

# Terms Embraced by the General Public: How to Cope with Determinologization in the Dictionary?

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## Abstract

The determinologization can be described as a process when specialized words (scientific terms) move into general vocabulary, followed by changes in their meaning. Czech and Slovak linguists have described two types or subsequent stages of determinologization. Firstly, the term is widely used outside scientific communication and it remains connected to the background scientific concept, but its meaning becomes less accurate in the use of laypeople. Secondly, the connection to the original concept is lost and a new figurative meaning of the word develops. The lexicographical approach to the language material reveals there is another, transitional type of determinologization where the word is used by laypeople in a blurred meaning, e.g. wider or narrower than if the term was used by domain specialists. The treatment of selected determinologized words in four dictionaries (Czech, Slovak and two English ones) is compared in this paper and various ways to mark the determinologized usage are presented, including a separate paragraph in the dictionary entry, an example sentence with an additional explanation or an additional note to the entry.

**Keywords:** Czech, determinologization, dictionary definition, general dictionary, lexicography, Slovak, terminology

## 1 Introduction

The accelerating development of science and technology since the beginning of the 20<sup>th</sup> century, the increasing amount of terminology and the growing interest of the public and mass media in scientific and technological matters (Cabré 1999: 4; Fontenelle 2014: 33; Becker 2016: 398) led to what we could call “terminologization” of general vocabulary. Terminology or widely specialized vocabulary – because in domains like computer technology or sport it is often difficult to distinguish between stabilized, “official” terminology and slang expressions – is the fastest growing part of the lexicon (Buzássyová 2000: 513). Laypeople meet specialized words daily: seeing their doctor, reading newspapers and adverts, watching TV. Our personal vocabulary, at least its passive part (words we understand when we meet them), is being filled with specialized words. However, an inevitable effect of this process is a lesser or bigger change in the meaning of these words. This is what we call *determinologization*: a scientific term, during its way from a field specialist to a layperson, loses its accuracy, gets new connotations, and the word can be even moved to refer to a completely different thing.

General dictionaries must keep in touch with this development of lexicon and include more and more specialized headwords (or specialized meanings of words) from various domains in order to make their description of the contemporary vocabulary apt and to satisfy dictionary users who search for these words (cf. Sochová 1973: 196-198; Landau 1974: 241; Buzássyová 2001: 19). Comparing a series of academic dictionaries of Czech since 1930, we found a steadily increasing amount of headwords from the field of medicine (Mžourková et al. 2017), and we have no we would find the same trend in most scientific, scholarly and technical domains. The lexicographic team of the currently compiled Academic Dictionary of Contemporary Czech (*Akademický slovník současné češtiny*,

*ASSC*; Kochová & Opavská 2016) spends lots of time and effort on specialized entries. Determinologization is one of the issues we meet, cope and often struggle with in our work. This paper aims to present some practical solutions from the dictionary point of view rather than a thorough theoretical study on the topic.

The second part of the paper summarizes extremely briefly Czech and Slovak concepts of determinologization in comparison with the influential model presented in Meyer and Mackintosh (2000). Part three brings a draft classification of types/steps of determinologization, based on their impact on processing of the particular word in *ASSC* and compared with entries in general dictionaries of Slovak and English. All examples are taken primarily from Czech, and although I tried to select words belonging to the international vocabulary when possible, I am not sure whether their terminological or determinologized status in English is fully comparable to the situation in the Czech language material. My translations of Czech and Slovak expressions and dictionary entries into English are given in square brackets.

*Terminological note:* in the English literature the key term of this paper is often spelled *de-terminologization*. I spell it without the hyphen, following the tradition in Czech and Slovak literature and stressing the stabilized status of the term.

## 2 Linguistic Concepts of Determinologization

The concept of determinologization has been long established in Slovak and Czech linguistics. The term *determinologization* was used as early as in Horecký (1956: 36): “veľmi “odborné” termíny sa dostávajú do bežného používania a tým sa akosi “determinologizujú”. [very “specialized” terms get into common usage and therefore become somewhat “determinologized”.]” Several authors (Kuchař & Roudný 1965: 139; Sochová 1965: 199-200; Sochová 1973: 197) noted the move of terms from specialized communication to everyday communication and the general vocabulary of laypeople, together with stylistic and semantic changes of the words, leading sometimes to the establishing of a new separate meaning; this process was named *neutralization (of scientific terms)* by these authors. The term *determinologization* appeared again in Jedlička et al. (1970: 65-66) together with a clear description of the process: when a scientific term is used by laypeople, the meaning of the term loses its original accuracy and unambiguity, with words like *parameter*, *trend*, *model*, and *stereotype* given as examples.

