each subfield, and then we analyzed the meaning, the paradigmatic and syntagmatic characteristics, the contrastive aspects, the frequency of use, *etc*. Each member worked on ten entries in each semantic field. The dictionary is intended for users with an advanced knowledge

of the foreign language, for bilingual production purposes. The dictionary users are, therefore, Spaniards studying German, as well as Germans studying Spanish. The modality of a German-Spanish dictionary for Germans and a Spanish-German dictionary for Spaniards is not specifically included in the user type. Germans or Spaniards with production needs in their native language would consult other types of paradigmatic or syntagmatic onomasiological dictionaries. This dictionary is basically a pedagogical dictionary for production in a bilingual context for German as a foreign language (DaF) and for Spanish as a foreign language (ELE). Therefore, it is based on production in the foreign language—not on reception of the foreign language. It intends to be challenging, unlike the traditional semasiological-alphabetical concept, and to respond to new challenges in bilingual lexicography in a German-Spanish context, presenting a bilateral bilingual model that is modular and integrative. This work presents two aspects: some considerations regarding the paradigmatic and syntagmatic relationships of the dictionary and some characteristics regarding the contrastive structure, both of which can be considered the novelties of the DICONALE dictionary For this, two lexemes from the COGNITION conceptual field, the LERNEN/APRENDER subfield, were used. The examples are supported by corpora in both German and Spanish. For the German language, the DEREKO corpus was used via "COSMAS II" [2], and for Spanish, the corpus "CREA" [3] was used.

2. Theoretical Foundations

The onomasiological perspective implies conceptual units such as *tertium comparationis* for both languages, which may serve as a basis for contrastive analysis. Thus, the conceptual-onomasiological perspective is justified by the results of more recent studies in the field of cognitive linguistics (Blank, Koch [4] (Prologue)) as well as by the needs of the German as a foreign language class and the translation practice. The creation of a non-semasiological dictionary offers a new perspective, which is hardly followed by the bilingual lexicography community, and presents great novelty in German-Spanish bilingual lexicography. The dictionary aims to offer lexicological information in order to facilitate context, interlingual use, and interlingual nature of semantically related words. Onomasiological access is completed with a semasiological search, in which, in addition to descriptions of meanings, the syntagmatic characteristics of the lexemes are presented. Unlike semasiological dictionaries, directed towards language reception, onomasiological dictionaries tend to be directed towards production. The dictionary of DICONALE is based on concepts, and the user should search for the desired units based on these concepts. Since this dictionary is directed to production, the special syntagmatic characteristics may be looked for from a semasiological perspective. There are three phases: 1. Search; 2. Selection; and 3. Application or usage. The theoretical foundations of the onomasiological perspective may lie in the lexicographical works, for the German language [5–8] and for the Spanish language [9–11]. Classic onomasiological dictionaries of the German language [12–14], as well as the ideological dictionary of Casares [15] in Spanish, suffer from a lack of transparency in terms of structuring criteria, and they lack information regarding certain meaning aspects. It does not, therefore, involve criticizing the classic onomasiological dictionaries. The considerable value of such works is considered in all. Even the project team has relied on them for conducting their initial research studies. The idea is to justify the existence of a bilingual onomasiological dictionary, which may offer the user both paradigmatic and syntagmatic information, which, until now, had not existed in the bilingual German–Spanish lexicography. These disadvantages have hindered and decreased the value of user consultations with these works [16]. Furthermore, in both languages, paradigmatic dictionaries exist that offer information on external semantic relationships. These dictionaries lack considerable information to ensure the appropriate use of the lexical units, such as the differences in use between two partial synonyms. Pedagogical dictionaries are not the most suitable for use as text-producing instruments [16–21]. Frequently, these dictionaries lack information on construction alternation or typical combinations [22] (p. 114).

Generally speaking, an attempt is being made to fill the voids left by these onomasiological dictionaries through partial studies of the lexicon based on the premises of structuralist semantics [23–25],

which have been the subject of proposals to link semasiological and onomasiological perspectives. During the 1980s and 1990s, diverse studies were conducted on specific semantic fields and were found to be linked to paradigmatic and syntagmatic relationships [26,27].

Over recent decades, special syntagmatic dictionaries have been created due to a greater interest in lexicological aspects. Of special note are the Spanish dictionaries of Cuervo (1953/1998) [28] and Seco/De Andrés/Ramos (1999) [29], and the German ones of Helbig/Schenkel (1969) [30], Engel/Schumacher (1978) [31], Valbu (2004) [32], among others [33]. These proposed models indicate both syntactic aspects as well as information on semantic valence. The application of the valence theory in foreign languages and lexicography has had considerable repercussions, particularly in the area of the teaching of German as a foreign language (DaF). In addition, some onomasiological dictionaries offer systematic descriptions of the lexicon and detailed information on the syntagmatic relations, especially in regards to valence [34–36]. In the dictionary by Harras *et al.*, the onomasiological perspective and the semasiological process are combined to offer the necessary information regarding content and form. Recently, lexicographical studies have been conducted in the Spanish language, linking syntagmatic and paradigmatic information (ADESSE) [37] DiCE [38] and *Diccionario Coruña* [39].

The creation of a bilingual onomasiological dictionary for German and Spanish is a novelty in Spanish–German bilingual lexicography [40,41]. Numerous lexicological studies have been carried out for specific lexical-semantics fields [42–48], but the novelty lies in the creation of a dictionary in which paradigmatic and syntagmatic relations are of great relevance, so much so that they may be used as a dictionary of collocations. This would assist the user, not only in finding an appropriate lexeme for their expression needs, but also in providing them with syntagmatic information, which is useful for linguistic production. Access to this modular and multilateral perspective has been facilitated by the online digital format. The construction of the digital version of the dictionary is being carried out at the time of writing this paper.

