Odborná terminologie 1

Distanční studijní text

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FAKULTA V OPAVĚ

Anotace: Kurz Odborná terminologie 1 seznamuje s charakteristickými rysy anglického odborného jazyka, s konkrétním zaměřením na odborné termíny. Vysvětluje základní pojmy, stručně nastiňuje jazykovědné pozadí anglické terminologie a představuje užitečné slovníky a databáze oborových terminologií. Pozornost je věnována též terminologii v překladatelské praxi, zejména problematice správy terminologie s využitím současných technologií pro podporu překladu (*Computer-Aided Translation*).

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Obsah

ÚVODEM

Tato studijní opora je určena studentům bakalářského programu Angličtina pro odbornou praxi jako podpůrný materiál ke kurzu Odborná terminologie 1.

Studijní opora obsahuje:

- teoretický základ probíraného tématu s konkrétními příklady,
- definice probíraných pojmů,
- kontrolní otázky a samostatné úkoly,
- seznam použité literatury,
- odkaz na online LMS kurz.

Student nastuduje dané téma, zodpoví kontrolní otázky a vypracuje případné samostatné úkoly.

RYCHLÝ NÁHLED STUDIJNÍ OPORY

Kurz je koncipován tak, aby účastníky seznámil s charakteristickými rysy anglického odborného jazyka, s konkrétním zaměřením na odborné termíny – tj. výrazy používané v rámci různých oborových názvosloví a profesní mluvy.

Stručně budou vysvětleny základní pojmy a koncepty a bude nastíněno jazykovědné pozadí anglické terminologie (zejména její morfologická charakteristika a různé slovotvorné procesy, jimiž termíny vznikají nebo do angličtiny pronikají). Studenti se dále seznámí s užitečnými slovníky a databázemi různých oborových terminologií (tištěnými i elektronickými) v jejich aktuálních verzích. V neposlední řadě bude pozornost věnována terminologii v překladatelské praxi, zejména problematice správy terminologie s využitím současných technologií pro podporu překladu (*Computer-Aided Translation*).

1 MAIN CONCEPTS AND DEFINITIONS

QUICK OVERVIEW

The first chapter explains the main concepts and notions related to terms and terminology, provides the necessary definitions, and places terminology within the wider context of linguistic study. It also deals with the general processes that underlie terminology development and contribute to what we refer to as 'terminology dynamics'.

AIMS

In this chapter you will learn:

- about the relation between terminology and lexicology;

- about the fundamental notions of terminology;

- about the typical contexts in which we come across terms;

- about the processes that contribute to terminology dynamics.

KEYWORDS

term, terminology, terminography, lexicology, lexicography, concept, definition, terminologization, determinologization, re-terminologization

REQUIRED TIME

90 minutes

1.1 Terminology

It may not be immediately obvious but the word **terminology** refers to two different concepts, and as such it carries two different meanings:

- According to the definition provided by the OXFORD DICTIONARY, terminology is "the body of terms used with a particular technical application in a subject of study, profession, etc." To put it in another way, the word 'terminology' collectively refers to **a class of words or phrases** (called **terms**) used in particular, usually professional contexts to convey specific meanings. We often add an adjective to specify the context of use, and thus we speak of 'legal terminology', 'medical terminology', 'economic terminology', 'administrative terminology', etc.

- 'Terminology' is also the name of the **field of study** or discipline that systematically deals with terms, their properties and use. It has close ties to other areas of applied linguistics.

1.1.1 TERMINOLOGY AND LEXICOLOGY

From the perspective of linguistics, terminology as a discipline is a part of **lexicology**. Both lexicology and terminology deal with the study of words.

However, the difference is that lexicology studies the entire inventory of words in a language, whereas terminology is only interested in terms, i.e. lexical units connected with a specialized field or professional activity.

A scholar whose work deals with the lexical component of language is called a **lexicologist**. A person who is involved in the study of terms is a **terminologist**.

1.1.2 TERMINOGRAPHY AND LEXICOGRAPHY

There is an analogous relation between **terminography** and **lexicography**. The latter refers to the practice of compiling, writing and editing dictionaries or other lexical resources (these activities are performed by or under the supervision of **lexicographers**), whereas terminography – also 'applied terminology' or 'terminological lexicography' – is a subfield that deals with the production (i.e. collection, processing and presentation) of terminology resources; a person involved in doing this is a **terminographer**.

A very specific area of lexicography is **metalexicography**, which is concerned with the description and/or scholarly criticism of existing dictionaries and dictionary-making practices.

The modern-day practice of both lexicography and terminography is highly reliant on the use of computer technology. Also, in line with the global rise in the use of the Inter-

net, more and more products of lexicography and terminography take the form of digital resources and/or online services.

1.2 Notions of terminology

There are three key notions associated with terminology: **concept**, **definition** and **term** (refer to the diagram below to see how they are related).
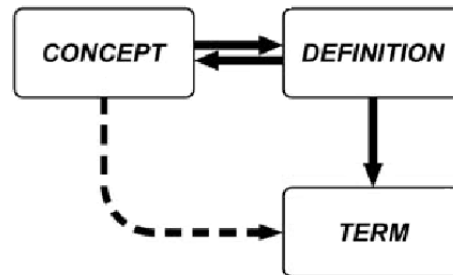
Fig. 1 – The key notions of terminology.

1.2.1 CONCEPT

Concepts are units of thought through which we organise our knowledge. They are abstract representations of the entities that make up the world around us. Concepts play an important role in all aspects of cognition.

We tend to understand concepts in relation to other concepts, rather than in isolation; in fact, human thought, knowledge and belief are based on a structured system of concepts.

1.2.2 DEFINITION

Existing concepts need to be defined. As the diagram above shows (see Fig. 1), the relation between a concept and a term is indirect; it is the definition that provides the link between them.

A terminological definition must be as detailed as is necessary in order to differentiate a concept (and its associated term) from other concepts and terms, and therefore to avoid ambiguity.

1.2.3 TERM

Terms are the linguistic designations assigned to concepts. Because terminology deals with specialised domains of knowledge, terms refer to the entities, properties, activities or relations that exist in a particular domain or field.