More elaborated concepts of determinologization were presented by Poštoľková (1977; 1980) and Horecký et al. (1989: 259-267; followed by Masár 1991: 150). Determinologization begins when a scientific term is widely used outside scientific communication, mostly in popularization and media texts, and this frequently happens to loanwords. While in its original scientific domain the term remains precisely defined, connected to the background scientific concept and it keeps systemic relationships to other terms in the domain, the word loses these attributes when used by laypeople. Its meaning becomes wider, less accurate; the word is newly connected into lexical relationships in the general vocabulary. As a subsequent stage of the determinologization process, a new separate meaning of the original term can be established, e.g. *climate* in natural science → *societal climate*, *spiritual climate*, meaning ‘milieu’. Poštoľková (1984: 106) named the initial stage as *determinologization sensu lato*, the subsequent stage as *determinologization sensu stricto*.

Other authors mostly repeated the concepts of Poštoľková and Horecký paraphrased above (e.g. Buzássyová 1983; Filipec & Čermák 1985; Bozděchová 2009). Holubová (2001) and Voborská (2001) introduced examples from more recent vocabulary. *Determinologization sensu lato* would be illustrated by popular words from medicine (*homeopathic*, *hospice*), economy (*sponsor*, *management*,

*leasing*), politics (*referendum*), ecology (*biotope*, *ozone hole*) and so on used frequently in the media and thus becoming familiar to laypeople. *Determinologization sensu stricto*, a rarer case where a new separate meaning of the term is developed or the word becomes a part of idioms, would be exemplified like this: *hyperinflation* → *hyperinflation of building*; *explosion* → *information explosion*; *blood group* → *to be of the same blood group as someone* (= to share someone's attitudes); etc.

Janovec (2007: 64) added the concept of *deslangization*, moving of slang expressions into general vocabulary, e.g. *dýza* [*disco*], *smažka* [*druggie*], *špek* [*joint of marijuana*], *čiro* [*mohawk hairstyle*]. Orgoňová and Bohunická (2011: 167-168) noted we should distinguish between *determinologization* as a spontaneous gradual language process and *transposition* as an intentional one-time pragmatic use of a scientific term in non-scientific communication in order to make a humorous effect, gain prestige, and so on.

The model of determinologization<sup>1</sup> in Meyer and Mackintosh (2000) is very similar to the model in Poštolková (1984) introduced above. Meyer and Mackintosh describe two types of determinologization:

- *retention of fundamental domain sense* (→ compare *determinologization sensu lato*) – the laypeople using the term refer to the same concept as the experts, but with shallower understanding. Connotations can be added to the meaning, e.g. “in the case of *peroxide*, laypersons tend to associate this chemical with hair coloring”;
- *dilution of original domain sense* (→ compare *determinologization sensu stricto*) – the word does not refer to the original scientific concept any more, or the laypeople do not intend to, although the linkage to the original domain is not lost completely; e.g. the medical term *anorexic* is used with the meaning ‘weak’ in collocations like *anorexic plot*, *anorexic dollar*. The authors note this type of determinologization leads to a new meaning of the word in general dictionaries.

To conclude the theoretical part, not only whole words but also parts of words can undergo determinologization. Dury (2008) focuses on prefixes *bio-* and *eco-* in English and French, widely used to form words with the meaning ‘environmental(ly friendly etc.)’; in Czech and Slovak the usage of these prefixes is comparable. Horecký et al. (1989: 267) highlight the suffix *-itida* [*-itis*], originally in medical terms like *hepatitida* [*hepatitis*], moved to form names of any exaggerated affection: *genitivitida*, *atestitida*. Holubová (2000) adds the example of *-mánie* [*-mania*] in words like *beatlemánie* [*beatlemania*].

### 3 Determinologization and the Dictionary

We will now see the situation from the dictionary point of view. Three remarkable types (or subsequent steps) of the determinologization process can be distinguished, each of them having different consequences for the lexicographical treatment of the affected words. I am bound to say first there are no strict borderlines between these three types, as there are hardly any strict borderlines between lexical categories of any kind. The larger and more varied the language material we study, the more likely we find all three types of determinologization for a given word, however it often takes thorough lexicographical consideration as to whether the blurred meaning (case B, 3.2) or the separate figurative meaning (case C, 3.3) is distinct and stabilized enough to be included in a dictionary.

Example dictionary entries are taken from the *ASSC, Dictionary of Contemporary Slovak Language (Slovník súčasného slovenského jazyka, SSSJ)*, *Oxford English Dictionary (OED)* and *Merriam-Webster Dictionary (M-W)*. The entries are transformed into a linear text; information about grammar and

<sup>1</sup> Cabré (1998) notes several times that specialized words can move into the common language, yet she does not use the term *determinologization*. Meyer and Mackintosh themselves quote Mazière (1981) and her term *dé-spécialisation*.

so on is left out, as it is not in the focus of this paper. The Czech examples from *ASSC* come from the manuscript of the dictionary, and the version cited here may not be the final one.

