# A Dictionary Guide for Web Users

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### Abstract

The continuously growing number of specialised lexicographical resources on the Web calls into question the users' ability to solve their information needs autonomously. Neither terminological databanks, nor dictionary aggregators actually represent valuable solutions to these needs (Lew 2011), and in order to guide users towards useful resources, a database was created, which collects evaluation forms of free internet specialised dictionaries and allows users to carry out customised searches on the basis of their subject field expertise (laymen, semi-experts, experts), the desired language, and the kind of support they need (basically with communicative problems or in acquiring new knowledge). Using a specific evaluation system, the tool displays the best resources available for the desired parameters, assessing dictionaries on the basis of an evaluation scale and explicit guidelines that prevent contradictory responses, such as dictionaries that are simultaneously suited for laymen and experts. The paper illustrates the current development of the tool, with special reference to its evaluation sys-

tem, as well as its possible future improvements.

Keywords: Dictionary Guides; Dictionary evaluation; Online Dictionaries; Specialised lexicography

## 1 Information overload on the Web

Though the Web is the most used source of information, too much data are offered to the Internet surfers, causing what has been called "information death" (Tarp 2010: 41). Search engines are too generic to be of any assistance to users with these tasks, and metalexicographical resources have started to appear. The quickest searches are offered by dictionary aggregators (i. e. *OneLook*) and mesh-ups (i. e. *Your Dictionary*) which show definitions taken from different vocabularies on one page, a system that doesn't seem to be completely effective, because terminology archives - and hence the number of definitions provided - are either too small to cope with users' needs, or too big to solve the problem of an effective and efficient access to information (Heid 2011).

From this point of view, the World Wide Web poses stimulating metalexicographical issues, some of which will be outlined here while presenting a new lexicographical tool for guided searches on the Web, namely a rated inventory of free specialised dictionaries, managed through a relational database which allows users to carry out multiparametric searches.

### 1.1 Information accessibility

The issue of knowledge accessibility led to the creation of dictionaries, since:

(t)he truly unique thing about dictionaries is not the various types of data they employ in covering the information needs of users (...). Such data can generally be incorporated into other types of book and text as well. The truly unique thing is the way in which this data is made accessible so users can quickly and easily find the exact data they need. (Tarp 2008: 101)

Nowadays lexicographers focus their work on the customization of dictionaries for their users, and different approaches have been proposed in order to achieve this aim. One in particular seems to be useful not only for writing vocabularies, but also for their critical evaluation, since it offers a synthetic procedure to define the parameters a dictionary must have in order to fulfill its desired functions. Therefore the theory has been named lexicographical function theory, and was formulated by Sven Tarp (2008; also Tarp 2009, 2010) as a result of long metalexicographical reflections and debates carried out by the research group of the Aarhus University in Denmark (Nielsen 1994; Geeb 1998; Bergenholz & Tarp 1995). According to this theory, dictionary functions must be identified on the basis of the kind of users, as well as the situations in which the vocabulary is employed, therefore the compilers must think about the specific context in which the need for vocabulary consultation arises (Tarp, 2008: 81). For example, dictionaries may be used in many different situations, such as by students proofreading their homework, or by professional editors working on books to be published, or even in the less common situation of young people reading religious books, in such a case the dictionary "should only explain the meaning of a word or of phrase and noting more" (Bergenholz, 2012: 245). Therefore the more specific the target is, the easier it is to tailor the dictionary to the users' desired functions. As a consequence, the traditional general language dictionaries (or polyfunctional dictionaries), offering aid for different kinds of tasks without a specific tailoring of the information they provide are judged as inefficient, since:

(they) are in many cases so overloaded that this causes information stress and in the worst case may even cause the search to be abandoned if the user cannot find the needle in the haystack (Bergenholz, 2012: 251).

