SENSE DISCRIMINATION IN FIVE ENGLISH LEARNER'S DICTIONARIES

ANA HALAS
University of Novi Sad
Email: anahalas@gmail.com

Abstract: This paper presents the comparison of sense discrimination strategies including the structure and organization of a polysemous word entry in five English monolingual learner's dictionaries with the aim of gaining an insight into the aspects of sense division where the given dictionaries agree and disagree. The final outcome of the analysis is the selection of features contributing to the establishment of the user friendliest sense discrimination system in a pedagogical dictionary.
Keywords: lexicography, lumping, polysemy, sense discrimination, splitting

1. Introduction

This paper sets forth one of the main issues regarding the lexicographic treatment of polysemous lexemes, i.e. sense discrimination, which can be defined as a lexicographic procedure aiming at precise and meticulous decomposition of the given polysemous structure into senses and related subsenses within a dictionary entry. More specifically, the paper analyses sense discrimination strategies used for establishing the senses and subsenses of the polysemous verb *drop* in the following English monolingual learner's dictionaries: *Oxford Advanced Learner's Dictionary* (OALD), *Macmillan English Dictionary for Advanced Learners* (MEDAL), *Longman Dictionary of Contemporary English* (LDOCE), *Collins Cobuild English Dictionary* (CCED), *Cambridge Advanced Learner's Dictionary* (CALD). The verb *drop* has been selected due to its rich polysemous structure including various uses in different contexts, which provides a suitable corpus for the given analysis. Furthermore, dictionaries for language learners or pedagogical dictionaries have been selected for this analysis as a type of dictionaries primarily designed to meet the practical needs of teachers and learners of a language. As a result, it is expected that these dictionaries place an emphasis on neat, meticulous, clear and easily intelligible separation and organization of word senses since this is considered one of the key requirements for a user-friendly reference work.

The analysis aims at identifying and comparing sense discrimination criteria and an overall strategy employed in the five dictionaries of the same type, size and objectives. In this way, it is possible to check the supposed expectation of an average language-user who might

predict that the account of a particular polysemous lexeme in one dictionary is much the same as in other dictionaries, especially if they belong to the same type. Potential similarities in the five systems might indicate a common lexicographic approach applied in English pedagogical dictionaries. On the other hand, potential differences in word sense disambiguation systems and entry organization and structure among the five dictionaries in question confirm the attitude that a word sense is a rather relative, vague and unstable category that can be viewed and approached from various perspectives even in dictionaries of the same type.

Finally, the summary of the findings is expected to show the way towards the user-friendliest sense discrimination system relied on the features of the five analysed dictionaries.

2. Lexicographic Treatment of Polysemy

Polysemy is a linguistic phenomenon referring to the ability of a lexeme to have several senses all of which are mutually connected and presented within one dictionary entry. According to Dragićević (2007:131-132), the polysemantic structure of a lexeme includes the primary sense and secondary senses derived from it through mechanisms such as specialization, generalization, metaphor or metonymy. The primary sense is established as the sense that most readily springs to speakers' mind when they think of a particular lexeme, so that it could be treated as a direct sense (Zgusta 1971:61).

As Zgusta (1971:64) claims, while analysing a rich polysemous structure of certain lexemes including direct, transferred, specialized and generalized senses, a lexicographer notices that certain senses overlap or that there are plenty of borderline cases, which is one of the main difficulties in the process of splitting a word's total semantic potential into separate clearly divided senses and organizing them within a neat list of numbered items. In his explanation of this demanding lexicographic task, Kilgarriff (2006:29) explains that there is very little agreement about what word senses are or how broad their scope should be, and no definitive way of knowing where one sense ends and another begins. This claim subsumes the main issues of sense discrimination.

Accordingly, the lexicographers' task of word sense disambiguation (WSD) requires a reliable methodology that is based on a set of practical strategies involving the use of meaning indicators provided by the context in which a word appears. These indicators enable lexicographers to identify different senses of a polysemous lexeme.

Atkins and Rundell (2008:296) make a distinction between external and internal indicators of meaning. The external factors include: the domain or subject matter of a text, a regional dialect, time and subcultures. The internal indicators of meaning, such as a word's syntactic and lexico-grammatical behaviour, collocational features and selectional restrictions and colligational preferences, are still perceived as more reliable in the task of sense discrimination.