Behind each term there should be a clearly defined, unambiguous concept, and the choice of the term ought to reflect this concept effectively.

Also, as is the case with any other word, the form of the term should be in line with the lexical and morphological rules of the particular language – otherwise it may sound 'strange' or unnatural, and might be difficult to adopt.

1.3 Where do we find and use terms?

Words, the focus of lexicology, can typically be found in dictionaries, lexical databases, language corpora, wordlists and wordnets, where they are presented in a way that facilitates their practical use. An obvious area of use is translation but there are others: literature and creative writing (dictionaries of synonyms and antonyms), songwriting (rhyming dictionaries), study of language (corpora), spell-checking (wordlists), natural language processing (wordnets), etc.

On the other hand, terms are chiefly used in translation practice (in fact, the translation business is an important driving force behind many developments in terminography) and, of course, in field-specific communication, both spoken and written. Terms are collected and presented in **specialized dictionaries** or dedicated **terminology databases**. Apart from these resources we can come across terms in:

- field-specific texts (legal terms in a contract, technical terms in a manual, etc.);
- professional jargon (also referred to as "shop talk");
- in-house terminology banks;
- termbases (also called "glossaries") used by translation software.

Sometimes terms are not found outside of a particular, very narrow context. Certain companies or communities cherish and develop their own terms that will probably be unintelligible to most people – in some cases almost working as a "secret language" of sorts. The use of such terms has a strong social motivation in that they become part of the identity of the respective company or community. For example, in multi-level marketing (a form of direct selling in which existing distributors are encouraged to find new distributors, and are paid a percentage of their recruits' sales) they use terms like *sponsor*, *downline*, *upline*, *leg* or *volume*, with very particular meanings. Such terms not only refer to company-specific concepts and serve in-house communication: they also represent an important part of the corporate culture.

1.4 Terminology dynamics

The world around us keeps changing and evolving. As it is the property of language to reflect reality, we tend to look for a 'name' or a 'label' for each new thing that is in-

vented or otherwise comes into existence. Some specific fields, branches or professions develop very dynamically, and new terms need to be introduced continually to reflect the new concepts. At the same time, terms are dropped from use as once-specialized concepts become commonplace and lose their "technicality sense".

The overall dynamics of terminology is influenced by three lexical processes: **terminologization**, **determinologization**, and **re-terminologization**.

1.4.1 TERMINOLOGIZATION

Terminologization is the process of creating specialist terms by taking general-meaning words already in existence (*cloud*: "a grey or white mass made of tiny drops of water that floats in the sky") and giving them specialized meanings (*cloud*: "a network of computer servers on which data and software can be stored"). One particular field in which terminologization takes place very frequently is information technology (IT).

Terminologization is rarely a completely random process. Often there is a traceable relation between the original (general) word and the newly created term. The relation tends to be based on:

- a similarity in shape or form: *mouse*, *crane*, *window*
- an analogy of function: *desktop*, *folder*, *recycle bin, dialog*

TASK

Using a dictionary, compare the general vs. specific meaning of the following words:

- *folder, driver, widget* (IT)
- *bill, hearing, motion* (law)
- *casting*, *lock*, *spring* (tech.)

1.4.2 DETERMINOLOGIZATION

The opposite process is called determinologization: a term leaves the boundaries of expert language, the "special meaning" is drained out of it, and the term is incorporated into general language as a widely known word.

Good examples are certain medical terms, which people commonly use without the complex clinical meanings ascribed to them by medical professionals. The example sentence provided by the OXFORD ADVANCED LEARNER'S DICTIONARY, "There was a feeling of gloom and depression in the office when the news of the job cuts was announced,"

clearly demonstrates that the word *depression* is now used in a much more general sense. Similarly, many people complain of *insomnia* without being officially diagnosed with this condition: they merely want to say they find it hard to sleep.

As information technology becomes more and more available and widespread, original technical terms such as *laptop*, *tablet* or *monitor* have, too, been deprived of their specialist meanings and have become common words that everybody understands.

1.4.3 RE-TERMINOLOGIZATION

Re-terminologization is the transition of a term from one specific area of use to another. In other words, the respective lexical unit remains a term but is now used in a different context with a different meaning.

One notorious example is the term *virus* ("an infective agent, too small to be seen without a microscope"), which originally comes from biology and is now also used as a term in IT ("a computer program designed to cause faults or destroy data").

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DEFINITIONS

Lexicology – A field of linguistics that studies words.

Lexicography – The practice of producing dictionaries or other lexical resources (print or electronic).

Term – A lexical unit (a single word, a compound, or a multi-word expression) connected with a specialized field or professional activity and carrying a specific meaning.

Terminology – 1. A class of words or phrases (*terms*) used in particular, usually professional contexts to convey specific meanings. 2. A branch of applied linguistics that systematically studies terms, their properties and use.

Terminography – The practice of producing terminological resources (print or electronic) such as specialized dictionaries or terminology databases.

Terminologization – The process of creating specialist terms by taking general-meaning words already in existence and giving them specialized meanings.

Determinologization – The process in which a lexical unit loses its terminological properties and becomes a commonly used word.

Re-terminologization – The transition of a term from one specific area of use to another.

COMPREHENSION CHECK

1. What is the relation between *lexicology* and *terminology*?

2. Explain the fundamental notions associated with terminology: *concept*, *definition* and *term*.

3. Explain how the processes of *terminologization*, *determinologization* and *re-terminologization* influence the dynamics of terminology. Give specific examples.

SUMMARY

The introductory chapter dealt with the main concepts and notions related to terms and terminology. We provided the necessary definitions, placed terminology within the wider context of linguistic study, and explained its relation to lexicology. We also described the general processes that underlie terminology development and influence its dynamics.

2 THE LINGUISTIC ASPECTS OF TERMINOLOGY

QUICK OVERVIEW

This relatively extensive chapter deals with the linguistic properties of terms. We will present the key characteristics of "professional English" – a specific expert language or code used by English speakers in various professional contexts. We will also describe terms from the viewpoint of their morphological properties, focusing on various formal components and the meanings they contribute to the term they are part of. Further in the chapter we will discuss the main word-formation processes through which terms are created or otherwise enter the English language. Last but not least, we will cover various lexical relations that exist between terms.