The alternative model proposed is the *monofunctional* electronic vocabulary, extracted from lexical databases using search forms that allow users to tailor the entry to their needs. For example, if the dictionary must supply assistance for text production in an L2, the database will provide a dictionary article displaying grammar information, "synonyms, collocations and examples" (Bergenholz, 2012: 253). Conversely, if the user must understand a text, this information is probably inadequate and certainly not of the outmost important.

Lastly, by fixing explicit parameters that guide good practices of dictionary writing, the theoretical framework of the *lexicographical functions* proves to be suited for the opposite task too, namely dictio-

nary evaluations, which can be undertaken not only in general review terms (see Nielsen, 2009, 2013), but also in a more lexicographical direction, employing the same principles as orienteering parameters among the existing lexicographical resources.

Using these observations as a starting point, a database has been created. The resource, accessible at the *Web Linguistic Resources* (WLR) site, collects free specialized Internet dictionaries which are often more valuable for their unrestricted access than for their overall quality, since the Internet compilers have little or no lexicographical expertise at all. The usability of the majority of these dictionaries is therefore dependent on guides and filters that prevent users from wasting their time and being given inefficient information, in this way they might become quick reference tools for web surfers.

The archived dictionaries were collected during two extensive research sessions in 2010 for the sector of oenology and medicine in different languages: Italian, English and French. A similar intensive exploration was carried out in 2013 for Economics dictionaries of the English language, whilst other sporadic additions gave the database more resources from different specialised sectors on the basis of more occasional findings. A more systematic analysis and upgrade of the inventoried resources is planned to be carried out before the definitive version of the tool is released, since it is currently available only as a pivotal 'beta' version.

## 2 Dictionaries on the Web: the features to be rated

Instead of providing users with multiple definitions on one page, and leaving them with the task of selecting data, the WLR database offers a rated inventory of dictionaries which help users to find the best resources available for free on the Web.

Moreover, the adaptation of the lexicographical function theory parameters to critical principles of analysis in order to rate and filter dictionaries also fulfills the proposal of Nielsen (2009; 2013) to judge dictionaries on lexicographical principles that are generally applicable in order to make dictionary reviews an integral part of the academic field of lexicography.

The rated inventory of the WLR site is based on an evaluation form (fig. 4 below), managed by a relational database that allows multiparametric searches.

The 53 fields in the form (see table 1) correspond to the possible features of a dictionary, and address all the component parts of vocabularies, i. e. the overall organization and the host site, the mediostructure (Wiegand, 1996; Nielsen, 2003), and microstructure (Hausmann & Wiegand, 1989; Hartmann, 2001). The features were partly set in advance, and partly added - or modified - during the data collection, in order to portray adequately the characteristics of these atypical dictionaries - they are listed in table 1 according to the parts of dictionaries they belong to<sup>1</sup>.

<sup>1</sup> See also Caruso [2011] and Caruso & Pellegrino [2012] for a more detailed description of the features considered.

Dictionary parts	Features and sub-features
General Organization and Host Site	Guide, Kind of Site: Amateur/ Blog/ Commercial/ Collective Resource/ Generalist/ Institutional/ Specialised, Learning Resources, Bibliographic Resources, Hyperlinks, User Feedback, Access: Browse / Search Engine / Advanced Search Engine, Entries: 0-49 / 50-100 / Over 100, General Organisation: Concepts / Words, Kind of Dictionary: Monolingual Dictionary/ Monolingual Word List/ Multilingual Dictionary/ Multilingual Word List/ Plurilingual Dictionary, Bidirectionality, Lemmata: Technical And Non-Technical Terms / Only Technical Terms;
Mediostructure	Cross-references, Related terms, Hypernyms & Hyponyms, Hypertexts;
Microstructure: Linguistic fields	Grammatical Category, Morphological Information, Syntactic Pattern, Phonetic Transcription, Pronunciation Notation, Stress Information, Audio Files, Syllabification, Frequency Of Use, Linguistic Variation, Technical Definitions, Translation Equivalences, Example Sentences, Quotations, Idioms, Collocations, Synonyms, Antonyms, Etymology;
Microstructure: Non Linguistic Fields	Definitions, Examples, Domain Field, Video Files, Pictures, Cultural Notes.