However, the application of practical sense discrimination strategies provides a lexicographer only with a set of a lexeme's various senses, i.e. raw data that requires further processing. Actually, a lexeme's inventory of senses can be analysed at different levels of granularity. Thus, a lexicographer can account for a word's inventory of senses by distinguishing only among the main uses of a word or they can do a finer analysis by making subtler distinctions among the senses. More senses are established in this way since each determined sense matches a precise context.

Lexicographers decide on one of the two methods known in lexicography as "lumping" and "splitting". Lumping refers to grouping of closely related senses, while splitting denotes the opposite process, establishing a greater number of more finely defined senses. Which method is applied depends on the type of a dictionary as well as the needs of its users. Penelope Stock (1983:131) notices that splitting, however, imposes a problem of knowing when to stop eliciting distinctions which individuate different senses. The definition of every contextual variation as a separate sense produces too detailed a sense inventory that causes a problem for logical and effective organization and clear structure. Actually, it is fairly difficult to transform such a large number of senses into a list of neatly separated, consecutively numbered senses and their appropriately structured and labelled subsenses.

3. Corpus Analysis

Except for CALD, the entry for the verb *drop* in each of the learner's dictionaries in question consists of a list of clearly separated and numbered senses. Instead of an entry structured in this way, CALD offers a list of both nominal and verbal uses of *drop*, which are not numbered but only divided into separate sections, each of which is followed by a list of fixed expressions related to the given sense.

Most of the dictionaries include approximately the same number of senses, as it is shown in the table below:

	LDOCE	*OALD*	*CALD*	*MEDAL*	*CCED*
Nº of senses	13	13	4	13	15

The number of principal senses shown in the table implies that all the dictionaries include equally exhaustive list of senses. The only exception is CALD, which offers a significantly smaller number of senses, which are, presumably, selected on the basis of the frequency of their use.

The senses included in each of the dictionaries are established on the basis of various sense discrimination criteria summarized as follows:
   ▪   syntactic or lexico-grammatical behaviour,

- selectional restrictions/specific referent,
- colligational preferences,
- metaphoric transfer of meaning,
- variation in a sense component,
- register,
- fixed expression.

The application of these criteria has enabled lexicographers to identify particular uses of the verb *drop* and form its dictionary entry. The examination of sense discrimination strategies and organizational system in the five dictionaries has included two uses of the given verb: the default and a figurative one.

3.1 The Treatment of the Default Sense

The default sense of the verb in question is *fall* or *let something fall*. This sense is determined as the primary one since it does not imply any additional connotation and is not the result of the figurative extension of meaning by means of cognitive mechanisms, such as metaphor or metonymy.

However, this sense is not treated as a single one in all the dictionaries. Actually, it can serve as the first indicator of differences in applying a particular sense discrimination criterion as well as in an overall organizational strategy.

In MEDAL, the default sense component of the verb *drop*, which is *fall*, is represented within a single numbered sense section including the superordinate main sense and two subsenses.

Figure 1: The default sense section in MEDAL

It seems that the main sense is established as the dominant one, i.e. the first one to be thought of by the majority of speakers coming across this verb outside any context. However, the distinction between the two subsenses, which are closely related to the main sense due to the same main sense component of *falling*, is established on the basis of the grammatical criterion, transitivity. The change in transitivity brings about the difference in meaning, which is shown in the figure above.

Since both the superordinate and the first subsense involve the transitive use of the given verb, it is clear that an additional criterion has been used for making a distinction between them. It is defined in this paper as a variation in a sense component accompanying the default one. In addition to the default component of *falling*, the superordinate sense involves the component *deliberately*, while the subsense involves the opposite component, *accidentally*.