AIMS

In this chapter you will learn:

- about the characteristic features of professional English;
- about the morphological properties and typical components of terms;
- how various word-formation processes contribute to the growth of English terminology;
- about lexical relations between terms.

KEYWORDS

professional English, morphology, word formation, lexical relations, synonymy, homonymy, polysemy

REQUIRED TIME

240 minutes

2.1 Professional English and its properties

In this study material we use "professional English" as an umbrella term referring to the specific expert language used by English speakers in various professional contexts. Therefore, this general term covers and subsumes what textbooks and dictionaries call "business English", "technical English", "medical English", "academic English", "English for IT", etc.

As terminology plays an important role in professional or expert language and communication, we consider it quite logical to start this chapter with a brief overview of the linguistic properties of professional English. Its main characteristic features are the following:

- The actual choice of linguistic devices is strongly influenced by the general need for an **exact**, **concise** and mainly **impersonal** way of expression.

- The requirement to be highly exact leads to relatively **long sentences**. It is estimated that sentences in expert texts and communication tend to be 70% longer compared to general English.

- The sentence structure is often **complex** and **varied** in form.

- The predominantly impersonal nature of professional English underlies the fact that it has adopted grammatical means which suit this particular way of expression. **Impersonal structures** include, above all, nominal forms of verbs (the infinitive, the gerund, the present and past participles) and the passive.

- Words and phrases tend to have **literal meanings**. There is little room for figurative language.

- **Terms and term-like expressions** constitute a significant part of professional vocabulary. They carry a high degree of information.

- Relations between terms and other semantic parts of the sentence are described by **functional expressions** such as prepositions and conjunctions (for example: *upon, after, besides, moreover, furthermore, aside from, in addition to, together with, in conformity with, as a result, providing*) or adverbs (*again, however, nevertheless, thus, therefore, alternatively,* etc.).

- Professional English also employs its own 'phraseology' in the form of various **set phrases** (*on no account, give account of, take into account, come into existence, come to a conclusion, come to light*, etc.).

- Frequent are phrases expressing the **opinion or attitude** of the author of the text towards the argument(s) he/she is making (*beyond any doubt, of course, to be sure, there is every indication that, we strongly believe that, it is safe to assume that,* etc.).

The linguistic aspects of terminology

- Also very common are words and phrases expressing the **degree of probability** (*possibly, probably, presumably, in all probability, perhaps, apparently, unlikely, it is assumed that, it is widely believed that*, etc.).

- There is a relative **lack of personal pronouns**, and especially of the first-person singular "I".

2.2 Terms and morphology

In this section we will discuss terms from the viewpoint of morphology. We will have a look at the formal properties of terms, and see how **morphemes** – minimal units that carry meaning in language – work and contribute to the construction of terminological meaning.

Especially for translators, being able to see the individual components that make up terms can facilitate the interpretation and understanding of the highly specific meanings found in professional English texts.

2.2.1 WHAT DOES A TERM LOOK LIKE?

In the English language, a term typically takes the form of:

- a **noun**, which is either

  o a simple noun: *contract* (law), *bronchitis* (med.)

  o a compound: *backbencher* (polit.), *boric acid* (chem.)

  o a derivation: *antivirus* (IT), *revocation* (law)

  o a blend: *Unicode*, *codec* (both IT)

- a **nominal phrase**:
  Doppler shift (phys.), *word processor* (IT), *safety valve* (tech.)

- an **adjectival phrase**:
  Official Journal (EU admin.), *relative clause* (ling.), *protective layer* (tech.)

- a **complex phrase**:
  selective serotonin re-uptake inhibitor (med.)

- a **verb**:
  to log in (IT), *to unfriend* (social media), *to countersign* (law, admin.)

- an **acronym**:
  AIDS (med.), *BOM* (tech.)

- an **initialism**:
  EU (polit.), *MRI* (med.)

2.2.2 TERMS AND THEIR MORPHOLOGICAL COMPONENTS

Many terms are – or contain – derived words, i.e. words that have been formed using a root or a stem (a "base word" consisting of at least one **lexical morpheme**) in combination with an affix (a **derivational morpheme**). The most common affix types in English are **prefixes** (added before the base word) and **suffixes** (added after the base word).

The core meaning of the term is usually carried by its lexical morpheme(s), while derivational morphemes (i.e. prefixes and suffixes) provide additional semantic features to further specify or modify the meaning. Take the following adjective as an example:

Here, the lexical morpheme *pol* (representing the root of the word) indicates that the word incorporates "a pole" as its core semantic notion. The derivational morpheme *-ar* (the suffix) adds the meaning "having or related to", and turns the word into an adjective. Finally, the derivational morpheme *bi-* (the prefix) adds the meaning "two", thus arriving at the final meaning of the word: "having or related to two poles".

Prefixes

The table below lists a few common prefixes that often appear as morphological components in English terms:

Prefix	Meaning	Example term(s)
a(n)-	"without", "non-"	*anorganic, amorphous*
anti-	"against"	*antifreeze, anticlockwise*
astro-	"star", "space"	*astronaut, astronomy, astronavigation*
bi-	"two", "twice"	*bipolar, bilateral*
cent(i)-	"hundred"	*centipede, centigrade*
counter- contra-	"back", "against"	*counterbalance, counteraction* *contraception, contraflow*
de-	"to lower", "to deteriorate"	*decomposition, degradation*
deca-	"ten"	*decathlon, decalitre*
demi- hemi- semi-	"half"	*demigod, demi-pension* *hemisphere, hemistich* *semicircular, semiconductor*
dia-	"through", "between", "across"	*diagonal, diameter*
endo-	"inside"	*endocrinology, endogenous*
equi-	"the same"	*equivalence, equidistant*
exo-	"outside"	*exogamy, exogenous*