 Table 1: the listing of the dictionary features and sub-features assessed by the evaluation form of the Web Linguistic Database.

The host site may be an important validation criteria of the dictionary quality, since it is to be expected that credited Institutions (universities, ministries, professional associations etc.) publish good lexical resources. In point of fact, 'institution' refers here to authoritative organizations within one field, and it has a more restricted use than in Fuertes-Olivera (2009), where the term refers generically to every dictionary not compiled 'collectively' by non-professional lexicographers (such as *Wiktionary*).

The overall organization, instead, comprises the dictionary type, whether a simple word list, a multilingual dictionary provided or not with bidirectionality (which is a separate field in the form), or a *plurilingual*, a new dictionary added to the list which is typical of the Internet, namely the dictionary within localized sites (Caruso 2011). These sites in fact are optimized for the market of different countries (Pym 2004), and therefore offer many language versions of their pages that are not interlinked with each other. Since one version is completely independent from the others, the many language dictionaries therein also have no direct connection. Therefore, the user must scan the entire word list and check for correspondences in the definitions in order to find any translation equivalences.

Moreover, Internet dictionaries may also offer special access facilities to users, such as advanced search engines (another field in the form). For example, the dictionary of the *Büro für angewandte Mineralogie* allows searches not only in the whole dictionary contents, but also in its classifying ontology: looking for *Elemente*, the listing provided by the engine will include also *Periodensystem der Elemente*, besides all the chemical elements in the dictionary (from *Antimony* to *Sulfur*), and the entries that contain the required word in their definitions. During the data collection, special attention has also been paid to the mediostructure, or the cross-linking system, which is obviously a key component of electronic vocabularies. Accordingly, the evaluation form registers both *Cross-references* and *Related terms* (see table 1), only the former having direct hyperlinks to other entries, while *Hypernyms and hyponyms* signal semantic hierarchies that also function as internal references.

As for the microstructure, or the dictionary entry components, the evaluation form takes note of its linguistic and encyclopedic aspects, and accounts for specific fields that reveal the user-friendly character of these dictionaries, which generally offer non-technical definitions, and pronunciation notations rather than phonetic transcriptions.

## 3 The rating system

Since this lexicographical project does not aspire to the detailed dictionary reviews of Nielsen (2009, 2013), but to large scale qualitative estimations that filter dictionaries of poor quality or, at least, dictionaries not suited for a specific function, we limit the critical system to a few lexicographically relevant situations and only some types of users.

The most general situations of dictionary use are, according to Tarp, communicative and cognitive contexts in which someone needs to produce texts or know something - in the database we name them *Communication* and *Knowledge*. To these we add two others, which are more specific and are expected to be the most typical for web surfers: contexts in which someone needs to translate (*Translation* in the database) or learn something (*Learning*). Therefore our inventory is made up of three *lexicographical parameters*: three kinds of users, two general and two specific consultation situations (see fig. 1). The kind of user parameter is thus limited to laymen, experts, and semi-experts of one field, e. g. economy journalists who are not economists themselves (Bergenholtz & Kaufmann, 1997; Hartmann, 1989). To the parameters, feature frequency (see fig. 1) has been added, in order to keep track of the features that are always present and those which occur only sometimes in one dictionary, since the majority

that are always present and those which occur only sometimes in one dictionary, since the majority of these lexicons lack any strict lexicographical organization, and offer unsystematic assistance to users.

