
Pictorial Illustration in Dictionaries

The State of Theoretical Art

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Abstract

The aim of this paper is to introduce the theory of pictorial illustration in lexicography. This kind of summary could be useful both for lexicographers with experience in incorporating visual materials as well as scientists who would like to add this kind of content to their projects. Concerning the list of arguments to be presented, firstly, a difference between encyclopedias and dictionaries, crucial for including pictorial illustration, will be shown. Secondly, I will characterize the results of recent user studies related to this subject. The third part of the text is a report on the verbal and visual mode in lexicography (typology of facilities, significance of colour, the problem of caption and the mutual relation between these two modes). Then I will indicate which groups of meanings and which parts of speech are or should be illustrated. Subsequently, the characteristics of different illustrating strategies will be presented. Finally, I will formulate some general rules concerning pictorial illustration in dictionaries, related to the typology of dictionaries. In conclusion some proposals for further research will be recommended.

Keywords

pictorial illustration; multimodal lexicography; multimedia in lexicography; theory of lexicography

1. Introduction

The aim of this paper is to present the most important achievements of lexicographical theory concerning pictorial illustration in dictionaries.¹ Many existing electronic and printed reference works, like OALD or LDOCE, already have a long-standing tradition related to these tools which are used for meaning explanation and/or vocabulary teaching. During the last few years, however, interesting and innovative pictorial dictionaries appeared that cover only a specific part of vocabulary. Despite their efficiency, they use specific and narrow methodologies, not necessarily apt for general projects. We could point out here, for example, the multilingual and animated verb translator IMAGACT (Panunzi *et al.*: 2014) or Costal Engineering Terminological Database, influenced by Fillmore's Frame Semantics (Faber *et al.* 2007). On the other hand, many electronic dictionaries, especially now, in the Internet era (or dictatorship), are facing the problem of launching pictorial illustration. Therefore in this paper I would like to gather together a highly dispersed knowledge concerning pictorial illustration in lexicography. My aim especially will be to collect information of practical importance. I hope that such a summary will be useful both for lexicographers with experience in incorporating visual materials as well as scientists who would like to add this kind of content to their projects.

¹ In order to avoid constant repetition, "pictorial illustration" will be also referred to as "graphic/graphical illustration". I will also use phrases like: "pictorial tools", "visual facilities" or "graphic devices" to express the function of analysed objects.

2. Dictionaries and Encyclopedias

When thinking about pictorial illustration one should keep in mind that traditional lexicography distinguishes between two kinds of reference works: dictionaries and encyclopedias, and therefore two kinds of knowledge that can be incorporated in the entry: linguistic knowledge and encyclopedic knowledge. It has been a great concern for lexicographers to deprive dictionaries (especially definitions) of additional and unnecessary scientific knowledge, not vital for meaning recognition. Pictorial illustrations were considered typical for encyclopedias and encyclopedic dictionaries (Hartmann, James 1998: 48-49). Their function was not to help during the meaning understanding process but to give additional information. That's why pictorial illustration, as a part of the scientific paradigm in lexicography, was excluded from many general dictionaries or limited, for example in learner's dictionaries, to a certain number of items that followed special criteria. What's more, technical and financial matters also influenced such state-of-the-art lexicography.

With the advent and the development of the Internet and computational linguistics, the situation has changed. Pictorial illustration became an omnipresent standard in digital communication. Scientific knowledge stepped boldly into our everyday life and turned us into quasi-specialists, interested in technical inventions and trends. With every passing year one needs more and more specialized knowledge to exist in the contemporary world. All of these factors result in a kind of urge to implement visual illustration in dictionaries. With blurred boundaries between encyclopedias and dictionaries we have returned to an old dilemma related to the amount of scientific knowledge that should be reflected in lexicography. This problem seems to be especially interesting in the context of pictorial illustration typology.

3. User Studies

Recent user studies have shed some light on the practical meaning of visual materials in lexicography. What is interesting, users are not used to graphic or animated facilities in dictionaries. They do not perceive them as essential for perfect electronic reference works. Reliability of content, its being up-to-date, clarity and speed – these are the most valued features (Müller-Spitzer, Kopleinig 2014: 148-149). From a positive viewpoint, we could say that the challenging process of creating a golden standard for illustrated on-line dictionaries is still our future task and privilege. As it was indicated by R. Lew (2010b), despite various possibilities connected with website design, the crucial space used for meaning explanation is still under constraint and must be managed carefully. On the other hand, user experiments conducted on language learners (e.g. Gumkowska 2008, Lew, Doroszevska: 2009, Kemmer 2014) have proved that dictionary readers during consultation, if offered verbal and pictorial meaning explanation tools, will most probably use both of these facilities. If one explanatory mode will be chosen, the retention of a new meaning will be lower.