This work presents two of the special characteristics of the German-Spanish DICONALE dictionary: paradigmatic and syntagmatic information and the most relevant contrastive aspects of the COGNITION field. In order to provide an example of the COGNITION field, the *pauken1/empollar1* lexemes were used from the LERNEN/APRENDER subfield. They will be subjected to the relevant analyses [49]. Based on this example, the (new and) most relevant characteristics of the dictionary will be presented.

## 3. Defining the LERNEN/APRENDER Subfield

Each conceptual field of DICONALE consists of distinct subfields which may be defined through reference systems directed towards diverse scenarios. The lexical elements of each subfield can be differentiated from one another based on their distinctive semantic features [50,51]. An example of this is presented with the subfield: LERNEN/APRENDER (*cf.*: Table 1). The German and Spanish verbal lexemes belonging to this are as follows[12,13,15,52]:

**Table 1.** The subfield: LERNEN/APRENDER (1st. degree) and possibilities of lexicalization in German and Spanish.

Field: Cognition	Subfield: Lernen/Aprender Conceptual reference system: Erwerb Mental Kenntnisse
German	*anlernen, sich anlesen, auffassen, auslernen, sich beibringen, bimsen, **pauken**, einlernen, erlernen, memorieren, lernen . . .*
Spanish	*adiestrarse, aplicarse, aprender, comprender, cursar, cultivarse, educarse, **empollar**, estudiar, ilustrarse, memorizar, repasar . . .*

Each subfield element shall be specified through a conceptual reference system that is common to the German and Spanish expressions (Table 1). The conceptual reference framework of the

LERNEN/APRENDER subfield is ERWERB (ADQUISICIÓN) (ACQUISITION), MENTAL (MENTAL) (MENTAL) KENNTNISSE (CONOCIMIENTOS) (KNOWLEDGE). This reference framework serves as *tertium comparationis* for the comparison between the two languages. In this study, the two lexemes are analyzed via examples belonging to this subfield: *pauken1/empollar1* (*cf.* Figures 1 and 2). These variants form a semantic subclass within the LERNEN subfield, that is, a second degree subfield. ANEIGNUNG (APROPIACIÓN) (APPROPIATION), UNI-HOCHSCHULE (UNIVERSITY) and INTENSITÄT (INTENSIDAD) (INTENSITY) are on the same level because they are conceptual units. The lexemes *pauken1/empollar1* are referred to the conceptual unit INTENSITÄT/INTENSIDAD.
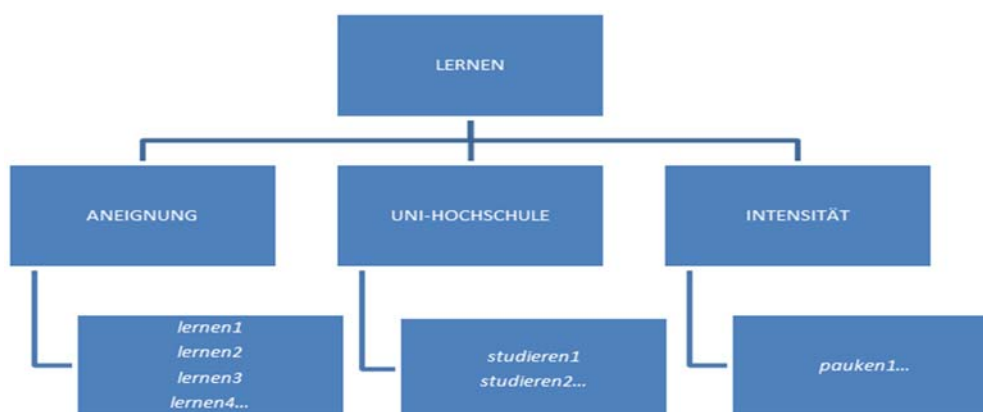
Figure 1. The subfields (2nd degree) and the semantic variants in German.
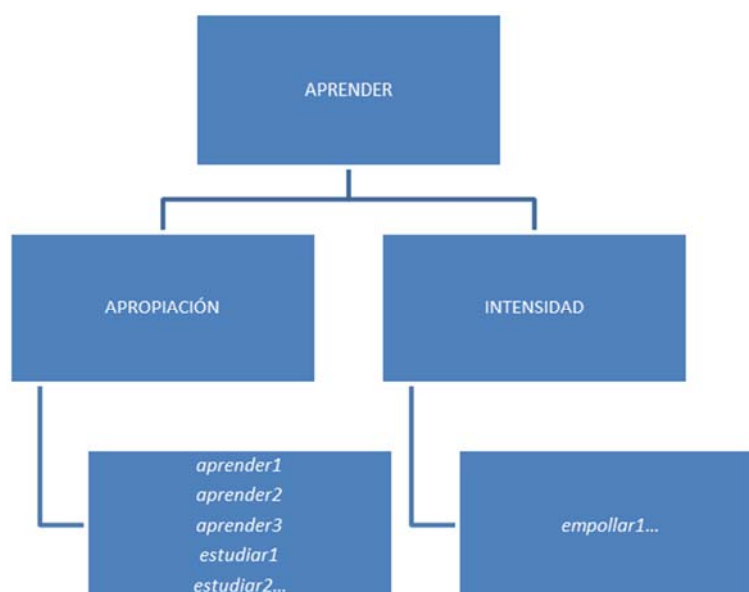
Figure 2. The subfields (2nd degree) and the semantic variants in Spanish.