### 3.1 Determinologization A: Denotation Stays, Connotations Change

Type A, or *determinologization sensu lato* according to the model of Poštolková (1984), means using a specialized term outside its original domain with the background concept staying the same. Names of diseases like *arthrosis*, *diabetes*, and *encephalitis* used by doctors or their patients, names of space objects like *comet*, *galaxy*, and *white dwarf* used by astronomers or visitors to an observatory, paleontological terms like *ice age* or *secondary era* used in fiction would always refer to the same denotation. However, there is a difference in the depth of understanding: the layperson's view of the concept is always simplified and often focused on different aspects of the reality compared to the view of a field specialist. When an observatory visitor pictures a *white dwarf* like 'a small star shining white', it is true but not the most important thing for an astronomer, who would rather speak of the final stage of a star's life and extremely high density of the electron-degenerated matter. If the popular image of an *ice age* is 'a cold period with glaciers all around' then it is not very accurate, as colder and warmer periods alternated during every glacial period, and there were no glaciers in the Czech inland, for example. The names of chemical substances often have negative connotations for laypeople: going through the newspaper part of corpora when analyzing headwords like *benzene* or *biphenyl*, the general impression would be 'something chemical, smelly and toxic' (why was it ever legal to produce something that horrible?); on the other hand, a *vitamin* is always 'great for your health, eat it more' although an overdose of vitamin A, for example, can damage your health permanently.

Most terminological entries in *ASSC* represent this type; according to the conception of our dictionary (Kochová & Opavská 2016: 177; see also Machač 1964: 67), we do not include headwords which did not move from specialized communication to general communication (the decision in particular cases is based on the proportion of specialized and non-specialized sources for the word in the language corpus): strictly said, all our terminological headwords are determinologized *sensu lato*. Their definitions are based on the original scientific definition but adapted for laypeople, which means stressing the most important features relevant both from the scientific and laypeople's point of view. When the popular image of something is too biased, we strive to be more objective. For example, with the chemical substances mentioned above, the *ASSC* entry would include information like 'smelly' and 'toxic' when it is true, but it would also explain what the substance was or is used for; if it would be too long or too detailed for the definition, we include this kind of information into the exemplification part of the entry.

*Botulin* will be our dictionary example. Before the current era of botox-smooth faces, this chemical compound was known to laypeople as a toxin present in rotten canned food; the Slovak dictionary, published in 2006, expressed it well, as follows:

- (1) *SSSJ*: *botulotoxín* [...] chem., lek. ► prudko jedovatá látka vytváraná mikróbom *Clostridium botulinum* v pokazených al. nedokonale sterilizovaných potravinách, klobásový jed: *otrava botulotoxínom*; *liečba botulotoxínom* [chemistry, medicine ► severely toxic substance produced by the microbe *Clostridium botulinum* in rotten or insufficiently sterilized food, the sausage toxin: *poisoning by botulin*; *treatment by botulin*]
- (2) *OED*: *botulin* [...] The bacterial toxin involved in botulism.

The British definition in (2) is very brief, what is in fact uncommon for the *OED* when treating scientific terms. However, the *OED*'s example sentences (visible only after clicking on the "Example sentences" button) include collocations like "*botulin* toxin is not officially permitted for plastic surgery" and "the treatment, which involves an injection of *botulin* toxin type A in the forehead to smooth

out lines”, indicating using the substance in plastic surgery. Note that the Slovak entry (1) also only mentioned the medicinal use in the exemplification part.

The American dictionary *M-W* gives more information (and more practical information) to the user:

- (3) *M-W: botulinum toxin* [...] a neurotoxin formed by botulinum that causes botulism and that is injected in a purified form for therapeutic and cosmetic purposes (as to treat blepharospasm and reduce wrinkles)

Both example sentences in *M-W* refer to the medicinal use of the substance.

Finally, the Czech dictionary *ASSC* presents *botulin* like this:

- (4) *ASSC: botulin* [...] chem., biol., farmac. ► prudce jedovatá organická sloučenina (polypeptid) produkovaná bakterií *Clostridium botulinum*, způsobující ochrnutí svalů, užívaná též jako léčivo [...]: otrava botulinem; biologické zbraně s použitím botulinu; botulin je obsažený ve zkažených uzenářských výrobcích; nechal si aplikovat botulin proti vráskám [chemistry, biology, pharmacy ► severely toxic organic compound (a polypeptide) produced by the bacterium *Clostridium botulinum*, causing muscle paralysis, used also as a medicine [...]: poisoning by botulin; biological weapons using botulin; botulin is present in rotten smoked meat products; he got applied botulin against wrinkles]

The *ASSC* solution is probably most complex of all four variants compared here. It includes a chemical classification (“organic compound (a polypeptide)”), both to be just for scientists and to neutralize the definition somewhat, because an expression like “severe toxin used also as a medicine” would be too alarmist for ordinary dictionary users in our opinion. The effect of the toxin is described briefly in the definition, while information of the typical occurrence in rotten sausages is included in the exemplification part – or we could do it the other way round, to keep the definition brief.