The same sense is treated in various ways in the other dictionaries. CALD does not recognize transitivity or a variation in sense components as indicators of meaning since it includes all the variations in a single sense. The definition of the given sense is formulated in a broad way subsuming both the transitive and intransitive use of the verb *drop* and showing no inclination towards displaying finer sense distinctions.

drop FALL **E** /drɒp/ ⓤ /drɑːp/ *verb* [I or T] (-pp-) to fall or to allow something to fall: *She dropped her keys.* ○ *I'm always dropping things.* ○ *Amanda dropped her sunglasses in/into the fountain.* ○ *The book dropped from/off the shelf.* ○ *Don't drop it!/Don't let it drop!*
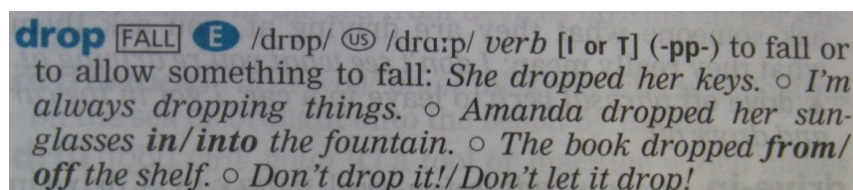
Figure 2: The default sense section in CALD

OALD shows the tendency of grouping the related senses as it is the case in MEDAL. Thus, the meanings whose core component is *falling* are placed within the same sense section, but they are marked as separate senses so that the structure is flat and not hierarchical as in MEDAL. (The hierarchical structure refers to the grouping of closely related senses so that the most general one is marked as a superordinate sense followed by its subsenses. In a flat structure, all senses have an equal status and they are labelled accordingly.)

drop ⓞ➞ /drɒp; NAmE drɑːp/ *verb, noun*
■ *verb* (-pp-)
▸ FALL **1** to fall or allow sth to fall by accident: [V] *The climber slipped and dropped to his death.* ◇ [VN] *Be careful not to drop that plate.* **2** to fall or make sth fall deliberately: [V + *adv./prep.*] *He staggered in and dropped into a chair.* ◇ [VN] *Medical supplies are being dropped into the stricken area.* ◇ (*BrE*) *He dropped his trousers* (= undid them and let them fall). ◇ (*NAmE*) *He dropped his pants.* **3** [V] to fall down or be no longer able to stand because you are extremely tired: *I feel **ready to drop**.* ◇ *She expects everyone to work till they drop.*
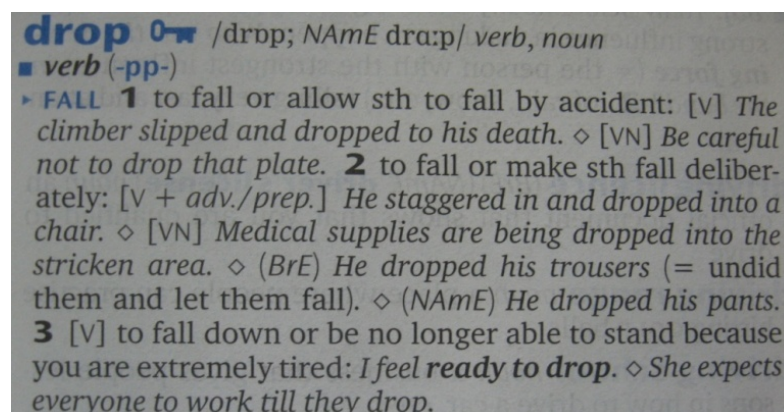
Figure 3: The default sense section in OALD

The key criterion applied here is not transitivity as in MEDAL, but the variation in sense components (*fall deliberately* vs. *fall accidentally*), so that it is taken as an indicator of two distinct senses. Moreover, this section includes the third sense that is completely contextually dependent since the indicator of distinct meaning in this case is a specific referent (a human

being). This use derived from the default one by means of specification is treated as a separate sense in the other dictionaries (e.g. MEDAL, CCED) or it is not included at all (e.g. LDOCE, CALD).

CCED includes all the previously mentioned contextual variations of the prototypical sense, but they are all shown as separate senses established on the basis of the same criteria as in previously examined dictionaries (the variation in a sense component and transitivity).