The whole structure of the dictionary is explained in the Appendix 6, Table 1, and Figures 1 and 2. These levels, both to a conceptual subclassification of other degrees and to the formulation of the different lexico-semantic subparadigms, will form the conceptual macrostructure of the dictionary (see in the final Appendix 6 the descriptive model of DICONALE with the different levels and modules [1]). The combination potential of the lexemes in each of these lexical-semantic subfields shall be determined via its content and argument structure. In Tables 2 and 3, some elements of the LERNEN + ANEIGNUNG + INTENSITÄT (APRENDER + APROPIACIÓN + INTENSIDAD) (LEARN + APPROPIATION + INTENSITY) subfields are represented in terms of their semantic

structure, with the features ERWERB, MENTAL, and KENNTNISSE (ADQUISICIÓN, MENTAL Y CONOCIMIENTOS). Each lexeme is characterized by the following features: [±Aneignung] [±apropiación] [±appropriation]: the general acquisition of knowledge. This feature distinguishes the variants *lernen1/aprender1* from the variants *gehen1/andar1* from the semantic field BEWEGUNGSVERB. [±Gedachtnis] [±memoria] [±memory]: for cases in which, in this process, something should be memorized. This feature distinguishes the variants *lernen2/aprender2* from the variants *lernen1/aprender1*, because memory is not needed in *lernen 1/aprender1*. [±Intensität] [± intensidad] [± intensity]: This feature distinguishes the variants *pauken1/empollar1* from the variants *lernen 1/aprender1*, because *pauken1/empollar1* mean to learn very much, for example, for an exam.

Table 2. LERNEN + ANEIGNUNG + INTENSITÄT subfield: elements of the LERNEN + ANEIGNUNG + INTENSITÄT subfields with their semantic structure in German.

	LERNEN + ANEIGNUNG + INTENSITÄT SUBFIELD	**LERNEN + ANEIGNUNG + INTENSITÄT SUBFIELD**
	ERWERB + MENTAL + KENNTNISSE (ACQUISITION + MENTAL + KNOWLEDGE)	**ERWERB + MENTAL + KENNTNISSE (ACQUISITION + MENTAL + KNOWLEDGE)**
German →	Meaning	Potential Spanish equivalent
lernen1	*'sich ein spezielles Wissen aneignen'* (E-VALBU)	*aprender1* (MM [2]2002)
Semantic distinctive features	[+Aneignung]	[+Aneignung]
lernen2	*'sich, seinem Gedächtnis einprägen'* (DUW [6]2007) [53]	*aprender2* (MM [2]2002)
Semantic distinctive features	[+Gedächtnis]	[+Gedächtnis]
Pauken1	*'(ugs.) sich einen bestimmten Wissensstoff durch intensives, häufig mechanisches Lernen oder Auswendiglernen anzueignen suchen'*(DUW [6]2007)	*Empollar1 'Estudiar mucho, por ejemplo, en vísperas de exámenes'* (MM [2]2002)
Semantic distinctive features	[+Intensität]	[+Intensität]

Table 3. APRENDER + APROPIACIÓN + INTENSIDAD subfield: elements of the APRENDER + APROPIACIÓN + INTENSIDAD subfield with their semantic structure in Spanish.

	APRENDER + APROPIACIÓN + INTENSIDAD SUBFIELD	**APRENDER + APROPIACIÓN + INTENSIDAD SUBFIELD**
	ERWERB + MENTAL + KENNTNISSE (ACQUISITION + MENTAL + KNOWLEDGE)	**ERWERB + MENTAL + KENNTNISSE (ACQUISITION + MENTAL + KNOWLEDGE)**
SPANISCH →	Meaning	Potential German equivalent
aprender1	*'adquirir conocimientos o el conocimiento de cierta cosa'* (MM [2]2002)	*lernen1'* (E-VALBU)
Semantic distinctive features	[+Aneignung]	[+Aneignung]
aprender2	*'fijar algo en la memoria'* (MM [2]2002)	*lernen2* (DUW [6]2007)
Semantic distinctive features	[+Gedächtnis]	[+Gedächtnis]
Empollar1	*'Estudiar mucho, por ejemplo, en vísperas de exámenes'* (MM [2]2002)	*Pauken1 'sich einen bestimmten Wissensstoff durch intensives, häufig mechanisches Lernen oder Auswendiglernen anzueignen suchen'*(DUW [6]2007)
Semantic distinctive features	[+Intensität]	[+Intensität]

4. Information Regarding the Paradigmatic Relationships within the Framework of the DICONALE Model

Paradigmatic information is that information related to synonyms, antonyms, hyponyms, and generic names [54] (p. 510). Paradigmatic relations may appear, either within the definition or outside of it, within the lexicographic article [55,56]. The representation of paradigmatic relations within the DICONALE model permits both forms. According to Hausmann [57] (p. 2794), "*zweisprachige Wörterbücher sind immer auch Synonymwörterbücher und werden oft ausdrücklich in dieser Funktion benutzt*" (bilingual dictionaries are also always dictionaries of synonyms and they will be used expressly for this function). According to Hausmann [57] (p. 2794), there are two types of paradigmatic information: automatic paradigmatic information, when the paradigmatic information is used within the definition, and intentional paradigmatic information, when the paradigmatic information appears outside of the definition. In the DICONALE model, however, the intentional paradigmatic information is of greater interest. According to Hausmann [57] (p. 2794), for a long time, this information has been neglected in lexicographic works. This is the case with not only paradigmatic information existing in the definition, but also with other indications of lexical elements presenting special semantic relations with the headword and that are usually mentioned in a lexicographic entry through a system of referrals or, in digital dictionaries, through a system of links. The inconvenience of this system lies in the fact that it takes up a great deal of space in the dictionary. This issue may be easily resolved in the digital versions [58]. Therefore, the first question to be raised is: what is the sense in offering the user an offer of similar or linked elements (from a lexical point of view)? The paradigmatic information is quite important precisely in order to strengthen the processes of vocabulary expansion and text production.