The amount and complexity of information are usually rather high in the *OED*’s and *M-W*’s terminological entries, see further examples (10, 17, 19). Czech and Slovak dictionaries strive to balance the scientific point of view (verified information, keeping the scientific system of classification, etc.) with the needs of the dictionary users who are laypeople (what it is, where I can find it, what its practical importance is). Using domain labels is also a rather central-European tradition (Nová & Mžourková 2017), and a way to indicate “this word with this described meaning belongs to specialized communication”, while dictionaries of English only rarely label headwords for domains.

### 3.2 Determinologization B: Blurring of the Meaning

Type B forms a transition between types A and C. The background concept of the term is changed in the popular usage; the word would not (or not always) refer to the same denotation as in the specialized domain. There is a remarkable change of the meaning, but it is not yet enough for a new separate meaning to be determined and lexicographically described, or there is a wide overlap between the original (accurate, scientific) meaning and the new (determinologized) one, and it is often difficult to decide over a particular context where it belongs.

Most often the original meaning of the term is blurred<sup>2</sup> in the popular usage, the word refers to a wider range of similar denotations where the field specialist would not use the same word. We could name it *generalization of the meaning*, in other words. For example, *depression* in psychiatry or psychology is a serious mental condition with a set of characteristic symptoms, often accompanying

2 Meyer and Mackintosh (2000) use the word *dilution*; however, their statement “when laypersons use words in this category, they do not intend to designate the original domain sense” and their examples do not match the delimitation of determinologization type B in this paper, rather following type C (see 3.3), where the new meaning is clearly distinguishable.

mental disorders such as the bipolar disorder, while laypeople often use the word to name any (isolated and not so serious) episode of feeling sad. *Bakelite* was the name of the first commercially produced synthetic plastic, and it became so famous the word is sometimes used to name other plastics or even plastics in general; thus the popular statement “a Trabant (a car from former East Germany) is made of bakelite” although it is in fact made of duroplast. Names – originally trademarks – of well-known medicines are often used to name similar medicines as well; for example *brufen* can refer to any painkiller in Czech and *penicillin* to any antibiotic.

Another case consists in laypeople using the term with a narrower meaning, in other words *specification of the meaning*. In chemical nomenclature, words like *acetate* (in Czech *acetát* for organics or *octan* for inorganics) refer to a group of chemical compounds with similar structure, not just to a particular compound. However, common-speech collocations “ušít šaty z acetátu” [“make a dress of acetate”] and “dát na vymknutý kotník obklad s octanem” [“treat a sprained ankle with an acetate compress”] do not refer to *any acetate* but to a fabric of *cellulose acetate* (Czech: *acetát celulózy*) in the dress case and to *aluminium acetate* (Czech: *octan hlinitý*) in the compress case, respectively. Czech biological nomenclature is binomial as well, so when biologists speak of *bolševník* [*hogweed*], they refer to the whole *Heracleum* genus or any species in the genus – while for laypeople, *bolševník* is particularly *bolševník velkolepý* (*Heracleum mantegazzianum*, *giant hogweed*) and many do not know there even exist any other *bolševník* species than this infamous pest. Another biological term, *anabolic* – ‘constructing molecules from smaller units in metabolism’, underwent specification due to the popularity of bodybuilding and drugs called *anabolic steroids*, thus for laypeople *anabolic* means ‘building muscles’.

Sometimes the scientific concept changed in time, therefore the scientific usage of the term changed too, but laypeople still use the word in its dated meaning.<sup>3</sup> Czech word *bacil* is popularly used to name any bacterium, although the scientific genus *Bacillus* is now much narrower; the word is even used to name any microbes causing diseases in collocations like “chřipkový bacil“, “bacil neštovic“ although *chřipka* [*influenza*] and *plané neštovice* [*smallpox*] are caused by viruses.

Determinologization type B is less frequent than types A and C, but treating these words is trickiest for lexicographers. Primarily, it is difficult to recognize whether the concrete use of the word in the sentences taken from fiction or media discourse is still (relatively) terminological or blurred. Many examples can belong to either: for collocations like “a telephone made of bakelite” or “there grows hogweed on the meadow” we cannot tell for sure unless examining the particular telephone or the plants on the particular meadow, and that is clearly no task for lexicographers. Then it is hard to decide whether the determinologized meaning is clear enough to make a separate paragraph within the dictionary entry, and how to formulate the definition to distinguish it clearly from the original terminological meaning.