4. Verbal and Visual Mode

That leads us to the statement formulated during the last few years by many researchers. If we want to add a visual device to our verbal definition (equivalent) a new coherent entity should come into existence. K. Kemmer (2014) calls it a symbiosis between verbal and pictorial facilities, X. Liu (2015) advocates a semantic ecology of multimodal definition, created by verbal and visual lexicographical tools.

4.1. Typology

When thinking about this special junction between the two different explanatory paradigms, it is worth characterizing possibilities typical for verbal and visual modes. Traditionally speaking, the sources of verbal meaning explanation are definitions or equivalents (typical for learner's dictionaries). Visual tools are represented by drawings, photographs, animations, video clips as well as graphs, charts, schemes etc. Also facilities connected with IT technology, connecting different

resources, are considered helpful during the meaning consultation, e.g. framing, floating tips, sense menus, pop-up windows, exploding entries (e.g. Lew 2010, Liu 2015).

Drawings are considered more efficient in the case of idealized objects (e.g. prototypical *dog* or *chair*) since they do not contain additional context information (Hupka 1989: 707). Unfortunately, they are more difficult to obtain than photographs (Lew 2010a).



Picture1: A drawing used for depicting an idealized object (entry: *chips*, Oxford Dictionaries Online).

Photos are seen as apt for showing individual things not idealized (Gangla 2001). Because of their context-dependence without a legend, photographs do not emphasize what is the focus (Lew 2010a). They also carry a visible stamp of time and culture (Nesi 1989: 132). On the other hand, this type of characteristic seems to be an advantage when showing the meaning of environment-bonded items or presenting a connotation typical for a certain sense.



Picture 2: Photograph of environment-bonded item (entry: *lake*, Longman Dictionary of Contemporary English)

A very interesting idea that might overcome this dilemma was proposed by Kwaśnicka-Janowicz (2007: 173). She advocated creating a multipicture structure which she called “the palimpsest”. Similar to old documents that were used many times, thanks to the erasing of the previous text, she sees pictorial facility as an entity created by subsequent visual materials. They can be activated one after another by clicking or mouse-hovering. For example, in the case of the entry *caryatide* the basic material would be idealized drawing of an isolated item, than a drawing of a whole column, and lastly, some photographs with authentic objects could be shown to the user.

Another mode of visual presentation – animations – seems to be the right tool for showing meanings connected with different aspects or sides of things and actions (e.g. *eclipse*, *to open*). In traditional lexicography these phenomena were presented as a set of two or more drawings. Another mode of visual presentations – video sequences – can be useful for explaining pragmatic senses. The biggest disadvantage of animations and video sequences is a relatively big storage space which might cause problems during webpage or software loading. Nowadays, although there is a possibility of adding animated sequences or videos to the meanings, these facilities are still not popular in general and learner’s electronic lexicography. We can encounter them in LSP projects

(e.g. IMAGACT). It has been also experimentally proved that animations might distract the user's attention from verbal material at hand and lead to a lower meaning retention (Lew, Doroszevska 2009). Therefore careful consideration before choosing between a sequence of pictures/photos or animated/video material should be taken into account.

4.2. Colourful or Monochromatic?

Another mode related issue is the problem of usage of colour. Lexicographers are still not sure if colour, by adding realism to the material, helps in the process of meaning recognition, or if it distracts our attention (Gangla 2001: 14-26). There is no doubt, however, that some types of entries demand colourful illustrations or photographs. For example, blueberry and cranberry seem to be the same thing when illustrations have no colours (Nesi 1989: 130). The same crucial problem relates to some metals, minerals, animals, fruits and plants. Colour might also be indispensable in complex schemes (Hupka 1989: 708-709).