The paradigmatic information in DICONALE exists not only at the level of each subfield, but also at higher levels, as seen in Table 1. Each field consists of different subfields that arise from the opposition of distinctive semantic features. Paradigmatic information may also be distributed at the level of each sense. In Table 4, the paradigmatic information of each sense is distributed with the help of diverse dictionaries such as that of Dornseiff (1965), Wehrle Eggers (1961), Casares (2007) [12,13,15] and other digital ones such as OWID and DWDS in German and María Moliner (2002) and Corripio (1990) for Spanish. The following structure results from information from ELEXICO [52,59–62]:

Table 4. Paradigmatic information within the COGNITION field.

Field	Subfield	German Lexemes	Paradigmatic Relations in German	Spanish Lexemes	Paradigmatic Relations in Spanish
Cognition	LERNEN	*lernen*1 intellectual perception	Hyperonym: *sich Inhalte aneignen, erwerben* Hyponym: *memorieren* Antonym: *verlernen*	*aprender*1	Hyperonym: *adquirir conocimiento* Hyponym: *aprender de memoria* Antonym: *desaprender*
Cognition	LERNEN	*aprender*2 memorize	Hyperonym: *sich Inhalte aneignen, erwerben* Antonym: *verlernen*	*aprender*2	Hyperonym: *adquirir conocimiento* Synonym: *memorizar* Co-hyponym: *estudiar*
Cognition	LERNEN	*pauken*1 to swot (colloquial)	Hyperonym: *sich ausbilden*, Synonym: *büffeln, bimsen* (colloquial)	*empollar*1 (colloquial)	Hyperonym: *cultivarse* Synonym: *chapar* (colloquial)

The user requires certain information regarding the use of lexemes in order to use them correctly in the appropriate context, such as the diastratic variations corresponding to colloquial language. According to Table 4, other issues are proposed to which a response is offered in our description model, such as the quantitative limitation: in the first phase of creation, simple basic lexemes are analyzed. Affixed verb forms and complex lexemes have been set aside for subsequent phases of model creation. Along with information related to synonyms, elements such as hyperonyms, co-hyponyms, and antonyms are also included. All of this information shall be offered via a system of links, facilitated by online access. In a third phase, the model shall not be restricted to verbal lexemes, but shall also

include grammatical categories. As for the contrastive analysis, this is conducted separately for each language, especially in regards to paradigmatic and syntagmatic relations.

5. Syntagmatic Information in the Framework of the DICONALE Model

Syntagmatic information appears in the descriptive model through the argument structures and through each of the syntactic functions and their possibilities for morphosyntactic realization. In the semantic area, lexemes are described based on their distinctive semantic features so as to offer information about the combination characteristics of each element. The semantic features used are: [+anim]: animate; [+hum]: human; [+zool]: zoological; [−mat]: material; [+materia]: learning subject; [+cogn]: cognitive; [+intens.]: intensity. Examples of each lexeme are provided from the corpus, as previously stated, from COSMAS II and CREA. The corpus of examples has been created based on 100 examples in German and in Spanish. In CREA, oral or written language has not been considered a limitation, given the limited number of examples recorded for the lexeme *empollar*1. The theoretical foundations of the project are based on the valences theories of Engel [63] (Engel 2009) and Zifonun (Zifonun *et al.* 1997) [64]. Over recent decades, diverse studies have been edited that refer to the need to create contrastive German–Spanish studies, in connection with the different syntagmatic aspects [65–67] (Sánchez 2010, Sánchez 2012 see [44,47]). An interesting aspect includes the act of contrasting the semantic valence in their similarities and differences. Syntactic information comes from different dictionaries: Engel/Schuhmacher (1978), Helbig/Schenkel (1969), and Schuhmacher/Kubczak/Schmidt/de Ruiter (2004) [30–32].

Based on the framework of the DICONALE descriptive model, the syntagmatic information related to the lexemes *pauken1/empollar1* is presented below. It should be noted that the following tables do not correspond to the definitive layout that shall appear in the dictionary. Therefore, in this case, we proceed from a semasiological perspective. The function of the elements for each language is simplified and unified: S: Subject (A1); DO: DIRECT OBJECT (A2); opt: optional (in this case, it appears between parentheses):

From a contrastive point of view and having analyzed Table 5, the following conclusions may be reached: (i) In terms of the denotative meaning, there are no differences between the definitions *pauken1/empollar1*. The two lexemes present the same sememe represented by the same semantic features; (ii) There is a specification pertaining to the diastratic marking that corresponds to a usage limitation in colloquial language. In the dictionary created by María Moliner (MM (^{2}2002) [61], this specification does not appear, although it is present, for example, in the DRAE, even with a pejorative use [68]; (iii) The major differences in usage are seen in examples in which we see the combination possibilities of the lexemes. In this manner, it is seen that the underlying arguments coincide with the presented semantic features, both in German and in Spanish. However, in German, there is greater use of the passive voice (of the 100 examples recorded, 61 appear in the passive), while in Spanish, the active voice predominates. Another difference is that in German, the direct object is found in two examples through subordinate sentences (*w-* Clauses or *w-Sätze*), while in the Spanish corpus, no examples are found for this type of example. On the other hand, in the Spanish corpus, forms corresponding to the infinitive are highlighted (58 examples), something that is not found in the German corpus. This reveals the difference in usage of these lexemes in the two languages.

Table 5. Syntagmatic information of the lexemes *pauken1/empollar1*.