The treatment of *bakelite* in selected dictionaries follows, sorted from the most to the least terminological approach:

- (5) *OED*: *Bakelite* [...] trademark An early form of brittle plastic, typically dark brown, made from formaldehyde and phenol, used chiefly for electrical equipment.
- (6) *SSSJ*: *bakelit* [...] chem. ► látka zo syntetickej živice používaná v elektrotechnike, staviteľstve a pod. [...]: výrobky z bakelitu; *b. patril k prvým materiálom, ktoré sa dali tvarovať* [chemistry ► substance of synthetic bitumen used in electrical engineering, construction, etc. [...]: *products of bakelite; b. was among the first materials that could be shaped*]

3 Compare thus with ten Hacken's (2010: 924) example: “technological advances leading to the discovery of more objects in the solar system have led to a blurring of the concept of *planet* followed by a tightening of the definition.” For laypeople Pluto is still a *planet*, although astronomers determined a special box called *dwarf planets* for this object and similar ones.

- (7) *ASSC: bakelit* [...] ► plast odolný tepelně a chemicky, používaný k výrobě různých předmětů, v elektrotechnice, stavitelství ap., syntetický polymer: *lisovna bakelitu; telefon, zásuvky, hračky z bakelitu; bakelit byl prvním uměle vytvořeným plastem* [► chemical-proof and thermo-resistant plastic used to make various items, in electrical engineering, construction etc., a synthetic polymer: *press shop for bakelite; telephone, sockets, toys of bakelite; bakelite was the first synthetically produced plastic*]
- (8) *M-W: Bakelite* – used for any of various synthetic resins and plastics

The *OED* (5) treats the word in the narrowest possible sense, as a trademark. For *SSSJ* (6) it is a chemical term as indicated by the domain label, but the definition is rather vague; this is not surprising, as plastics are extremely alike for laypeople when we do not want to describe their chemical composition (as the *OED* did to some extent in (5)). The non-specific example collocation “výrobky z bakelitu” [“products of bakelite”] can be applied to any plastic as well. Although we are not sure whether the Slovak lexicographers intended this, we did in *ASSC* (7). We were aware the word *bakelite* is used by laypeople to refer to any plastic, quite like *M-W* expresses in (8), registering only the determinologized usage of the word. However we did not have enough example collocations saying clearly “this is not the true *bakelite* but another kind of plastic”, so our solution does not say expressly “the word can refer to a variety of substances”. Still, the vague wording of the definition and most examples, applicable both to the “true bakelite” and other plastics, together with the absence of the *chemical* label, indicate the determinologized usage of the word.

With regard to the derived adjective *bakelitový*, we used the example with a Trabant mentioned above and stressed both in the definition and in the exemplification the word is used in a determinologized way:

- (9) *ASSC: bakelitový* [...] 1. ► vyrobený z bakelitu • vyrobený z plastu vůbec: *bakelitový vypínač, starý černý bakelitový telefon; bývalý východoněmecký symbol – bakelitový trabant z duroplastu* [...] [1. ► made of bakelite • made of plastics in general: *bakelite switch, old black bakelite telephone; former symbol of East Germany – a bakelite Trabant of duroplast* [...]]

Another dictionary example will be *hogweed*. The *M-W* solution will not be cited, as apparently in American English the word *hogweed* does not refer to the genus *Heracleum* at all; on the other hand, the situations in British English, Czech and Slovak are comparable:

- (10) *OED: hogweed* [...] A large white-flowered weed of the parsley family, native to north temperate regions and formerly used as forage for pigs. – Genus *Heracleum*, family Umbelliferae: several species, in particular the common European *H. sphondylium* and the introduced giant hogweed (*H. mantegazzianum*)
- (11) *SSSJ: bolševník* [...] ► vysoká rozkonárená bylina z čeláde mrkvovitých s dutou stonkou, s velkými tmavozelenými listami a drobnými kvetmi v okolíkoch, rastúca na vlhkých okrajoch lúk a popri potokoch; bot. *b. obrovský* *Heracleum mantegazzianum* zavlečený do Európy z Ázie ako okrasná rastlina, dnes jeden z najnepríjemnejších invázných druhov rastlín, ktorý obsahom fototoxických látok môže poškodiť zdravie človeka [► tall ramose herb of the parsley family with hollow stem, with large dark-green leaves and tiny flowers in umbels, growing in wet meadow margins and at streams; botanically *b. obrovský* = *giant hogweed* *Heracleum mantegazzianum* introduced to Europe from Asia as an ornamental plant, today one of the worst invasive plant species, which can damage human health due to its containing phototoxic substances]
- (12) *ASSC: bolševník* [...] 1. ► vysoká a mohutná rastlina s dutým stonkem, velkými listy a květenstvími drobných bílých květů, původem z Asie, u nás se nekontrolovatelně šířící, bot. bolševník velkolepý *Heracleum mantegazzianum*: *porosty bolševníku; invaze, přemnožení bolševníku; bojovat s agresivním bolševníkem; děti se ošklivě popálily bolševníkem; bolševník se do Čech*