geo-	"earth"	*geography, geodesic*
gyro- / gyra-	"rotation", "circle"	*gyrocompass, gyration*
hecto-	"hundred"	*hectolitre, hectogram*
hetero-	"different"	*heterogeneous, heteromorphic*
hyper-	"over", "too many"	*hypercharge, hypersensitive*
hypo-	"less", "under"	*hypodermic, hypoplasia*
inter-	"between", "mutually"	*interplanetary, Internet*
iso- homo-	"the same", "identical"	*isochromatic, isogonal* *homogeneous, homophone*
macro-	"big"	*macroeconomic, macrostructure*
mal-	"bad"	*malfunction, malignant*
mono-	"one", "only"	*monochromatic, monorail*
neo-	"new"	*neologism, neonatal*
octa- / octo-	"eight"	*octagon, octosyllabic*
omni-	"all", "everywhere"	*omnipresence, omnidirectional*
over-	"too"	*overload, oversaturation*
peri-	"around"	*perimeter, peripheral*
poly-	"many"	*polygon, polycarbonate*
proto-	"first"	*protozoa, prototype*
re-	"again"	*reaction, recycle*
super-	"above"	*supersonic, superstructure*
tele-	"distance"	*telemetry, telescope*
thermo-	"temperature"	*thermometer, thermoplastic*
trans-	"across"	*transverse, transfer*
uni-	"one"	*unicycle, unicameral*
vice-	"in place of"	*vice-president, vice-governor*

Suffixes

The table below lists a few common suffixes that often appear as morphological components in English terms:

Suffix	Meaning / function	Example term(s)
-able / -ible	possibility, feasibility	*machinable, collapsible*
-age	process, activity	*montage, assemblage*

-al	forms nouns and adjectives	*removal, mechanical*
-ance / -ancy -ence / -ency	form nouns that express property or state	*conductance, constancy* *presence, valency*
-ant	forms nouns and adjectives	*lubricant, resistant*
-ary / -ery -ory	place connected with a particular job or activity	*library, infirmary, winery, refinery* *observatory, factory*
-ation	forms nouns that express activity or state	*refrigeration, formation*
-ce / -cy	forms nouns	*valence, sequence* *accuracy, supremacy*
-(c)ule	"small"	*minuscule, molecule, capsule*
-ectomy	"chirurgical removal"	*colectomy, vasectomy*
-er / -or -ian, -ist -ier / -yer	form names of professions	*welder, director* *librarian, machinist* *cashier, lawyer*
-esce	forms verbs that express change of state	*incandesce, effervesce*
-gram	"record"	*oscillogram, diagram*
-graph	"recording or diagnostic device"	*barograph, cardiograph*
-ic / -ical -ial	form adjectives expressing properties	*magnetic, surgical* *spatial, commercial*
-icle	adds the meaning "small" to nouns	*particle, cubicle*
-ics -logy	form names of sciences	*physics, economics* *biology, metrology*
-ing	forms nouns	*tubing, bolting, lining*
-ity / -ility -ivity	form nouns expressing properties	*reactivity, capability* *conductivity*
-less	"without"	*wireless, contactless*
-let	adds the meaning "small" to nouns	*droplet, applet*
-meter	"measuring device"	*thermometer, altimeter*
-oid	"similar or resembling"	*hyperboloid, planetoid*
-proof	"resistant"	*waterproof, laserproof*
-scope	"optical indicator"	*oscilloscope, spectroscope*
-sion	forms names expressing property or activity	*torsion, conversion*
-y	forms nouns and adjectives	*symmetry, rusty*

Using the information presented in section 2.2.2, analyse the morphological structure of the following five terms. Identify prefixes and suffixes, explain their meaning and/or function, and translate the term into Czech. (The particular field in which the term is used is given in brackets.)

contractor (business)

homogamy (botany)

geologist (science)

monosyllabic (linguistics)

managerial (business)

DEFINITIONS

Lexical morpheme – An abstract morphological component that carries the actual semantic content (the conceptual meaning) of the word. Typically, a lexical morpheme forms the root of the word.

Derivational morpheme – An abstract morphological component that specifies or modifies the meaning and/or function of the word. Typically, derivational morphemes manifest themselves in the form of affixes.

Affix – A morphological component added to a base word to modify its meaning or function. The process of adding affixes is called **derivation**.

Prefix – A type of affix that is added before the base word.

Suffix – A type of affix that is added after the base word.

2.3 Terms and word formation

There are many different ways in which words can enter a language. The constant evolution of word stock (i.e. the introduction of new words, and the re-use of old words with new meanings) is a sign of vitality and creativity as languages are shaped by the changing world and by the needs of their users.

We have already mentioned in the previous text that we need to create new terms in order to be able to name the new inventions people come up with. Therefore, in this section we will discuss terms from the viewpoint of word formation.

Word formation is a collective term given to the various processes by which new words are created. Many languages employ similar kinds of word-formation processes, but they differ in the degree to which these processes are typical of the particular language. For example, inflected languages such as Czech or Polish tend to form most new words through derivation (i.e. adding prefixes and suffixes to word stems), whereas non-inflected languages (Japanese, Turkish etc.) prefer compounding, conversion or other processes.

We will now have a look at the individual word-formation processes that are typical of the English language, with a specific focus on the formation of terms:

2.3.1 DERIVATION

We have seen in chapter 2.2 above that the morphological structure of English lends itself quite well to the use of derivation – the adding of prefixes and suffixes – in the formation of terms. In fact, derivation is (together with compounding) the most common word formation process in English.

Numerous examples of derived terms have been presented in section 2.2.2.

2.3.2 COMPOUNDING

Compounding is the joining of two or more separate lexical units (base words) to produce a new word form. This word-formation process is very common in English.

As far as the form is concerned, we traditionally distinguish three types of compound in English:

- **Closed compounds** are expressions in which the individual components are written together, with no space between them. Closed compounds are typically made up of two words (*fingerprint*, *laserdisc*, *textbook, archway, motherboard, joystick, hatchback, trolleybus*) but certain term-like adverbs and prepositions used in formal situations – for example, in legal or administrative texts – consist of three base words (*hereinafter*, *heretofore*, *notwithstanding*).