	German	Spanish
Meaning	(ugs.) *'sich einen bestimmten Wissensstoff durch intensives, häufig mechanisches Lernen oder Auswendiglernen anzueignen suchen'* (DUW 2007)	*'Estudiar mucho, por ejemplo, en vísperas de exámenes'* (MM ²2002)
Scenario	jmd (A1) *paukt* (etwas)(A2)	alg. (A1) *empolla* (algo) (A2)
Syntactic plan Argument structures	<S (DO)> A1: S A2: opt.: DO	<S (DO)> A1: S A2: opt.: DO
Syntactic plan Clause realizations	<s (DO)> A2: *w*-clause (*w*- Satz)	<s (DO)>
Semantic valence Semantic features	A1: S:[+anim] [+hum][−zool] A2: DO: opt.[-anim][−mat][+ mat][+cogn][+intens]	A1: S: [+anim] [+hum] [−zool] A2: DO: opt. [−anim] [−mat][+mat] [+cogn][+ intens]
Semantic preferences Examples	A2: *Zu Hause muss gepaukt werden*: *Spieltheorie, die Motorik und welche Zahlen im Kessel nebeneinanderliegen*.HAZ07/AUG.01178 Hannoversche Allgemeine, 24.08.2007, S. 24;) A1: *Ihre Weiterbildung fand sie anspruchsvoll und umfangreich. Ich musste richtig pauken*HAZ08/JAN.04219 Hannoversche Allgemeine, 23.01.2008, S. 18; A1, A2: *Die Schüler pauken Mathe, bevor auch ihr Arbeitstag endlich vorbei ist* HAZ09/MAR.03096 Hannoversche Allgemeine, 18.03.2009, S. 6; *Pauken für den Aufstieg*). A2: *er paukt, was er fürs Ingenieurstudium braucht.* (HAZ09/MAI.00045 *Hannoversche Allgemeine*, 02.05.2009, S. 6;). *Früher mussten die Kinder pauken, wie man ein Eichenblatt von einem Buchenblatt unterscheidet*, (M01/FEB.11028 Mannheimer Morgen, 16.02.2001	A1, A2: *¿Y qué? no has visto el Barroco, nada, te lo tienes que empollar tú por tu cuenta, una cantidad de folios así y bueno, ¿me entiendes?* CREA *Canal cara a cara. Testimonio oral.* A1: *En Filosofía, existe, quizás, un mayor porcentaje de personas que tengan intereses culturales, pero también existe una gran cantidad de gente que va a empollar solamente, ¿no?, y que se sabe todo de memoria.* CREA CANAL=*cara a cara. Testimonio oral.* A1, A2: *Galdós escribiría en una de sus novelas que un estudiante viejo contaba en los últimos años de Isabel II cómo don Lorenzo empollaba las lecciones hasta en los portales de las casas, de noche*; CREA Ortiz-Armengol, Pedro *Aviraneta o la intriga* Espasa-Calpe (Madrid), 1994 A1: *En el fondo de nuestra conciencia reconocíamos que el primero de la clase podía ser repelente-niño-vicente pero era inteligente y empollaba como un poseso, y que el último nos parecía listo y divertidísimo pero no pegaba sello.* CREA *Tusquets Blanca, Óscar Todo es comparable* Anagrama (Barcelona), 1998

6. Conclusions

This contribution presents the main features of the DICONALE dictionary through the presentation of examples: paradigmatic and syntagmatic information and some contrastive aspects. Due to space limitations, it was necessary to forego the description of certain dictionary characteristics, such as the frequency of appearance, use of lexemes, and the description of the usage situation in regard to online access. The complete structure of the dictionary can be found in the Appendix 6.

Since this dictionary is directed to advanced students, paradigmatic information is of great relevance. The possibility of making this type of information available through an electronic dictionary may assist users in resolving doubts about vocabulary or to strengthen their vocabulary with more possibilities than using a traditional bilingual dictionary. The greatest problems regarding the descriptive model, which has been worked on over the last six years, are of a more formal (as opposed to content-based) nature and suppose an agreement with the lexicographic team. These mention the number of lexemes, the categorization of the paradigmatic relations, the grammatical category of the lexemes and the contrastive representation of the paradigmatic relations. User access to information may be simplified thanks to a system of links offered by the online system.

The analyzed lexemes *pauken1/empollar1* do not reveal many syntagmatic differences, except for the difference with the subordinate clause in German, which does not appear in Spanish. The representation of semantic valence may assist the user in correctly using the lexemes in context. Through the structural and semantics models, the user may be familiarized with the syntactical

structure of a lexeme, that is, how the elements function within the sentence. The fact that these functions are described in a contrastive manner in the two languages and that authentic examples are derived from diverse corpora offers the user the possibility of correctly using the lexemes from a syntactical point of view.

The DICONALE dictionary aims to fill the gap left by the current German–Spanish bilingual lexicography. This is not only justified by the electronic format (which is under construction at this time), but is also due to the challenges arising when attempting to integrate different types of information into one dictionary, something that until now has been found only in very specialized lexicographic works. Users are always the objective of these different types of information. A clear definition of this user type, as well as a clear definition of the corresponding usage situations related to the modular model of description (which includes paradigmatic and syntagmatic structures) allows us to consider DICONALE as the first pedagogical bilateral, bilingual dictionary, directed to production and with a conceptual onomasiological access.

Conflicts of Interest: The author declares no conflict of interest.

Appendix. Descriptive model of DICONALE: different levels and modules.