> **2** If you **drop** something, you accidentally let it fall. *I dropped my glasses and broke them.*
> **3** If something **drops** onto something else, it falls onto that thing. If something **drops** from some-where, it falls from that place. *He felt hot tears dropping onto his fingers... Burning embers started dropping from the ceiling... His toupee dropped off, revealing his bald head.*
> **4** If you **drop** something somewhere or if it **drops** there, you deliberately let it fall there. *Drop the noodles into the water... He dropped his plate into the sink. ...shaped pots that simply drop into their own container... Bombs drop round us and the floor shudders.* ♦ **dropping** *...the anniversary of the dropping of the first atomic bomb.*
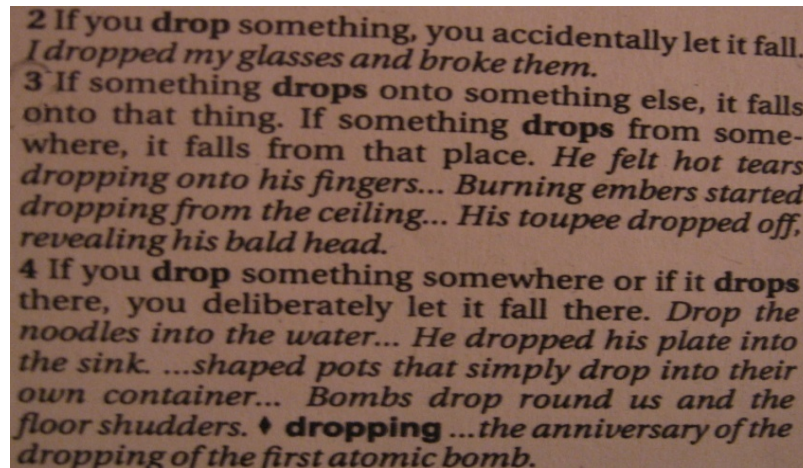
Figure 4: The default sense section in CCED

It should be noted here that CCED does not follow a logical order of senses in its entry. This claim is supported by the fact that the default sense is not positioned as the first one in the list of senses. What is more, a sense derived from the primary one by means of metaphor is positioned at the very top of the list of senses.

In LDOCE, the core sense component of *falling* is divided into two separate senses distinguished on the basis of the transitivity criterion. The two senses are represented as two numbered sections (*let something fall* and *fall*). The fact that the first section consists of two senses marked and positioned as subsenses can indicate the tendency towards hierarchical structuring of sense sections. However, the subsenses are not established on the basis of the variation in an additional sense component as is the case in the previously analysed dictionaries. Namely, the broad definition of the first subsense subsumes both variations: *let something fall deliberately* and *let something fall accidentally*. This implies that LDOCE does not tend to achieve a high degree of granularity in making sense distinctions. It seems that the general tendency is to group together all the uses with the same core sense component without drawing fine distinctions based on the variation in a single sense component.
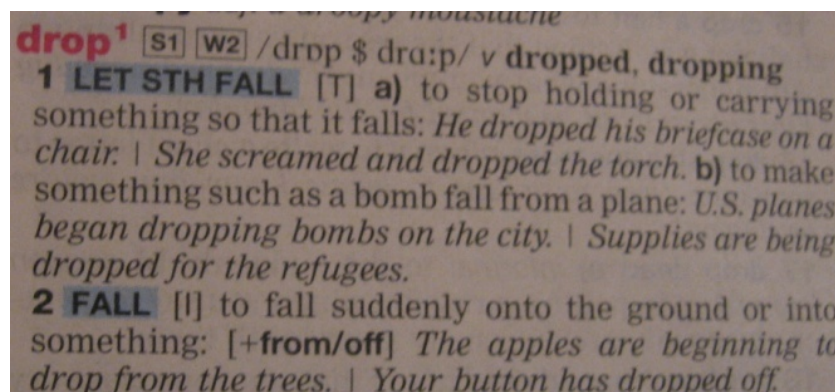
Figure 5: The default sense section in LDOCE

The second subsense is associated with a quite specific context, i.e. this use of the verb *drop* requires a specific semantic type of object connected to entities being thrown from the plane (e.g. bombs, supplies). Thus, the criterion at work in this case is selectional restriction. This use is not marked as a distinct sense in the other dictionaries.

Using the grammatical criterion of transitivity, all the dictionaries in question distinguish between the two variants (transitive and intransitive use) of the default sense. However, there are differences among the dictionaries regarding the scope, structure and organization of the default sense. In most cases, the two variants of the default sense of *falling* are treated as two separate senses. However, in CALD both variants are grouped together representing a single sense. What is more, MEDAL treats the intransitive use of the verb *drop* as a subsense within the default sense section.

The transitive use of the given verb can be further split into two senses according to the sense component opposition *deliberately/accidentally*. Again, the dictionaries do not agree on the treatment of these two senses. Most of the dictionaries mark the two variants as separate senses. CALD does not take this criterion into account, while MEDAL positions the component *deliberately* as the main, default and superordinate sense, while the variant with the component *accidentally* is treated as its subsense.