Lexicographical parameters →			Users								General Situations					Specific situations						
Lexicographical profiles →	L	aymai	n	Sei	mi-exp	ert		Expert	:	Kn	owled	ge	Com	munica	ation	Tra	anslati	on	L	earnin	g	
Feature frequency →	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	
Dictionary features ↓																						
General Organization and Host Site																						
Mediostructure																						
Microstructure																						
Linguistic fields																						
Non linguistic fields																						
Maximum score		24			24			24			30			30			25			25		

Figure 1: Lexicographical parameters (Users, General Situations, Specific Situations), lexicographical profiles (Layman, Semi-Expert, Expert, Knowledge, Communication, Translation, Learning), and dictionary features (addressing the General Organization, Mediostructure, Microstructure) with their occurrence frequency (Yes, No, S.= Sometimes). On this basis, the features considered to be more relevant (Bothma & Tarp 2012) for one parameter receive 1 or 2 points score, conversely, negative scores (-1, -2) are given to those judged as contradictory. Thus the evaluation scale is made as follows:

- 2 points to the most relevant features
- 1 point to relevant features
- -1 to contradictory features
- -2 to the most contradictory features

The specifics of each lexicographical parameter determine what we call here a *lexicographical profile*, which is outlined by its characterizing features, as it is displayed in table 2 below.

Lexicographical profile	Features and scores
Layman	Institutional Site: Yes (2); Specialised Site: Yes (1); Technical and non-technical terms: Yes (2); Cross-references: Yes (2); Related terms: Yes (1); Hypernyms & Hyponyms: Yes (1); Pronunciation notation: Yes (1); Stress information: Yes (1); Audio files: Yes (2); Technical definitions: Yes (-2), No (2); Example Sentences: Yes (2), No (-2), Sometimes (1); Quotations: Yes (-2), Sometimes (-1); Synonyms: Yes (2), Sometimes (1); Antonyms: Yes (2), Definitions: Yes (2), Sometimes (1); Examples: Yes (2), Sometimes (1), Video files: Yes (2), Sometimes (1), Pictures: Yes (2), Sometimes (1).
Semi-Expert	Institutional Site: Yes (2); Specialised Site: Yes (1); Bibliographic resources: Yes (1) No (-1); Hyperlinks: Yes (1); Access: Advanced search engine: Yes (1); Entries: 0-49: Yes (-2); Entries: 50-100: Yes (-2); Technical and non-technical terms: Yes (1); Cross-references: Yes (1); Related terms: Yes (1); Hypernyms & Hyponyms: Yes (1); Phonetic transcription: Yes (1); Syllabification: Yes (1); Linguistic variation: Yes (2), Sometimes (1); Technical definitions: Yes (1) No (-1); Quotations: Yes (2); Idioms: Yes (2), Sometimes (1); Collocations: Yes (2), Sometimes (1); Etymology: Yes (1), No (-1); Definitions: Yes (1); Domain field: Yes (1); Pictures: Yes (1).
Expert	Institutional Site: Yes (2); Specialised Site: Yes (1); Bibliographic resources: Yes (2), No (-2); Hyperlinks: Yes (2); Access: Browse: Yes (-1); Entries: 0-49: Yes (-2); Entries: 50-100: Yes (-2); Hypertexts: Yes (1); Phonetic transcription: Yes (2), Sometimes (1); Syllabification: Yes (2), Sometimes (1); Linguistic variation: Yes (2), Sometimes (1); Technical definitions: Yes (2), No (-2), Sometimes (); Quotations: Yes (2), No (-2), Sometimes (1); Idioms: Yes (2), Sometimes (1); Collocations: Yes (2), No (-2), Sometimes (1); Etymology: Yes (2), No (-1), Sometimes (1); Domain field: Yes (1).
Knowledge	Institutional Site: Yes (2); Specialised Site: Yes (1); Bibliographic resources: Yes (2); Hyperlinks: Yes (2); Cross-references: Yes (2); Related terms: Yes (2); Sometimes (1); Hypernyms & Hyponyms: Yes (2), Sometimes (1); Hypertexts: Yes (2); Quotations: Yes (2); Sometimes (1); Etymology: Yes (2), Sometimes (1); Definitions: Yes (2), Sometimes (1); Examples: Yes (2), Sometimes (1); Domain field: Yes (2), Sometimes (1); Video files: Yes (2), Sometimes (1); Pictures: Yes (2), Sometimes (1); Cultural notes: Yes (2).
Communication	Institutional Site: Yes (2); Specialised Site: Yes (1); Technical and non-technical terms: Yes (2); Grammatical category: Yes (2), Sometimes (1); Morphological information: Yes (2), Sometimes (1); Syntactic pattern: Yes (2), Sometimes (1); Phonetic transcription: Yes (2), Sometimes (1); Pronunciation notation: Yes (1); Stress information: Yes (1); Audio files: Yes (2), Sometimes (1); Syllabification: Yes (1); Frequency of use: Yes (1); Linguistic variation: Yes (2), Sometimes (1); Example Sentences: Yes (2), Sometimes (1); Idioms: Yes (2), Sometimes (1); Collocations: Yes (2), Sometimes (1); Synonyms: Yes (2), Sometimes (1); Antonyms: Yes (2), Sometimes (1).