4.3. Caption

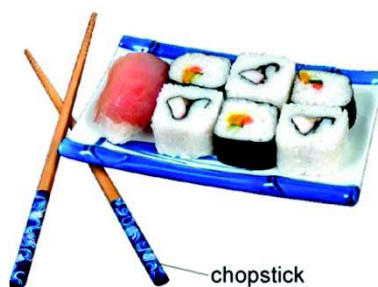
The last thing to consider, when dealing with the formal coexistence of different modes, is the problem of captions in illustrations (also called "verbal support"). In the older printed dictionaries, because of technical issues with fitting the image to the page, a caption was always needed when there was no contiguity between entry and illustration (Stein 1991: 107). This problem has somehow disappeared in electronic dictionaries, prototypically showing one entry as a stand-alone entity. It doesn't mean that it might not appear in the future since during lexicographical consultation, additional entries are being shown or proposed to the user in some of the more advanced dictionaries. In one of my previous papers I called this phenomena a user's lexicographical wandering (Biesaga 2016). This technique supposes to encourage the user to further, unplanned dictionary consultation. If a pictorial illustration will be a part of additionally shown entries, a legend should be added to avoid semantic misunderstandings.

A caption needs to be added when there is a semantic hiatus between definition and illustration which might lead to misinterpretation of the presented meaning. For example, if we add a visual material related to a delimited object (even an object shown in its different stages or aspects, e.g. *to erupt, die*), and this material corresponds exactly with the definition (or equivalent), a caption is not necessary.



Picture 3: Different aspects of a delimited object, presented without a caption (entry: *die*, Longman Dictionary of Contemporary English).

If there is no simple correspondence between the verbal explanatory facility and the pictorial tool, a caption must be added, e.g. when an object is not shown as stand-alone or particular examples of a defined class are presented in the picture (Hupka 1989: 707-708, Stein 1991: 207-123).



Picture 4: Lack of correspondence between verbal information and visual information (entry: *sushi*, image of chopsticks added, definition: a Japanese dish that consists of small cakes of cooked rice served with raw fish, Longman Dictionary of Contemporary English).

Stein (1991:126-127) indicates the existence of a problem in some illustrated dictionaries, namely the lack of concordance between the lemma and the caption in the case of generic names (e.g. lemma: *fruit*, caption: *fruits*).

A special kind of caption is a full-sentence caption. It is especially efficient for abstract words (entry: *view*, caption added to the illustration: He had a marvelous view from the window) and idioms that might be mixed up by users (*hand in hand*, *arm in arm*), see: Stein 1991: 125.

4.4. The Relation between Verbal and Visual Information

Researchers have also analyzed the problem of the semantic relationship between verbal information and pictorial illustration. Although particular typologies vary (e.g. Gangla 2001: 30-31, Liu 2015: 217) the basic distinction is based on mutual correspondence or the one-side redundancy of given knowledge. It is worth underlining that this phenomenon is often connected with specific types of lexical meanings, easier to present in the form of a drawing or photograph. For example, in the case of some mechanisms it is more convenient to include visual material rather than describe their function with the help of a very complex definition.



Picture 5: Informative correspondence between the visual and verbal mode (entry: *gramophone/record player*, definition: a piece of equipment for playing records, Longman Dictionary of Contemporary English).

The redundancy of a visual mode might stem from the decision of the lexicographical team that decides to withdraw strictly lexicographic knowledge and chooses to include encyclopedic information instead. I will go back to this issue in the part of the text dedicated to the different strategies used in illustrations.

5. Which Meanings Should be Illustrated?

When looking at pictorial tools from a narrow, lexicographical rather than encyclopedic, perspective, one can formulate the question concerning lexical units that deserve to be or should be presented in both verbal and visual way. As Al-Kasimi indicates, graphic material is especially recommended when words do not have adequate control over presented material or when the

definition simply demands too many words (Al-Kasimi 1977: 100-101). This is the case of items complicated in their structure or function, as well as actions composed of many stages. A visual mode is also efficient for spatial and sequential relationships, prototypically perceived by sight. Lexicographers also use pictorial facilities to illustrate meanings of passive, not common vocabulary, e.g. historical objects, musical instruments, armoury, furniture and clothing. Because of their exotic character, objects connected with foreign cultures and surroundings are also considered worth illustrating (e.g. fruits, plants, clothing).

The situation is a little bit different in learner's dictionaries. Since their main function is to teach as many words and meanings as possible, especially the ones useful in everyday communication, meanings connected with basic lexis are also illustrated in these dictionaries. We will encounter images of common animals, plants and other popular objects (see Lew 2010a, Stein 1991: 106). Due to the clarity of the metaphorical process, basic meanings of polysemous words are also worth presenting. That leads to a better understanding of figurative senses, derived from primary meanings (e.g. *key*).