It can be concluded that these five dictionaries have applied the same criteria to discriminate among various meanings of the verb *drop*, but the data acquired in this way has been structured and organized differently.

3.2 The Treatment of a Figurative Sense

The application of the sense discrimination criterion defined as the metaphoric transfer of meaning is illustrated in the example of the sense present in all the given dictionaries: *become weaker/less*.

This figurative sense is derived from the basic sense by means of metaphor whose pattern is BECOMING WEAKER/LESS IS FALLING DOWNWARDS/DROPPING. As for this sense, the verb *drop* can be used both transitively and intransitively. However, OALD does not use the difference in

159

transitivity as a sense discrimination criterion. Moreover, the example sentences contain some of the most common referents that appear with the verb *drop* in this figurative use, but they are all subsumed under a single broad definition.

Figure 6: The metaphoric sense section in OALD

CALD's entry includes the same sense although defined in a broader way. Specific referents are not taken as indicators of distinct senses or subsenses, too.

Figure 7: The metaphoric sense section in CALD

In MEDAL, the metaphoric transfer of meaning is used as a criterion for establishing a distinct sense section. The most generally defined use is singled out as the superordinate sense and further split into subsenses. MEDAL applies the criterion of specific referent in order to show further specialization of this transferred sense including referents such as *voice* and *wind*, which are treated as indicators of new subsenses of a more general superordinate sense. The third subsense is established on the basis of a grammatical criterion, i.e. transitivity.

Figure 8: The metaphoric sense section in MEDAL

It is interesting that CCED positions this sense as the first one in the list of senses, although it is not the primary, basic sense.

> **drop** /drɒp/ **drops, dropping, dropped**
> **1** If a level or amount **drops** or if someone or something **drops** it, it quickly becomes less. *Temperatures can drop to freezing at night... Once the rate rises it never drops back to its previous level... His blood pressure had dropped severely... He had dropped the price of his London home by £1.25m.* ▶ Also a noun. *He was prepared to take a drop in wages... The poll indicates a drop in support for the Conservatives.*
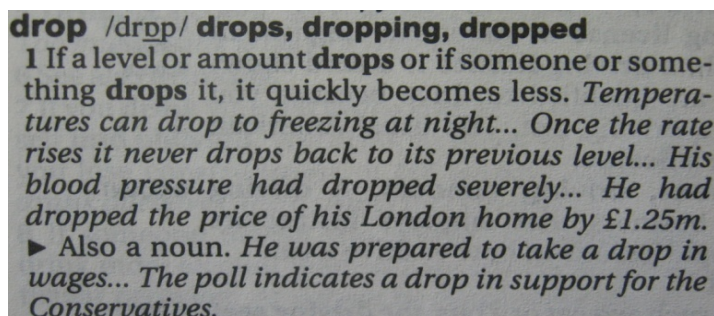
Figure 9: The metaphoric sense section in CCED

As has been shown so far, there is a variety of referents used with the verb *drop* in this metaphoric sense. Still, only *voice* is taken into account in CCED. This referent is recognized as an indicator of a separate, new sense positioned in a way that does not show any close relation to the sense it has been developed from by means of specialization.

> **8** If your voice **drops** or if you **drop** your voice, you speak more quietly. *Her voice will drop to a dismissive whisper... He dropped his voice and glanced round at the door.*
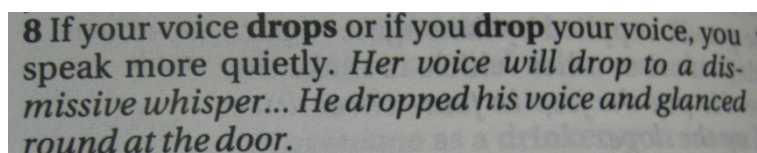
Figure 10: The metaphoric sense section in CCED

In LDOCE, metaphoric extension is accompanied by transitivity for the purpose of distinguishing between two related uses treated as two separate senses in this dictionary.