Level 1 ▸MACROSTRUCTURE DIC	Structure: conceptual subfield 1st degree List of lemmas (LL) for each SCCl		1.1. LL$_{G1}$German 1.2. LL$_{G1}$Spanish
Level 2 ▸**MICROSTRUCTURE**	Description in each language of each lemma and of each of the relevant meanings of a lexico-semantic paradigm.		**2.1. Description of German lemmas** **2.2. Description of Spanish lemmas**
		M 1	**General information on each meaning:** ▸ Map of the expression: word class, type of conjugation, suprasegmental features, morphological make-up (separable-no separable). ▸ Map of the content: the signified: semantic features, verbal character, *Aktionsart*, aspect. ▸ Word formation: general for all meanings: relevant forms: (selection) ▸ Links
		M 2	**Relevant meanings/variants for the semantic field (LAfr) :** ▸ **Explanation of the signified** with an indication of paradigmatic relations and distinctive features. ▸ Internal description of the signified: semantic features. ▸ **Paradigmatic relations:** within and outside the paradigm ▸ **Structural schema** ▸ **Register,** illustrative **examples, frequency** of each meaning with respect to the overall appearance of the lemma**:**
		M 3	**Combinations of each meaning and correspondence in the contact language** **Foundation:** *tertium comparationis***: Semantic structure + ASTM** ▸ **Model of the argument structure (ASTM)** ▸ **Sentence schema (SBP)** ▸ **Specification of the arguments (A): syntactic + semantic frequency** ▸ Contexts, examples, correspondencies, commentaries . . .
		M 4	**Other grammatical information:** **Use and frequency:** passive voice, alternatives to the passive, Mode, syntactic conversion, (Deverbal nominalizations)...

Level 3 ▸**MACROSTRUCTURE DIC**	**Structure: Conceptual subfields:** **2nd/3rd degree**	**Classification of lexemes** → obtaining / setting out the léxico-semantic subparadigms for both languages
Level 4 (for each language) ▸**Mediostructure DIC**	**Structure (for each language):** **Lexico-semantic subparadigms**	4.1. Léxico-semantic (sub)paradigms: German 4.2. Léxico-semantic (sub)paradigms: Spanish ▸**Different types of structuring according to different parameters of description**
Level 5 (bilingual) ▸**MEDIOSTRUCTURE DIC** ▸**MICROSTRUCTURE**	**5.1. Contrast of structures (bilingual):** Lexico-semantic subparadigms **5.2. Contrast of lexemes separately** 5.2.1. German -> Spanish 5.2.2. Spanish -> German 5.2.3. bilateral: German ↔ Spanish	▸ **Different possibilities of contrast** Type 1: Subparadigms in contrast Type 2: Paradigms in contrast Type 3: Contrast of each lexeme: Ger. → Sp. / Sp. → Ger. / Ger. ↔ Sp.

References and Notes

1. See in the final Appendix 6 the descriptive model of DICONALE with the different levels and modules. Meliss, M.; Sánchez Hernández, P. (Eds.) *Nuevos retos parala lexicografía pedagógica bilingüe alemán-español*; RILE: Tarragona, España, 2015; Volume 4, pp. 123–141. Available online: http://revistes.publicacionsurv. cat/index.php/rile/article/view/700 (accessed on 5 May 2016).

2. COSMAS II: DEREKO: Deutsche Referenzkorpus. COSMAS II: Corpus Search Management and Analysis System. Available online: http://www.ids-mannheim.de/kl/projekte/korpora/ (accessed on 12 January 2016).

3. CREA: ROYAL SPANISH ACADEMY: Database (CREA). Current Spanish reference corpus. Available online: http://www.rae.es (accessed on 12 January 2016).

4. Blank, A.; Koch, P. *Kognitive Romanische Onomasiologie und Semasiologie*; Niemeyer: Tübingen, Germany, 2003.

5. Reichmann, O. Das onomasiologische Wörterbuch: Ein Überblick. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1990; Volume 2, pp. 1057–1067.

6. Engelberg, S., Lemnitzer, L. (Eds.) *Lexikographie und Wörterbuchbenutzung*, 4th ed.; Stauffenburg: Tübingen, Germany, 2009.

7. Schlaefer, M. *Lexikologie und Lexikographie. Eine Einführung am Beispiel deutscher Wörterbücher*, 2nd ed.; E. Schmidt: Berlin, Germany, 2002.

8. Hass-Zumkehr, U. *Deutsche Wörterbücher*; De Gruyter: Berlin, Germany; New York, NY, USA, 2001.

9. Martín Mingorance, L. La lexicografía onomasiológica. In *Aspectos de Lexicografía Contemporánea*; Hernández, H., Mederos, H., Eds.; Biblograf: Barcelona, Spain, 1994; pp. 15–27.

10. Porto Dapena, J.Á. *Manual de técnica lexicográfica*; Arco: Madrid, Spain, 2002.

11. Haensch, G.; Omeñaca, C. *Los diccionarios del español en el siglo XXI*; Ediciones Universidad: Salamanca, Spain, 1997.

12. Wehrle, H.; Eggers, H. *Deutscher Wortschatz*; Klett: Stuttgart, Germany, 1961.

13. Dornseiff, F. *Der deutsche Wortschatz nach Sachgruppen*, 1st ed.; De Gruyter: Berlin, Germany, 1934.

14. Dornseiff, F.; Quasthoff, U. *Der Deutsche Wortschatz nach Sachgruppen*, 8th ed.; De Gruyter: Berlin, Germany, 2004.

15. Casares, J. *Diccionario ideológico de la lengua española*, 1st ed.; Gustavo Gili: Barcelona, Spain, 2007.

16. In the area of DaF, the following dictionaries, among others, exist. For German: Kempcke, G. *Wörterbuch Deutsch als Fremdsprache*; De Gruyter: Berlin, Germany; NewYork, NY, USA, 1999.