- **Hyphenated compounds** use a hyphen as a dividing character between two or more base words. Examples of terms that are hyphenated compounds include: *singer-songwriter*, *plug-in*, *right-of-centre*, *left-handedness*, *four-by-four*, *editor-in-chief*, etc.

- **Open compounds** are by far the most common. In these expressions all the base words are written separately: *expansion card*, *boarding pass*, *deputy chairman*, *nuclear power plant*, *coefficient of friction*, *right of way*, *emergency core cooling system*, etc.

  Many complex terms that are open compounds actually consist of a combination of the three types above. Examples include: *decision-making process*, *computer-aided translation*, *do-it-yourself kit*, *self-powered motherboard*, etc.

2.3.3 BLENDING

This word-formation process involves combining two lexical forms by taking a part of one word (usually the beginning) and joining it to a part of another word. Due to this, the meaning of blends is less obvious at first sight compared to compounds. Well-known blend examples include *smog* (*sm*oke + f*og*), *brunch* (*br*eakfast + l*unch*), *motel* (*mo*tor + ho*tel*) and *cyborg* (*cyb*ernetic + *org*anism).

One terminology area in which blends are common is information technology:

Original words	Resulting term
*bi*nary + digi*t*	*bit*
*mo*dulator + *dem*odulator	*modem*
*co*der + *dec*oder	*codec*
*emot*ion + *icon*	*emoticon*
Inter*net* + et*iquette*	*netiquette*
*spam*ming + ro*bot*	*spambot*
we*b* + *log*	*blog*
*v*ideo + b*log*	*vlog*
*wi*reless + *fi*delity	*Wi-Fi*

2.3.4 CLIPPING

Clipping is a process in which a word consisting of more than one syllable is reduced to a shorter form. Usually, it is relatively long words – that is, words consisting of at least two or three syllables – that are clipped. This is not done out of laziness: users generally tend to express themselves as economically as possible, and because languages employ a certain degree of redundancy, users can omit parts of long compounds or multi-word terms without diminishing their meanings.

As clipped words in general tend to indicate informal use of language (although many such words are now perceived as neutral), clippings are often found in professional slang rather than as regular terms.

Examples of clippings used in professional English:

ad	advertisement	*lab*	laboratory
fridge	refrigerator	*condo*	condominium
app	software application	*rep*	representative
specs	specifications	*vet*	veterinary surgeon
memo	memorandum	*temp*	temporary employee
gas	gasoline	*maths*	mathematics

2.3.5 CONVERSION

Conversion is a type of word formation that does not involve any morphological means. The process of conversion is based on the change in the function of a word, rather than in the form. Typically, lexical units created through conversion have changed their part of speech while retaining the same (or minimally changed) word form. In other words, during conversion verbs turn into nouns or adjectives, nouns turn into verbs, and so on.

Examples of English terms formed via conversion:

Part-of-speech change	Original word	Resulting term
noun to verb	a bottle a chair a lecture a position	to *bottle* a product to *chair* a meeting to *lecture* at a university to *position* a product in the market
verb to noun	to print out to take over to spy	a *printout* a *takeover* a *spy*
verb to adjective	to stand up to see through	*stand-up* comedy a *see-through* fabric

2.3.6 BACKFORMATION

This word-formation process, too, involves a change in the part of speech but compared to conversion (see above), a reduction of the word form takes place (typically, a suffix is removed from the original word). Backformation usually produces verbs that are formed from nouns.

Examples of English terms that are the result of backformation:

Original word	Resulting term
television	to *televise*
euthanasia	to *euthanise / euthanize*
liaison	to *liaise*
bulldozer	to *bulldoze*
electrocution	to *electrocute*
donation	to *donate*

2.3.7 COINAGE

Just like new things are constantly invented, so are new words. The process of inventing a completely new word is referred to as *coinage*, and the same term is applied to the result of that process. Coinages often enter the language as trade names for commercial products, and over time they become general words referring to any version or variation of the original product. (They also usually drop the initial capital letter in the process.)

Coinages tend to be nouns but we also have examples of newly coined verbs.

Examples of coinages that are used as terms: *aspirin, nylon, vaseline, kleenex, teflon, xerox, sellotape, quark*; *to google, to photoshop*.

Coinages based on proper names (i.e. names of people or places) are called *eponyms*. Example English terms that are eponyms include: *hoover, fahrenheit, diesel, Marxist, platonic, Petri dish, Alzheimer's Disease*, etc.

2.3.8 BORROWING

In order to extend the word stock of a language we can turn to other languages and simply incorporate words already existing there. This practice is referred to as "borrowing"; a word taken over from another language is called a **loanword** or a **borrowing**.

Today, English is a very influential language, so many modern terms that come from English-speaking countries end up as loanwords in other languages. Sometimes they even become preferred over existing "native" terms; for example, the suggested Czech term *magnetoskop* ("a video player or recorder") never really caught on in language practice and was soon replaced by a borrowing from English, *video*.

On the other hand, English has, too, been quite keen on lexical borrowings. It is estimated that nearly 30% of the entire English word stock is of French origin, and roughly the same proportion of vocabulary comes from Latin. As far as terminology is concerned, the major sources of term borrowings are Latin, French and Greek but other languages have contributed, too. The table below gives some examples:

Language of origin	Borrowed terms
Arabic	*alcohol, atlas, fakir, fatwa*
Czech	*robot, howitzer* (from *houfnice* via the German *Haubitze*)
Dutch	*buoy, commodore, iceberg, narwhal, trigger*
French	*automobile, calorie, district, fabric, juxtaposition, oxygen*
German	*flugelhorn, glockenspiel, lithography, snorkel, umlaut, zeitgeist*
Greek	*aorta, colophon, diabetes, chaos, pneumonia, stigma, trauma*
Italian	*a cappella, cantata, gabion, loggia, motto, novella, opera, zebra*
Japanese	*anime, emoji, futon, ikebana, karate, tofu, tsunami*
Latin	*accumulation, condominium, denture, fungus, mutation, phonetic*
Sanskrit	*avatar, guru, nirvana, yoga*
Spanish	*armadillo, Chicano, hurricane, mulatto, oregano, tobacco*

TASK

Using the Internet, identify the languages from which the following five terms have been borrowed:

chutney _____

deck _____

angst _____

karaoke _____

yoghurt _____

2.3.9 ACRONYMY

The last word-formation process we will cover is acronymy – the creation of new words formed from the initial letters of other words. Acronymy is a type of abbreviation.