Translation	Institutional Site: Yes (2); Specialised Site: Yes (1); Multilingual dictionary: Yes (2); Multilingual word list: Yes (1); Plurilingual dictionary: Yes (2); Bidirectionality: Yes (2); Technical and non-technical terms: Yes (2); Grammatical category: Yes (1); Morphological information: Yes (1); Syntactic pattern: Yes (2), Sometimes (1); Linguistic variation: Yes (2), Sometimes (1); Translation equivalences: Yes (2), No (-2), Sometimes (1); Idioms: Yes (2), Sometimes (1); Collocations: Yes (2), Sometimes (1); Cultural notes: Yes (2).
Learning	Institutional Site: Yes (2); Specialised Site: Yes (1); Learning resources: Yes (2), No (-2); Bibliographic resources: Yes (2); Hyperlinks: Yes (2); Monolingual dictionary: Yes (2); Multilingual dictionary: Yes (2); Related terms: Yes (1); Grammatical category: Yes (1); Morphological information: Yes (1); Syntactic pattern: Yes (1); Audio files: Yes (2), Sometimes (1); Example Sentences: Yes (2), Sometimes(1); Definitions: Yes (2), Sometimes(1); Examples: Yes (2), Sometimes(1); Video files: Yes (1);Pictures: Yes (2), Sometimes(1).
Lexicographical profile	Features and scores

# Table 2: Score assignment in the evaluation system of the Web Linguistic Resources database. Specific features receive different scores and outline the different lexicographical profiles considered.

In addition, the scores were given the following basic guidelines:

- 1) profiles belonging to the same lexicographic parameter may reach the same maximum score;
- 2) complementary profiles don't share the same features;
- 3) similar profiles may share the same features.

According to the first rule, user profiles may reach 24 points maximum each, general situations 30, and more specific consultation situations 25 (see fig. 1 and fig. 2).

The second principle, however, prevents the database from giving contradictory responses, such as dictionaries suited for laymen and experts at the same time. Therefore, referring to figure 2 below, technical definitions are required in the vocabularies for experts (2 points), but not in those for layman (-2). The opposite is also true: if a dictionary doesn't have technical definitions, it is suited for laymen (2) but not for experts (-2). Similarly, example sentences are expected in dictionaries for laypeople, and quotations in those for experts.

	L	aymaı	า	Sei	mi-exp	ert		Expert		Kn	owled	ge	Com	munica	ation	Tra	anslati	on	L	earnin	g
Dictionary features	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.	Yes	No	S.
Technical definitions	-2	2		1	-1		2	-2													
Example Sentences	2	-2	1										2		1				2		1
Quotations	-2		-1	2		1	2	-2	1	2		1									
Etymology				1	-1		2	-1	1	2		1									
Maximum rating		24			24			24			30			30			25			25	

Figure 2: Score giving to features according to the different profiles (*Layman*, Semy-Expert, *Expert*, *Knowledge*, *Communication*, *Translation* and *Learning*) and their occurrence frequency (Yes, No, S.=Sometimes).