17. PONS. *Großwörterbuch DaF*; Pons: Stuttgart, Germany, 2004; (print+digital).

18. DUDEN. *Deutsch als Fremdsprache—Standardwörterbuch*, 2nd ed.; Mannheim: Duden, Germany, 2010.

19. Wahrig Burfeind, R. *Großwörterbuch Deutsch als Fremdsprache*; Cornelsen: Berlin, Germany, 2008.

20. LGWB-DaF: Götz, D.; Haensch, G.; Wellmann, H. *Langenscheidts Großwörterbuch Deutsch als Fremdsprache. Neubearbeitung*, 3rd ed.; Langenscheidt: Berlin, München, Germany, 2010.

21. For Spanish: *Diccionario Salamanca—español para extranjeros*; Santillana: Madrid, Spain, 2007.

22. Meliss, M. (Vor)überlegungen zu einem zweisprachigen Produktionslernerwörterbuch für das Sprachenpaar DaF und ELE. In *Kontrastive Linguistik und Fremdsprachendidaktik Iberoromanisch Deutsch. Studien zu Morphosyntax, nonverbaler Kommunikation, Mediensprache, Lexikographie und Mehrsprachigkeitsdidaktik (Spanisch/Portugiesisch/Deutsch)*; Reimann, D., Ed.; Narr: Tübingen, Germany, 2013; pp. 113–138.

23. Coseriu, E. *Principios de Semántica Estructural*; Gredos: Madrid, Spain, 1977.

24. Coseriu, E. Lexikalische Solidaritäten. *Poetica* **1967**, *Jg.1, Nr. 3*, 293–303.

25. Geckeler, H. *Strukturelle Semantik und Wortfeldtheorie*; Fink: München, Germany; Madrid, Spain, 1971.

26. Schlaefer, M. *Studien zur Ermittlung und Beschreibung des Lexikalischen Paradigmas 'Lachen' im Deutschen*; Winter: Heidelberg, Germany, 1987.

27. Vliegen, M. *Verben der Auditiven Wahrnehmung im Deutschen: eine Semantische-syntaktische Analyse*; Narr: Tübingen, Germany, 1988.

28. Cuervo, R.J. *Diccionario de Construcción y Régimen de la Lengua Castellana*; Herder: Barcelona, Spain, 1953 (1998).

29. Seco, M.; De Andrés, O.; Ramos, G. *Diccionario del Español Actual*; Aguilar: Madrid, Spain, 1999; The dictionary by Seco/De Andrés/Ramos 1999 is one of the few dictionaries in Spanish that offers syntagmatic information. However, it is a general dictionary.

30. Helbig, G.; Schenkel, W. *Wörterbuch zur Valenz und Distribution deutscher Verben*; VEB: Leipzig, Germany, 1969.

31. Engel, U.; Schumacher, H. *Kleines Valenzlexikon deutscher Verben*; Gunter Narr: Tübingen, Germany, 1978.

32. Schumacher, H.; Kubczak, J.; Schmidt, R.; De Ruiter, V. *Valbu-Valenzwörterbuch deutscher Verben*; Gunter Narr: Tübingen, Germany, 2004.

33. Also see Hausmann, F.J. Weitere syntagmatische Spezialwörterbücher. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1989; Volume 1, pp. 1054–1056.

34. Schumacher, H. (Ed.) *Verben in Feldern. Valenzwörterbuch zur Syntax und Semantik deutscher Verben*; De Gruyter: Berlin, Germany, 1986.

35. Harras, G.; Winkler, E.; Erb, S.; Proost, K. *Handbuch deutscher Kommunikationsverben. Teil 1: Wörterbuch*; De Gruyter: Berlin, Germany, 2004.

36. Harras, G.; Proost, K.; Winkler, E. *Handbuch deutscher Kommunikationsverben. Teil 2: Lexikalische Strukturen*; De Gruyter: Berlin, Germany, 2007.

37. ADESSE: Base de datos de Verbos, Alternancias de Diátesis y Esquemas Sintáctico-Semánticos del Español. Available online: http://adesse.uvigo.es/data/verbos.php (accessed on 17 January 2016).

38. Alonso Ramos, M. Elaboración del Diccionario de colocaciones del español y sus aplicaciones. In *De Lexicografía (Actes del I Simposium Internacional de Lexicografía)*; Battaner Arias, P., de Cesaris, J., Eds.; IULA y Edicions Petició: Barcelona, Spain, 2004; pp. 149–162.

39. Porto Dapena, J.Á.; Conde Noguerol, M.E.; Córdoba Rodríguez, F.; Muriano Rodríguez, M.M. Presentación del diccionario 'Coruña' de la lengua española actual. In *Proceedings of the Xiii Euralex International Congress*; Série Activitats, 20; Bernal, E., DeCesaris, J., Eds.; Documenta Universitaria Institut Universitari de Lingüística aplicada, Universitat Pompeu Fabra: Barcelona, Spain, 2008; pp. 753–762.

40. Until now, there was only one visual onomasiological German- Spanish dictionary created by Alvar Ezquerra, M. (Ed.) *Duden/Oxford Bildwörterbuch Deutsch und Spanisch*; Duden: Mannheim, Germany, 1993.

41. PONS. *Das große Bildwörterbuch*; Ernst Klett Sprachen: Stuttgart, Germany, 2008; for German and for Spanish.

42. Geck, S. *Actividad intelectual y emociones: dos modelos cognitivos metafóricos en alemán y en español*; Secretariado de Publicaciones e Intercambio Editorial, Universidad de Valladolid: Valladolid, Spain, 2003.