Linguists typically distinguish two kinds of words that are the result of this process: **acronyms** (which are pronounced as single words: *UNESCO* [juneskəu]) and **initialisms** (pronounced as individual letters: *DVD* [di: vi: di:]). However, there is apparently some overlap between the two categories, as there are words that people pronounce in both ways: *UFO* ([ju:fəu] or [ju: ef əu]), *VAT* ([vi: ei ti:] or [væt]), etc.

The linguistic aspects of terminology

In terminology, acronyms and initialisms are very common because many specialist terms are long open compounds (see 2.3.2 above). Acronymy provides a practical way to facilitate their use in both written and spoken communication.

Certain terms formed through acronymy have become so common that we no longer feel their acronymic origin: *laser* (*l*ight *a*mplification by *s*timulated *e*mission of *r*adiation), *scuba* (*s*elf-*c*ontained *u*nderwater *b*reathing *a*pparatus), etc.

Examples of common English terms that are acronyms or initialisms are given in the table below:

Acronyms	
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organisation
radar	radio detection and ranging
OPEC	Organization of Petroleum Exporting Countries
UNPROFOR	United Nations Protection Force
AIDS	Acquired Immune Deficiency Syndrome
AWOL	absent without official leave
GIF	graphics interchange format
PIN	personal identification number
Initialisms	
FBI	Federal Bureau of Investigation
CIA	Central Intelligence Agency
MRI	Magnetic Resonance Imaging
HIV	Human Immunodeficiency Virus
HTML	hyper-text markup language
BBC	British Broadcasting Corporation
CNN	Cable News Network
OEM	original equipment manufacturer
RSI	Repetitive Strain Injury

2.3.10 COMBINED PROCESSES

More than one process can often be involved in the formation of a new word. From a synchronic viewpoint we can identify a **combination** of word-formation processes in terms like the following:

robotic	borrowing + derivation
HIV-positive	acronymy + compounding
cellphone	clipping + compounding

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DEFINITIONS

Acronymy – A process in which a new word is created from the initial letters of a multi-word form. The resulting new word is either an **acronym** (pronounced as a single word) or an **initialism** (pronounced as a sequence of individual letters).

Backformation – A process that involves a change in the part of speech of a word while, at the same time, reducing the word form (typically, removing a suffix).

Blending – A process in which two lexical forms are combined, by taking a part of one word (usually the beginning) and joining it to a part of another word. The resulting new word is called a **blend**.

Borrowing – The incorporation of a word from another language. Such a word is then called a **loanword** or a **borrowing**.

Clipping – A process that involves the shortening of a longer word. The resulting new word is called a **clipping**.

Coinage – The invention of totally new words. The resulting word is called a **coinage** or a **coined word**.

Compounding – A process that involves the joining of two or more separate lexical units (base words). The resulting new word is called a **compound**.

Conversion – A process based on changing the function of a word. Typically, words created through conversion have changed their part of speech while retaining the same (or minimally changed) word form.

Derivation – A process in which new words are created by way of adding affixes. The resulting new word is called a **derivation** or a **derived word**.

2.4 Lexical relations in terminology

Words do not exist as mere "containers of meaning": they can also have relationships with each other. The meaning of a word can be described not only in terms of its component semantic features but also in terms of its relationship to other words.

Early on in this study material (see chapter 1.2) we mentioned that terms should be unambiguous and that, ideally, one term should refer to one clearly defined concept. However, this requirement is difficult to meet in actual language practice. Just like other words, terms become involved in various lexical relations such as synonymy, homonymy

and polysemy. This complicates their use to a certain degree, but such is the nature and reality of language.

2.4.1 SYNONYMY BETWEEN TERMS

In various fields of terminology we come across different words and expressions with apparently the same or a very similar meaning. These work as **synonymous terms** (or **terminological synonyms**), thus effectively breaching the requirement that one concept should be referred to by one (and only one) term.

Synonymy – the existence of different word forms sharing the same underlying concept – occurs in terminologies for various reasons:

- **Geographical**: the same entity is called differently in various countries where the same language is spoken; for instance, *lift* and *bonnet* in British English, which have their corresponding American English counterparts, *elevator* and *hood*.

- **Social**: the same concept has acquired a new name due to changes in the society. For example, the terms *air hostess, chairman* and *policewoman* now co-exist with their respective gender-neutral synonyms *flight attendant, chairperson* and *police officer*.

- **Ideological**: the same concept has acquired two (or more) different names due to political or ideological reasons. One famous example is the word *cosmonaut* (used in the former Eastern Bloc), which is in reality no different from an *astronaut* (a term used in the Western world). The reason for the existence of two different terms is purely political here. The recent addition of *taikonaut* ("an astronaut in the Chinese space programme") has a similar motivation.

- **Preferential**: the same concept is called differently among different professional user groups because they prefer or have devised their own term. Examples include IT-related terms used across different computer platforms and operating systems: *dialog box* vs. *message window*, *control* vs. *widget* ("a user interface element"), *checkbox* vs. *tickbox*, *context menu* vs. *pop-up menu*, etc.

- **Marketing**: the same concept has acquired another name because there is a marketing and/or media "push" behind it. Indeed, new synonyms often originate from product names and trademarks. Examples: *sticky tape* vs. *Sellotape*, *exercise bike* vs. *Exercycle*, *sticky note* vs. *Post-it*, etc.

2.4.2 TERMINOLOGICAL HOMONYMY AND POLYSEMY

Terms are standards set to avoid ambiguity and misunderstanding in a specific profession or field of activity. However, practice has shown that quite often, one and the same

term can have different meanings, depending on the context. While in general language this is a positive sign (indicating that the language is alive and rich), terminological **homonymy** and **polysemy** – the existence of terms with multiple meanings – can lead to confusion.