On the contrary, the second guideline states that if the profiles are similar, they can share features and scores, such as a specialized host site and information on syntactic patterns for the translation and learning situations (see fig. 3).

	Tra	anslati	ion	Learning					
Dictionary features	Yes	No	S.	Yes	No	S.			
Institutional Site	2			2					
Specialised Site	1			1					
Multilingual dictionary	2			2					
Grammatical category	1			1					
Morphological information	1			1					
Syntactic pattern	2		1	1					
Audio files				2		1			

Figure 3: Features in common for the *Translation* and *Learning* profiles.

The evaluation procedure adopted is thus purely proscriptive (Andersen & Nielsen 2009), and based on the careful distribution of scores among the profiles inventoried in order to fulfill the requirement of the guidelines stated above. This should guarantee a balanced critical assessment procedure, minimizing the possibility that some profiles are easier to fulfill because they require lower maximum scores. Consequently, even though the comparative methodology used for the distribution of grades among the different profiles is paramount and not dismissible (Caruso forthcoming), at least one test on real users has already been carried out in order to check the overall validity of the proposed evaluation system (Caruso & De Meo 2013). In this study, the higher scoring medicine dictionaries of the WLR database for the *Translation* profile were used by 39 university students in a controlled translation session, and despite the overall low-quality of these vocabularies, students who consulted them to overcome some of the main difficulties in the source text performed better than those who translated freely, without referring to any dictionary whatsoever.

Focusing on the post-consultation phase, this small study on real dictionary use is just a starting point for the examinations that may be carried out in order to validate the assessment procedure of the WLR system, and the features that have been chosen to outline each *lexicographical profile*.

### 4 How to search the database

The features and the lexicographical (or rating) profiles are the main search options of the Web Linguistic Resources database. Accessing the homonymous site, it is possible to search for the dictionary that is best suited to the user's needs. The available options are listed in the center of the page, where the dictionaries ratings are provided as a percentage, since the score gives evidence of the degree to which the dictionary corresponds to the desired profile. Figure 4, for example, shows the search for a dictionary of biology suited for a learning context. The sector "biology" is a subfield within the dictionary features, which are listed on the left, while in the upper right of the page users can choose the rating profile. The other available search options are the translation languages, the language in which the dictionary is written (*Main Language*), but also other languages present in the entry list (*Languages Involved*), for example French terms in English wine dictionaries or Latin words in German law lexicons.

E LINGUISTIC RESOU			🔷 • 🛛 🌃 Co	ondividi 🔊 🔹 🖏 Traduci 👻 🛃	Compilazione auto • Altro	» 🚺 风 Valeria
Site descriptors <u>Reset</u>	Main language	Translation langua		Languages involved	Rating profile	
Dictionary	Arabic	Arabic				1000
Sector	Chinese		(E)	Akkadian Arabic	Knowledge Learning	<b>^</b>
Accounting	Dutch	Czech		Catalan	Expert	E
Accounting	E English -	Danish	-	Chinese 🔻	Semi-expert	
Anthropology	Please select descriptors	, languages, rating profile	(CTRL for m	ultiple selection) and then Sear	ch! ( vise AND operator)	
	5 results found					
Architecture		Si	ite		Profile Rating (%)	
Archive	University of California M	useum of Paleontology (UCN	MP) - Glossary	2	Learning 44	
Art	NHGRI - Talking Glossary	of Genetics			Learning 25	
Assurance	WebFinance Inc Science				Learning 19	
Astronomy		Is Online Pathfinder Encyclop	oedia, Versior	26.7 (Spring 2011 Edition)	Learning 12	
Auditing	Glossaire de Biochimie				Learning 12	
Auto						
Aviation						
Beauty & Wellness						
Beer						
Biology						
Botany						
Catering						
Chemistry						
Chocolate						
Collecting						

Figure 4: The search form of the Web Linguistic Resources database.