> **4 BECOME LESS** [I] to fall to a lower level or amount, especially a much lower level or amount: **drop suddenly/sharply/dramatically** *The number of deaths on the roads has dropped sharply.* | *Temperatures drop quite dramatically at night, so bring some warm clothing.* | [+**to**] *Their share of the market dropped to 50 percent this year.*
> **5 REDUCE** [T] to reduce the level or amount of something: *You might be able to get them to **drop the price**.* | *As soon as she saw the police car she **dropped** her **speed**.*
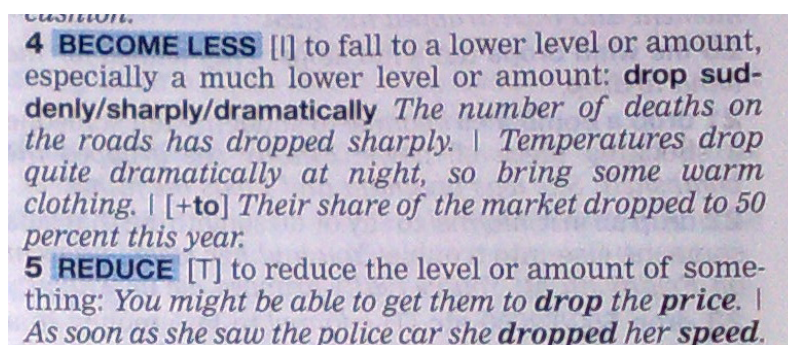
Figure 11: The metaphoric sense section in LDOCE

Transitivity is the dominant criterion in this case since it is the one that brings about the difference in meaning considered significant enough for establishing the two variants of the same metaphoric sense as two independently numbered senses within the entry.

In all the dictionaries, this figurative use of the verb *drop* has been recognized and established as a separate sense. OALD and CALD treat this metaphoric transfer of meaning as a

single simple sense section offering a broad definition, without further decomposition of the meaning into subsenses. However, in MEDAL, CCED and LDOCE, the metaphoric transfer of meaning has not been used independently as a sense discrimination criterion. Instead, it has been supported by other criteria, such as syntactic behaviour or selectional restriction, so that the general superordinate definition of the sense is further split into subsenses (as in MEDAL adhering to the hierarchical structure) or even several separate senses (as in CCED and LDOCE). The examination points to the conclusion that the choice and application of sense discrimination criteria affects the scope of a sense section and its decomposition. The interplay of several sense discrimination criteria often results in a more granular sense structure.

4. The Overall Sense Discrimination Strategy in the Five Learner's Dictionaries

The analysis of the treatment of the default sense and one metaphorical sense from the polysemous structure of the verb *drop* has provided a basis for the discussion on a general tendency present in each of the dictionaries in question concerning the sense discrimination practice. It is possible to define a general sense discrimination system for each of the dictionaries depending on the degree to which a dictionary atomizes the principal senses of the verb in question.

MEDAL applies the general strategy of lumping. It means that it attempts to group all senses with the same main or dominant semantic feature into a single sense section, which is structured hierarchically so that the most general sense is positioned and numbered as the superordinate one, while more specific uses discriminated on the basis of selectional and colligational restrictions or specific syntactic behaviour are treated and labelled as its subsenses.

LDOCE shows the tendency towards splitting as a general strategy, although the default sense, limited only to the transitive use of the verb *drop*, is divided into two subsenses positioned under the same heading LET STH FALL. However, the intransitive use with the same main semantic component of *falling* is labelled and positioned as a separate sense. As for the metaphoric meaning *become weaker/less*, the organization is the same, i.e. the transitive and intransitive use with the same main sense feature are treated as two separate senses.

The analysis has shown that OALD inclines towards lumping. This tendency is reflected both in sense organization and sense definitions. The default sense feature of *falling* is divided into three separate senses, each of which is marked by its own specific additional sense feature. However, since they are perceived as senses derived from the same core sense, they are grouped under the same heading FALL. Still, the structure is not hierarchical as in MEDAL. Furthermore, the metaphoric sense *become weaker/less* is not split into two distinct senses, as is the case in LDOCE, but the definition is formulated in a broader way so that it subsumes all the variations of the given sense within the same sense section.

The treatment of polysemy in CCED is fully representative of splitting. Taking into account the default sense, every variation in an additional sense component

(*deliberately/accidentally*) or syntactic behaviour is considered as an indicator of an independent new sense. The same practice is applied in the case of the observed metaphoric sense. The structure of the entry is flat.