As with many other distinctions, the difference between general and learner's dictionaries seems to blur in contemporary electronic lexicography. Therefore pictorial strategies typical for learner's projects will probably coexist with the approach presumed for native speakers. Another important factor is that illustrations of items from vocabulary at a basic level are easier to obtain than images of uncommon things. Probably it is more convenient for lexicographers to consider both the language learner and native speaker perspective. That results in a wider perspective when it comes to visual facilities.

6. Which Parts of Speech Can be Illustrated?

Existing lexicographical practice indicates that some parts of speech are easier to illustrate than others. Usually the biggest group of illustrated entries are concrete nouns (Al-Kasimi 1977: 98-99, Nesi 1989: 130-131). Verbs also create a significant group of lexis that could be presented in a visual mode. Theoreticians advocate illustrating adjectives. Sometimes their meaning could be very well underlined when using two or more images to compare different senses (indirect synonyms, antonyms etc.). Prepositions also are relatively easy to present in comparison, with the help of scenic illustrations or schematic graphs (Adamska-Sałaciak 2008, Nesi 1989: 130-131).

7. Types of Illustrations in Dictionaries

This presentation of lexical items and parts of speech, especially needful of a visual mode in dictionaries, leads us to the problem of illustrations themselves, namely what kind of semantic strategies are being used to present the meaning. In order to characterize this topic, I will use a slightly modified version of typology proposed by G. Stein (1991: 107-123). I will also interpret this data differently, showing its connection to the typology of dictionaries. In my opinion this perspective will enable taking practical decisions when dealing with the problem of adding visual tools to particular entries.

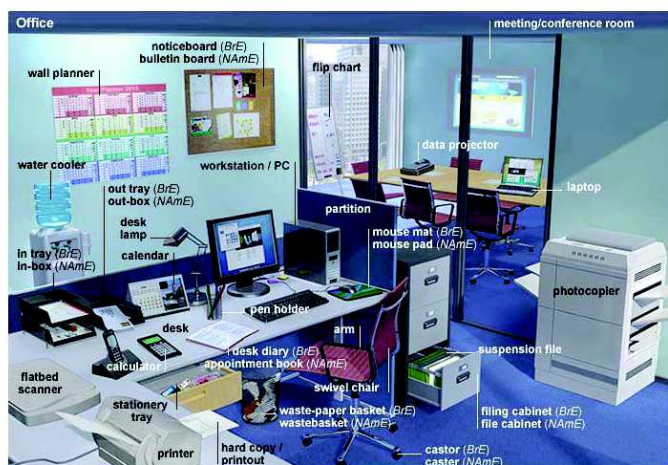
I will start this characterization with the strategies that are useful when choosing a narrow, linguistic approach, typical for general dictionaries (there is a direct relation between the verbal and visual explanation; additional vocabulary, unnecessary for meaning recognition, is not incorporated in pictorial material). When thinking about prototypical drawings or photographs illustrating meaning, we would probably indicate visual presentations of concrete and delimited objects (e.g. *book*, *scissors*, *square*). In case of some meanings it would also be useful to include elements of a typical background (e.g. entry: *mole*, environment-related element: mound; entry: *cheek*, environment-related element: part of the face). For a certain group of meanings the problem of proportion should also be pointed out (e.g. *mammoth*, *sardine*), either with the help of comparison or scale.



Picture 6: Item with its background, secondary also to this, a height perspective has been included (entry: *crane*, Longman Dictionary of Contemporary English).

There are meanings that demand few illustrations to fully present their sense. This is the case when something (object, action) is composed of different forms, states or stages (*eclipse*, *press-up*, *to dive*, *to erupt*). Also complex meanings connected with the names of places (scenes) require images presenting many elements (objects and people involved), e.g. *circus*, *office*. This strategy is also suitable for games (e.g. *bowling*, *tennis*).

New options appear when the lexicographical team decides to broaden the illustrating perspective by adding visual material containing additional graphic information or captions. This decision bows to the language learner’s perspective (new meanings and words are presented to the reader) or the encyclopedic approach (a dictionary becomes a hybrid consisting of linguistic and encyclopedic information). The act of incorporating additional objects in the illustration demands the use of captions. Otherwise there is a risk of misinterpretation. For example, images of particular scenes, mentioned above (*circus*, *office*), can be easily transformed into encyclopedic resources when adding an additional caption (names of participants and parts of scenes).