The distinction between polysemy and homonymy is often quite vague, but the generally accepted definition is that **polysemous words** carry meanings that are related in origin, whereas the individual meanings of **homonyms** are not related to each other. In dictionaries, polysemous words tend to be treated within a single entry while homonyms form separate dictionary entries.

As an example we will take a look at the term "lock". As the table below shows, the term acquires different meanings in different fields of use (and has different corresponding translations in Czech). However, the meanings are mutually related – they all involve holding something in place and blocking it there. They share the same origin, so "lock" is a **polysemous term** (not a homonym):

Field of use	Definition	Czech translation
sport	"A hold that prevents an opponent from moving (in wrestling or martial arts)."	*zámek*
water transport	"A short section of a canal or river with gates at each end which can be opened or closed to change the water level, used for raising and lowering boats."	*zdymadlo,* *plavební komora*
car technology	"The maximum extent to which the front wheels of a vehicle can be turned left or right."	*rejd*

Another example is the verb "to clear". As the definitions below indicate, the meanings assigned to the verb in various specialist contexts are not related to each other. Therefore, "to clear" is a **homonymous term**:

Field of use	Definition	Czech translation
international transport	"To give or receive official permission to transport goods across the border."	*proclít,* *celně odbavit*
sport	"To kick or hit a ball or a puck away from the area near your own goal."	*dostat míč/puk* *z obranného pásma*
business	"To make net profit."	*vydělat, získat* *(čistý zisk)*
business	"To sell cheaply to get rid of stock."	*levně rozprodat,* *zbavit se,* *dát do výprodeje*

Df | ***DEFINITIONS***

Synonymy – A semantic relation between two or more word forms that share the same or a very similar meaning.

Synonymous terms (also **terminological synonyms**) – Terms that are different words but refer to the same concept.

Polysemy – A semantic relation based on the fact that a single word form carries several meanings that are related in origin.

Polysemous term – A term that introduces ambiguity in terminology because it has more meanings, related through polysemy.

Homonymy – A semantic relation based on the fact that a single word form carries several meanings that are unrelated to each other.

Homonymous term – A term that introduces ambiguity in terminology because it has more meanings, related through homonymy.

?? | ***COMPREHENSION CHECK***

1. What is *professional English*, in what contexts is it used, and what are its typical linguistic properties?

2. Which *morphological components* take part in forming English terms? Give specific examples.

3. Which *word-formation processes* contribute to extending the repertoire of English terms? Give specific examples.

4. Explain the possible reasons for the existence of *terminological synonymy*. Give specific examples.

5. Explain the difference between *homonymous* and *polysemous terms*. Give specific examples.

SUMMARY

This chapter dealt with the linguistic properties of terms. We presented the main characteristic features of professional English (that is, the expert language used by English speakers in various professional contexts). We also described terms from the viewpoint of their morphological properties, focusing on various formal components and the meanings they contribute to the term they are part of. We also mentioned the most common word-formation processes through which terms are created or otherwise enter the English language. Finally, we devoted our attention to various lexical relations (namely: synonymy, homonymy and polysemy), and explained how their existence affects the use of terminology.

3 TERMINOLOGY RESOURCES

QUICK OVERVIEW

The third chapter leaves the realm of theory and looks at the practical side of things. We will give an overview of various terminology resources that a translator may find useful in his/her daily work. We will recommend a number of specialized dictionaries, both print and electronic, that cover terminology in various subject domains (economics and finance, law, politics, etc.). We will also mention a number of publicly available online terminology databases that can serve as resources complementary to dictionaries.

AIMS

In this chapter you will learn:

- about the importance of terminological accuracy in translation;

- about specialized dictionaries that contain terms relating to particular fields and professions;

- about useful terminology databases.

KEYWORDS

translation, terminological accuracy, dictionary, terminology database

REQUIRED TIME

180 minutes

When translating specialist texts, **terminological accuracy** is an important aspect of the quality of translation. The knowledge of terminology used in a particular field, and the ability to find, verify and correctly use terms to fit the needs of specialist communication, are important prerequisites that a professional translator has to meet.

In reality, very few translators are trained experts in the field in which they specialize: for instance, a person translating chemistry-related texts is not required to have studied chemistry at university level. But they have to be able to effectively find the correct terms for the particular context. This is where various **terminology resources** enter the scene and become indispensable tools.

We mentioned in section 1.3 above that for practical purposes, terms are often collected in **specialized dictionaries** and **terminology databases**. In this chapter we will have a look at some of these resources.

3.1 Specialized dictionaries

These dictionaries contain the terminology related to a particular subject field or discipline, often trying to cover as much of the relevant terminology as possible. Specialized dictionaries tend to cover one subject field, although multi-field dictionaries do exist as well.

Print dictionaries come in traditional book form, whereas **electronic dictionaries** take the form of software applications, e-books (in formats such as PDF or ePub) or online services. Electronic dictionaries allow faster searching, and they also tend to be more up-to-date: it is much easier (as well as cheaper) for publishers to update and extend them because the additional cost of printing and binding does not apply.

Another possible classification is based on the language(s) used:

- **Monolingual dictionaries** present terms through their definitions in a single language. They can be useful when the translator wants to actually understand the term he/she is translating, rather than just find the corresponding equivalent in a target language.

- **Translating dictionaries** (bilingual or multi-lingual) contain terms and their corresponding translations in one or more target languages.

Some dictionaries combine both approaches; typically, the dictionary is designed as a translating dictionary but definitions or explanations of terms are also provided for reference.