CAED's entry for the verb *drop* includes only four senses, whose definitions are broadly defined so that they subsume a number of mutually related uses treated as subsenses or even separate senses in the previously mentioned dictionaries. Thus, it is supposed that this dictionary favours lumping as a general strategy. However, the list of senses is certainly not extensive enough to consider this observation as a completely valid conclusion.

5. Conclusion

The analysis presented in this paper has revealed that there is no universal sense discrimination system common to all the examined dictionaries despite the fact that they belong to the same type. It has been shown that they discriminate among the same principal uses of the verb in question due to reliance on the same criteria. However, further processing of this raw data takes different directions due to different understandings of what a word sense is and how broad its scope should be. This observation supports the view that a word sense is a rather unstable category so that it is difficult to propose a comprehensive and exact definition of it. Thus, it is not surprising to find various sense discrimination systems even in dictionaries of the same type.

Another question that arises from the analysis is what system would be the most suitable for a pedagogical dictionary. The suggestion offered in this paper is based on the selection of the user friendliest features found across these five dictionaries, taking into account clear and neat discrimination of senses, their selection, organization and structure within an entry.

The attitude adopted in this paper is that lumping and the hierarchical structure, which is considered compatible with this strategy, are more suitable than other choices for the type of dictionaries in question. This type of organization implies that all closely related senses are grouped together within a single numbered sense section. However, for each section, there is a superordinate sense defined broadly enough to encompass all its appropriately positioned and numbered subsenses ordered from less to more specific in relation to the superordinate sense. In this way, a quick look at the entry enable users to gain an insight into the principal senses of a particular word. After focusing on the needed principal sense, users can quickly look up a more specific subsense appearing in a particular context. For the purpose of illustration and better understanding of the context in which the given sense is used, every sense within a section should be followed by example sentences.

All the proposals mentioned above are illustrated by a suggested numbered section for the default sense of the verb *drop* based on the following sense discrimination criteria: transitivity, variation in a sense component and colligational preference (the use of a particular preposition or adverb with the given verb in the case of the subsense 1c):

drop /drɒp/ verb

1 [T/I] to fall or to allow something to fall: **1a.** [T] to allow something to fall by accident: ● *Be careful not to drop that expensive vase.* **1b.** [T] to make something fall deliberately: ● *Drop the noodles into the water and stir to prevent them sticking together.* **1c.** [I] to fall onto the ground or into something: [V+prep/adv] ● *The ball dropped **into** the hole just a few seconds before the end. All the plums have dropped **from** the trees. Your button has dropped **off**.*

References

Atkins, Sue B.T. and Rundell, Michael. 2008. *The Oxford Guide to Practical Lexicography*. Oxford: Oxford University Press.

Dragićević, Rajna. 2007. *Leksikologija srpskog jezika*. Belgrade: Zavod za udžbenike.

Kilgarriff, Adam. 2006. "Word Senses" in *Word Sense Disambiguation: Algorithms and Applications*. Eneko Agirre and Philip Glenny Edmonds (Eds.). New York: Springer, pp. 29-45.

Stock, Penelope F. 1984. "Polysemy" in *LEXeter '83Proceedings*. Reinhard R.K. Hartmann (Ed.). Tübingen: Niemeyer, pp. 131-141.

Zgusta, Ladislav. 1971. *Manual of Lexicography*. Prague: Academia Publishing House of the Czechoslovak Academy of Sciences.

Corpus

Cambridge Advanced Learner's Dictionary (2nd ed.). 2007. Elizabeth Walter (Ed.). Cambridge: Cambridge University Press.

Collins Cobuild English Dictionary (2nd ed.). 1995. John Sinclair (Ed.). London: HarperCollins Publishers.

Longman Dictionary of Contemporary English (4th ed.). 2003. Della Summers (Ed.). Harlow: Pearson Education Limited.

Macmillan English Dictionary for Advanced Learners (2nd ed.). 2007. Michael Rundell (Ed.). Oxford: Macmillan Education.

Oxford Advanced Learner's Dictionary (7th ed.). 2005. Sally Wehmeier (Ed.). Oxford: Oxford University Press.

Note on the author: Ana Halas was born in 1984 in Zrenjanin, Serbia. She has been working as a teaching assistant at the Department of English Studies, the Faculty of Philosophy, the University of Novi Sad since October 2008. Currently, she is a PhD student of Language and Literature at the same faculty and is doing a PhD thesis in lexicography.