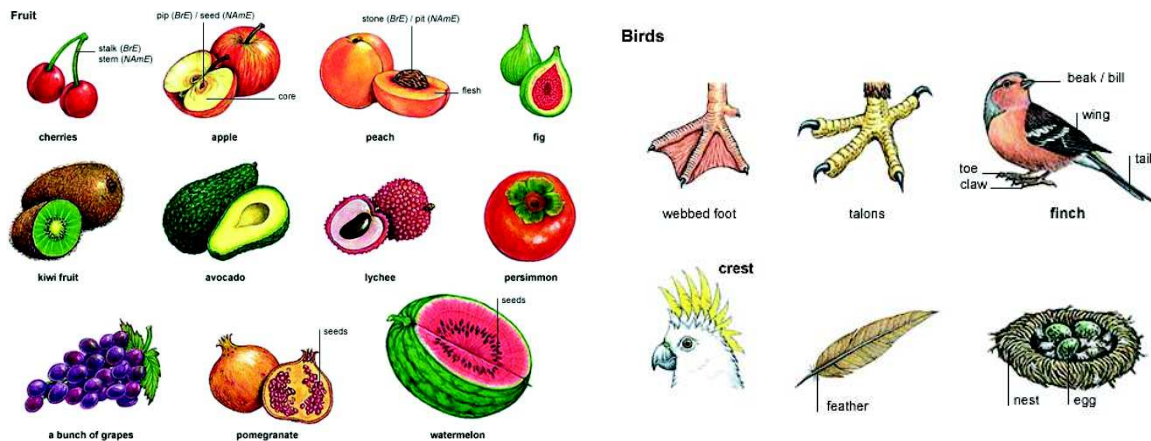
Picture 7: A scenic illustration with an additional caption (entry: *office*, Oxford Learner’s Dictionaries).

An encyclopedic strategy is also very useful when we want to distinguish between very similar referents (e.g. *bee*, *hornet*) or indicate semantic relations between meanings (e.g. *push*, *pull*; *glove*, *mitten*).



Picture 8: A strategy of visual differentiation (entry: *glove*, Oxford Learner’s Dictionaries).

This methodology has also been used to present generic meanings, when a prototypical referent does not exist (e.g. entry: *bird*, *fruit*), and different examples as well as additional lexis are presented to enrich vocabulary.



Pictures 9, 10: Generic meanings - presenting an additional lexis when there is no prototypical example (entries: *fruit*, *bird*, Oxford Learner’s Dictionaries).

8. General Rules

Despite choosing a narrow (lexicographical) or wider (encyclopedic) perspective, lexicographers should always keep in mind that visual facilities ought to follow certain rules that enable correct interpretation. Pictorial material needs to be iconic, that means having a resemblance to the object from the real world. Interpretability is also a must. Therefore irrelevant pictorial components should be excluded from the image presented (see Al-Kasimi 1977: 100-101, Faber et al. 2007). The main goal is to facilitate the process of meaning recognition and all pictorial details (even additional ones) which should be subjected to this function.

9. Conclusions

The decision to include visual facilities results in many problems that need to be solved. Probably the most important dilemma relates to the type of dictionary and how we would like it to be perceived. A strictly linguistic approach excludes some techniques of illustration. On the other hand, it results in a clearer picture of a monolingual general dictionary. Encyclopedic methodology is connected with a bigger number of visual options. If a dictionary is not created for learners there is a risk of creating an encyclopedic dictionary, a hybrid that mixes two different explanatory paradigms. In my opinion, all further decisions (types of lexical items to be illustrated, mode of

visual material, pictorial technique) are subjected to this question. Therefore it must be answered with caution and after additional deliberation.

This paper is only a brief summary of highly dispersed papers concerning pictorial illustration in lexicography and a kind of practical introduction into the subject. There are, however, many topics that demand further analysis. One of them is the treatment of semantic relations in illustrated dictionaries. It seems that a pictorial mode opens a vast field of innovative techniques connected with this issue. Despite living in a global village, a subject of cultural differences in pictorial reference works ought to be examined. I would also like to indicate a common problem connected with graphical resources – their databases (corpora) and royalties. Since not all lexicographical projects can afford customized materials such as an inventory of existing databases, a manual of copyright rules would be a useful tool.

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