*dostal jako okrasná rostlina* [1. ► tall and large plant with hollow stem, large leaves and inflorescences of tiny white flowers, native to Asia, in our country spread out of control, botanically *bolševník velkolepý* = giant hogweed *Heracleum mantegazzianum*: *vegetation of hogweed; invasion, outbreak of hogweed; fight against the aggressive hogweed; children got seriously burnt by hogweed; hogweed came to Bohemia as an ornamental plant*] 2. ► rostlina s různě dělenými listy a květenstvími drobných bílých květů, bot. rod *Heracleum*: *bolševník je rod z čeledi miřkovitých; všechny bolševníky jsou jedovaté; bot. bolševník obecný Heracleum sphondylium, bolševník perský Heracleum persicum* [2. ► plant with its leaves parted in various ways and with inflorescences of tiny white flowers, botanically genus *Heracleum*: *hogweed is a genus in the parsley family; all hogweeds are poisonous; botanically bolševník obecný = common hogweed, Heracleum sphondylium, bolševník perský = Persian hogweed, Heracleum persicum*]

The British dictionary entry (10) describes whole genus *Heracleum*; however three example sentences out of five (visible only after a click) refer to the *giant hogweed* in collocations like “hogweed which is very dangerous” and “to eradicate hogweed”, and the two remaining examples contain the collocation *giant hogweed* expressly. The Slovak solution (11) describes the genus *Heracleum* first, too, giving the scientific name *bolševník obrovský* as the only example, actually a collocation with its own definition.

Processing the Czech language material for ASSC and finding nearly all occurrences of the word *bolševník* refer to *bolševník velkolepý*, we originally intended to describe only this species and present the entry *bolševník* in the same way as what is now paragraph 1 in (12) – it would be a completely determinologized solution, only working with the laypeople’s point of view and omitting the botanical concept of the term. Nevertheless, not only biologists but also other linguists recommended including the information there are also other species of hogweed than just the notorious giant hogweed; the purely botanical paragraph 2 in (12) is the result, describing the genus *Heracleum* and giving examples of several species. Uncertainty remains whether this solution is not too confusing for dictionary users without biological knowledge, whether they would not read the entry as “describing the same twice”. Let this be an example of the lexicographer’s hard life, trying to be just to the language material, to the scientific concepts of the terms, and to those dictionary users who are laypeople at the same time.

### 3.3 Determinologization C: New Meaning Develops

Type C means developing a new, clearly separate meaning from the original term; the word is transferred to a completely different denotation, and on seeing an example sentence there is usually no doubt whether it belongs to the original terminological meaning or to the determinologized figurative one. The description of *determinologization sensu stricto* by Poštolková (1984) fits well for this case.

The determinologized meaning is based on the metaphor or metonymy. For example, *atmosphere* – in geology ‘a layer of gases surrounding a planet’, determinologized ‘mood of a place or a group of people’. *Allergy* – in medicine ‘hypersensitivity of the immune system to something in the environment’, determinologized ‘extreme disliking for something or someone’. *Neon* – in chemistry ‘a chemical element, among other properties giving bright red light under voltage’, determinologized ‘a shining tube of any color used as an advertising sign’. Journalists and politicians like to animate their utterances with borrowings from the scientific language, so we can read about “the government being in *agonny*”, “*anaemic* economic growth” (compare Meyer’s and Mackintosh’s example *anorexic dollar*), “taking new political *azimuth*” or “the national debt reaching *astronomic* heights”. Party leaders describe themselves as *alpha males* (in zoology *alpha* is the leading individual in a wolf pack, group of primates, etc.); a new person is a *comet* of the scene, and so on.



It is usually no problem for lexicographers to distinguish and describe the determinologized figurative meaning. However, the decision must be made as to whether the new meaning is already stabilized – lexicalized – to get its own paragraph within the dictionary entry; this depends on there being a sufficient amount of determinologized examples (clear enough to serve as a dictionary example), their occurring in various sources and over a significant time period. When these conditions are not satisfied, in both the *ASSC* and *SSSJ* one or two determinologized examples would be put at the end of the exemplification part of the terminological entry, labelled as “přen.” / “pren.” (přenesený = figurative) or “expr.” (expressive) and with a short additional explanation. See the example of *celibacy* for *SSSJ*:

- (13) *SSSJ: celibát* [...] ► povinné zrieknutie se manželstva rímskokatolíckych duchovných na základe cirkevného sľubu, bezženstvo: *kňazský c.; rehoľný, kláštorňý c.; sľub celibátu*; pren. expr. *žiť v dobrovolnom celibáte bez sexuálnych vzťahov* [► obligatory refraining from marriage for Roman Catholic clergy according to a clerical vow, the state without a wife: *priestly c.; monastic c., c. of friars; the vow of celibacy*; figurative, expressive *to live in self-imposed celibacy without sexual relationships*]

Now the treatment of the adjective *antiseptic* in the four dictionaries will be compared. Note that while the Slovak dictionary (14) probably found no notable determinologized usage and the Czech one (15) only gives one figurative example, in English the determinologized usage is clearly common enough to establish separate paragraphs in a dictionary, the structure of the *M-W* entry (17) being particularly rich:

- (14) *SSSJ: antiseptický* [...] ► súvisiaci s antiseptikom; majúci účinok antiseptík: *antiseptické látky; a. obväz; antiseptické vlastnosti mydla; vypláchnuť ranu antiseptickým roztokom* [► relating to antiseptics; having the effect of antiseptics: *antiseptic substances; a. bandage; antiseptic properties of the soap; to wash a wound with an antiseptic solution*]
- (15) *ASSC: antiseptický* [...] ► pôsobící, účinný proti choroboplodným mikroorganismům na povrchu kůže, sliznic, tkání • ničící tyto mikroorganismy: *antiseptický roztok, sprej, antiseptická ústní voda; slaná mořská voda má antiseptický účinek*; přen. *v domečku vládl antiseptický pořádek naprostý, až nadměrný* [► effective against germs on the surface of the skin, mucous membranes, tissues • destroying these germs: *antiseptic solution, spray, antiseptic mouthwash; salt sea water has an antiseptic effect*; figurative *there was an antiseptic tidiness in the house total, even excessive*]
- (16) *OED: antiseptic* [...] 1 Preventing the growth of disease-causing microorganisms. ‘garlic has powerful antiseptic properties’; ‘his breath smelt of antiseptic mouthwash’  
2 Scrupulously clean or pure, especially so as to be bland or characterless. ‘their squeaky-clean home epitomizes this antiseptic respectability’
- (17) *M-W: antiseptic* [...] 1 a: opposing sepsis, putrefaction, or decay; *especially*: preventing or arresting the growth of microorganisms (as on living tissue) • an *antiseptic* solution  
b: acting or protecting like an antiseptic • an *antiseptic* mouthwash  
2: relating to or characterized by the use of antiseptics • *antiseptic* treatment  
3 a: scrupulously clean: ASEPTIC • *antiseptic* surgical instruments  
b: extremely neat or orderly; *especially*: neat to the point of being bare or uninteresting • a spare, *antiseptic* waiting room  
c: free from what is held to be contaminating • an *antiseptic* version of rustic life  
4 a: coldly impersonal • an *antiseptic* greeting  
b: of, relating to, or being warfare conducted with cold precision from a safe distance with few or no casualties on one’s side • *antiseptic* bombings

The last example will be *adrenaline*. The Slovak entry in (18) (the structure of the entry in *ASSC* is identical so I do not cite it) illustrates well all stages of determinologization described so far in this

paper: a term known to laypeople but retaining its terminological status in paragraph 1, the blurred meaning in paragraph 2, the clearly figurative meaning in paragraph 3 along with two idioms:

- (18) *SSSJ: adrenalín* [...] 1. biol. ► hormón drene nadobličiek, ktorý podporuje činnosť srdca, zvyšuje krvný tlak a jeho koncentrácia stúpa pri strese (pri stavoch úzkosti al. záťaže): *hladina adrenalínu; do krvi sa vyplavuje a.* [1. biology ► a hormone from the medulla of the adrenal glands which stimulates heart action, increases blood pressure and its concentration rises under stress (in the state of anxiety or strain): *the level of adrenaline; a. is released into the blood*]  
 2. hovor. ► stav napätia, vzrušenia; silné emócie: *príchut' adrenalínu; vybit' si a.; film plný adrenalínu; vzduch nabitý adrenalínom* [2. colloquial ► the state of suspense, excitement; strong emotions: *the taste of adrenaline; vent one's a.; a film full of adrenaline; the air charged with adrenaline*]  
 3. hovor. ► športová aktivita al. činnosť vyvolávajúca napätie a silné emócie účastníkov: *vyznávači, milovníci adrenalínu; užít' si trochu adrenalínu; život bez adrenalínu* [3. colloquial ► a sport or another activity causing suspense and strong emotions of the participants: *lovers, devotees of adrenaline; enjoy some adrenaline; life without adrenaline*]  
 ■ fraz. *dvíhať/zvyšovať adrenalín niekomu a*) vyvolávať emócie, vzrušenie; b) rozčulovať niekoho; *stúpa mu adrenalín a*) je vzrušený, rozrušený; b) je rozčúlený [■ idioms *to raise someone's adrenaline a*) to cause emotions, suspense; b) to annoy someone; *his adrenaline rises a*) he is excited, upset; b) he is annoyed]
- (19) OED: *adrenaline* [...] A hormone secreted by the adrenal glands that increases rates of blood circulation, breathing, and carbohydrate metabolism and prepares muscles for exertion. '*performing live really gets your adrenaline going*'
- (20) M-W: *adrenaline* → EPINEPHRINE. NOTE: *Adrenaline* is used in both technical and nontechnical contexts. It is commonly used in describing the physiological symptoms (such as increased heart rate and respiration) that occur as part of the body's fight-or-flight response to stress, as when someone is in a dangerous, frightening, or highly competitive situation, as well as the feelings of heightened energy, excitement, strength, and alertness associated with those symptoms. In figurative use, it suggests a drug that provides something with a jolt of useful energy and stimulation.