43. Meliss, M. *Recursos lingüísticos alemanes relativos a "GERÄUSCH" y sus posibles correspondencias en español. Un estudio lexicológico modular-integrativo*; Peter Lang: Frankfurt, Germany, 2005.

44. Sánchez Hernández, P. Análisis contrastivo alemán español de los verbos fragen-antworten/lehren-lernen. *Revista de Filologia Alemana* **2010**, *18*, 261–283.

45. Buján Otero, P. Onomasiologisch angeordnete Idiomlexika und ihr Nutzwert für die Translatologie. In Proceedings of the XIV EURALEX International Congress, Leeuwarden, The Netherlands, 6–10 July 2010; Dykstra, A., Schoonheim, T., Eds.; FryskeAkademy: Leeuwarden/Ljouwert, The Netherlands, 2010; pp. 1171–1182.

46. Mellado, C.; Herrero, C.; Iglesias, N.; Mansilla, A. Elaboración de un diccionario onomasiológico alemán-español. In *La fraseografía del S. XXI. Nuevas perspectivas para el español y el alemán*; Mellado, C., Buján, P., Herrero, C., Iglesias, N., Mansilla, A., Eds.; Frank & Timme: Berlin, Germany, 2010; pp. 15–54.

47. Sánchez Hernández, P. Lernen-aprender: una aproximación contrastiva dentro del campo semántico Kognition en torno a diversas peculiaridades semánticas y sintácticas. *Revista de Filologia Alemana* **2012**, *20*, 139–158.

48. Eberwein, P.; Torrent, A.; Uría Fernández, L. *Kontrastive Emotionsforschung Spanisch-Deutsch*; Shaker Verlag: Aachen, Germany, 2012.

49. On the subfield LERNEN, it is possible to consult with studies on the inverse or converse verbs LEHREN-LERNEN Sánchez Hernández (2010) and Sánchez Hernández (2012) (see [44] and [47]), in which certain specific features of this semantic field are described.

50. Sánchez Hernández, P. Zur Konzipierung eines deutsch-spanischen kombiniert onomasiologisch-semasiologisch ausgerichteten Verbwörterbuchs mit online-Zugriff—ausgewählte Aspekte. *Aussiger Beiträge* **2013**, *7*, 135–155.

51. Sánchez Hernández, P. Überlegungen zu der syntagmatischen Information einiger Verben des Teilparadigmas LERNEN im deutsch-spanischen Vergleich. In *Argumentstruktur zwischen Valenz und Konstruktion*; Engelberg, S., Meliss, M., Proost, K., Winkler, E., Eds.; Narr Francke: Tübingen, Germany, 2015; pp. 365–377.

52. Corripio, F. *Gran diccionario de sinónimos, voces afines e incorreciones*; Ediciones B: Barcelona, Spain, 1990.

53. Duden. *Deutsches Universalwörterbuch*, 6th ed.; Duden: Mannheim, Germany, 2007.

54. Haensch, G.; Wolf, L.; Ettinger, S.; Werner, R. *La Lexicografía. De la Lingüística teórica a la Lexicografía práctica*; Gredos: Madrid, Spain, 1982.

55. Müller, W. Die Antonyme im allgemeinen einsprachigen Wörterbuch. In *Wörterbücher. Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1989; Volume 1, pp. 628–635.

56. Wolski, W. Die Synonymie im allgemeinen einsprachigen Wörterbuch. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1989; Volume 1, pp. 614–627.

57. Hausmann, F.J. Die Paradigmatik im zweisprachigen Wörterbuch. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1991; Volume 3, pp. 2794–2796.

58. Hausmann, F.J. Paradigmatische Spezialwörterbücher. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1991; Volume 3, pp. 2879–2881, Hausmann also mentioned the so-called contrastive dictionaries of synonyms in which, in authentic contexts, they explain differences in use of each of the synonyms and the existence of total synonyms that may be interchanged in the same context. This type of dictionary presents a very complex task due to the frequent difficulty in differentiating between total and partial synonyms.

59. OWID IDS-MANNHEIM. Available online: http://www.owid.de (accessed on 17 January 2016).

60. Berlin-Branderburgische Akademie der Wissenschaften (2008–2011): *Digitales Wörterbuch der deutschen Sprache* (DWDS) Projekt. Available online: http://www.dwds.de (accessed on 15 January 2016).

61. Moliner, M. *Diccionario de uso del español*, 2nd ed.; Gredos: Madrid, Spain, 2002.

62. ELEXICO. Available online: http://www.owid.de/wb/elexiko/start.html (accessed on 17 January 2016).

63. Engel, U. *Deutsche Grammatik*, 2nd ed.; *Neubearbeitung*; Iudicium: München, Germany, 2009.

64. Zifonun, G.; Hoffmann, L.; Strecker, B. *Grammatik der deutschen Sprache*; De Gruyter: Berlin, Germany; New York, NY, USA, 1997.

65. Cop, M. Collocations in the Bilingual Dictionary. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie. Wörterbücher*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1991; Volume 3, pp. 2775–2779.

66. Cowie, A.P. Information on Syntactic Constructions in the General Monolingual Dictionary. In *Wörterbücher: Ein Internationales Handbuch zur Lexikographie*; Handbücher zur Sprach- und Kommunikationswissenschaft; Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L., Eds.; De Gruyter: Berlin, Germany; New York, NY, USA, 1989; Volume 1, pp. 588–593.

67. Model, B.A. Sintagmática y diccionario bilingüe. *EFA* **2006**, *12*, 247–256.

68. DRAE 3. tr. coloq. Estudiar mucho algo como una lección o una materia educativa. U. t. c. intr. U. t. en sent. despect. Available online: http://dle.rae.es/?id=ErzaslK\T1\textbar{}Es1CK1Y (accessed on 12 January 2016).