## 5 What remains to be done

At present the evaluation system filters dictionaries only on the basis of their features, according to explicit lexicographical parameters, but it doesn't provide any assurance about the reliability of contents, which nevertheless is one of the most urgent requirements for anyone browsing the Internet. Obviously it is impossible to vouch for the quality of every single piece of information provided by the web dictionaries or by any other dictionary. What is needed is to avoid resources that create problems for users instead of helping them. This is the case with the following explanations related to the enological term "extra dry":

Extra-Dry

Don't believe everything you read. What this really denotes is a sweet Champagne. (Pacific Northwest Wine Company.Terminology and Descriptions)

extra dry

adj. Another step on the sweetness-level scale associated with Champagne. Starting on the low end with brut zéro, the scale ascends to brut nature, extra brut, and brut sauvage (all of which are bone-dry), then brut (dry), extra dry (a hint of sweetness), sec (slightly sweet), demi-sec (moderately sweet), and doux (the sweetest of all). Why extra dry is sweeter than brut is a mystery to everyone but Francophiles. The only types of sparkling wine you're likely to see at the store are brut, extra dry, and demi-sec, of which brut is far and away the most popular. FYI, table wine that's slightly sweet is referred to as off-dry (*Wine Lovely – Glossary*).

In these examples, the discrepancy between the ordinary value of the adjective *dry* and its meaning in the *extra dry* specialised compound is particularly highlighted, and in the second definition the difference is also underlined using an indirect question: "Why extra dry is sweeter than brut is a mystery to everyone but Francophiles". However no answer is given.

One useful discriminatory criteria might be that of referring to dictionaries published by leading institutions of one field, but whilst browsing the Internet it is possible to collect examples of the lexicographical inexperience of experts responsible for dictionary writing. Firstly, if definitions are not compiled carefully, they can give bad explanations that eventually turn into information voids, this is the case with the entry *Chromosome* of the *Talking Glossary of Genetics*, published by the highly esteemed National Human Genome Research Institute. The definition says that: "Humans have 23 pairs of chromosomes(...), and one pair of sex chromosomes, X and Y", which is misleading, since XY is the chromosome pair of males, while women have XX, as is clearly explained in the voice for *Sex Chromosome*:

(...) Humans and most other mammals have two sex chromosomes, the X and the Y. Females have two X chromosomes in their cells, while males have both X and a Y chromosomes in their cells (...).

Secondly, sometimes the lack of any strict lexicographical organization prevents exhaustive meaning explanations. For example, the *University of California Museum of Paleontology* explains *Basement Rock* as follows:

basement rock -- n. The oldest rocks in a given area; a complex of metamorphic and igneous rocks that underlies the sedimentary deposits. Usually Precambrian or Paleozoic in age.

In fact, since no explicit label nor clear text divisions are provided, it is impossible to decide whether the first part of the definition "The oldest rocks in a given area;" is one possible meaning of "basement rock", or if "The oldest rocks in a given area;" is a synonym of the following part of the definition, particularly that which states: "Usually Precambrian or Paleozoic in age".

These brief examples give an idea of the kind of work that remains to be done, but not of the kind of solutions to be provided. In effect, after having established which features of the definition must be rated, two main evaluation options remain: one is to choose a pair of critical terms for each specialized field and analyze their definitions in every vocabulary, the other is to extract at random a fixed number of terms for each resource and provide statistically relevant assessments. Speaking in general

terms, the latter option is preferable, since the 'critical' terms of huge fields (e.g. medicine, economy etc.) are too numerous.

Therefore, the most suitable statistical evaluation model for the matter remains to be chosen, provided that the number of the rated definitions remains the same for every vocabulary, regardless of its entry number. Since the number of definitions considered doesn't change, it is necessary to provide each assessment of the dictionary entries with its variation coefficient, i. e. the precision index of the estimation made for the vocabulary considered. It is therefore unsurprising that small dictionaries will be rated more accurately than the big ones.

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