The British version in (19) looks like a purely terminological one, but the example sentence would actually fit for the blurred meaning 2 in the Slovak version in (18) in my opinion; examining more examples visible after a click, collocations like "*charged with adrenaline, I took several deep breaths*" and "*I felt a huge rush of adrenaline*" are of the same kind. The American version in (20) links to a deeply technical description of *epinephrine* but the note about "nontechnical contexts" is remarkable and illustrated by the example sentence "The emerging young voices and their supporters must remain steadfast beyond the current rage, fear, and *adrenaline* of the most recent massacre."

## 4 Conclusion

As for the lexicographically relevant cases of determinologization described in part 3, type A (retaining the scientific background concept of the term) fits well with *determinologization sensu lato* according to Poštolková (1984) or *retention of fundamental domain sense* in the Meyer and Mackintosh model, and type C with *determinologization sensu stricto* or *dilution of the domain sense* where the denotation changed and a new separate meaning or an idiom develops. Type B, blurring of the original meaning, seemingly has not yet been described in theory. Lexicographers are aware that something like this exists, most notably in M-W's examples (8) and (20), while the OED in the same cases holds to a terminological description, although example collocations show a shift in the meaning. It is

often difficult to describe this shift in a dictionary, and it is very difficult to exemplify it clearly. When Meyer and Mackintosh (2000) describe the second stage of determinologization, say type C in this paper, as “when laypersons use words in this category, they do not intend to designate the original domain sense”, we could say for type B “laypersons don’t know whether they intend to designate the original sense because they cannot tell it apart”, not knowing the difference between *depression* and a passing sadness, *acetate* and *cellulose acetate*, and so on, and so it is not easy for lexicographers to look at the related language material and work out what the layperson was actually referring to.

We can see various ways to process the determinologized usage of a term in a dictionary: an intentionally vague definition to cover both the terminological and the determinologized meaning (7), a separate segment of the definition (9), a separate part of the exemplification with an additional explanation (11, 13, 15), a separate meaning-paragraph in the entry (12, 16, 17, 18), an additional note to the entry (20), or such a note instead of the definition itself (8). It is difficult to say which way is the best without a larger and more detailed analysis of determinologized dictionary entries, and there is probably no universal way to treat determinologized words, but many of them need a special approach. In my opinion, any way is valid as long as the determinologization is registered in the dictionary. Explanatory notes such as in (20) are probably most useful for dictionary users who are not always able to decipher the lexicographical way of cutting an entry into paragraphs and sub-paragraphs, using or omitting domain labels and so on, or who can easily fail to notice a figurative example at the end of an exemplification. On the other hand, a general dictionary is no encyclopedia, and the use of additional notes should not be excessive.

As for polysemous entries, it remains an open question how to sort the paragraphs: should the original scientific meaning be first despite the frequency, as in (18) where meanings 2 and 3 are definitely more common outside the scientific literature than meaning 1? Or should the determinologized meaning be first when it is more frequent, as in (12), to help the dictionary user who is probably searching for this one (cf. Lopukhina et al. 2016)?

Example dictionary entries throughout this paper also showed the importance of the exemplification in terminological entries (cf. Taljard 2016), and not only for polysemous entries where the delimitation of meanings must be based on the evidence of the language material. The approach of the *OED*, often giving no example sentence as a fixed part of the entry and only displaying examples after a click, does not seem the best one to me – examination of those additional examples can show a remarkable inconsistency between the examples and the definition of the term, as in the cases of *hogweed* and *adrenaline*. The policy of *ASSC* is to exemplify all one-word headwords including all specialized words (Kochová & Opavská 2016: 156), even though it takes a lot of time to find good examples.

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