The table below presents a non-exhaustive list of existing specialized translating dictionaries (both print and electronic) that cover Czech and English terminology used in various fields and professions:

Terminology resources

3.1.1 PRINT DICTIONARIES

Subject domain	Title	Author(s)	Publisher and date
economics and finance	*Velký ekonomický slovník anglicko-český / česko-anglický*	various authors	Fraus, 2007
	Anglicko-český ekonomický slovník	J. H. Adam	Leda, 2003
	Anglicko-český + Česko-anglický odborný slovník z oblasti ekonomické, obchodní a finanční (two volumes)	Milena Bočánková et al.	Linde, 2008 (4th ed.)
	Anglicko-český ekonomický výkladový slovník	Jiří Elman	Sobotáles, 2004
	Ekonomický slovník s odborným výkladem česky a anglicky	Helena Fialová, Jan Fiala	Aplus, 2009
	Česko-anglický slovník pojišťovnictví	various authors	Grada, 2007
law	*Anglicko-český právnický slovník*	Jana Oherová et al.	Linde, 2010
	Anglicko-český právnický slovník	Marta Chromá	Leda, 2010 (3rd ed.)
	Česko-anglický právnický slovník s vysvětlivkami	Marta Chromá	Leda, 2010 (3rd ed.)
politics and administration	*Anglicko-český a česko-anglický slovník Evropské unie*	Milena Bočánková, Miroslav Kalina	Ekopress, 2005
	Velký slovník zkratek Evropské unie	Jiří Elman	East West Publ., 2000
science and technology	*Anglicko-český + Česko-anglický technický slovník* (two volumes)	Jiří Elman, Václav Michalíček	Sobotáles, 2003 (2nd ed.)
	Praktický technický slovník anglicko-český / česko-anglický	various authors	Fraus, 2007
	Anglický frazeologický slovník pro techniky	Josef Nevrlý	Computer Press, 2008
	Česko-anglický slovník stavební	Jiří Vedral	JTP, 2006
	Velký chemický slovník anglicko-český a česko-anglický (two volumes)	Jaromír Mindl, Josef Panchartek	VŠCHT, 2012 (3rd ed.)
	Anglicko-český / česko-anglický multioborový slovník z oblasti vědy, techniky a ekonomiky	various authors	Computer Press, 2011
	Anglicko-český slovník. Automobily, silniční vozidla, výroba, prodej, sevis, opravárenství.	Ivo Machačka, Filip Machačka	Systemconsult, 2009
	Gumárenský anglicko-český slovník a český výkladový slovník s anglickými ekvivalenty	Vratislav Ducháček, Anežka Lengálová	ČSPCH, 2004
	Anglicko-český a česko-anglický slovník	Jarmila Hájková,	SFŽP, 2010

	životního prostředí a udržitelného rozvoje	Ivan Rynda et al.	
medicine	*Tematický česko-anglický a anglicko-český soudnělékařský slovník / Thematic Czech-English and English-Czech Dictionary of Forensic Medicine*	Michal Beran, Petra Dohnalová, Klára Neureutterová	Karolinum, 2018
	Česko-anglická rostlinolékařská terminologie	Václav Kůdela et al.	Academia, 2008
sport	*Anglicko-český / německo-český / česko-německo-anglický slovník sportovního tréninku*	Eva Pokorná, Róbert Kandráč	Grada, 2011

3.1.2 ELECTRONIC DICTIONARIES

Subject domain	Title	Author(s)	Publisher and date
economics and finance	*Lexicon 7 Ekonomický slovník*	various authors	Lingea, 2019
	Anglicko-český ekonomický slovník	Jiří Elman	Leda, 2005
law	*Lexicon 5 Anglický právnický slovník*	various authors	Lingea, 2008
politics and administration	*Euro angličtina. Elektronický anglicko-český a česko-anglický slovník pro pracovníky státní správy.*	Jana Dyčková	NOK + Lingea, 2011
	Výkladový slovník migrační terminologie / Glossary on Migration	various authors	IOM, 2014 (e-book / PDF)
science and technology	*Lexicon 7 Anglický technický slovník*	various authors	Lingea, 2019
	Lexicon 7 Anglický zemědělský a přírodovědný slovník	Josef R. Beneš	Lingea, 2019
	Anglicko-český / česko-anglický technický slovník	various authors	TZ-one, 2013 (e-book / PDF)
	Slovník analytické chemie anglicko-český a česko-anglický	Pavel Matějka et al.	VŠCHT, 2005 (online)
	Angličtina na internetu: anglicko-český slovník	Jozef Petro	Halloenglish.cz, 2015 (e-book / PDF)
various fields	*Nový odborný slovník Millennium 8 anglicko-český, francouzsko-český, německo-český, rusko-český*	various authors	Commercial Service K+K, 2014

TASK

Visit the university library, and use the library catalogue to find out which of these resources are available to you.

3.2 Terminology databases

With the more widespread use of the Internet in the past two decades, a lot of lexicographic activity has moved towards web-based technologies. These technologies have enabled the emergence of new lexicographic tools that would be difficult to implement in the traditional book form. In many ways, **online terminology databases** provide a better answer to the dynamic development in specialist fields; above all:

- They are easier to maintain, extend and review.

- They are based on **distributed collaboration**, which means that many people can work on them at the same time and regardless of their location (whereas traditional dictionaries usually only have small, locally-based teams behind them).

- They make use of state-of-the-art database technologies, allowing **sophisticated ways to look up terms** including query-based searching, fulltext searching and in-context searching.

- It is easy to design them as **multi-lingual** (i.e. one term is provided in parallel translation into several languages), whereas in traditional dictionary-making the bilingual approach is still prevalent.

- They are accessed through a standard web browser, which is an environment most people of today are familiar with.

Compared to an electronic dictionary, the structure of an entry in a terminology database tends to be simpler, and contains less linguistic information.

Below is an overview of several useful online terminology databases that are freely available for public use:

3.2.1 TECHTERMS

A monolingual online database of computer and Internet terms. Launched in 2005, the database currently contains about 1500 technical terms with easy-to-understand definitions. Term can be looked up via the web interface as well as from mobile apps for the iOS and Android operating systems.

The database is accessible from www.techterms.com.

3.2.2 MICROSOFT LANGUAGE PORTAL

A multilingual online database of standard computer technology terms used across Microsoft products. Due to the significant role of Microsoft in the world of computing, the database can also serve as a general IT terminology bank. The terms are available in almost 100 languages.

The database is accessible from www.microsoft.com/Language.

3.2.3 MEDILEXICON

A monolingual online database of terms and abbreviations from the fields of medicine, pharmacy, biotechnology, agrochemicals, healthcare and more. Currently it contains more than 100,000 terms as well as over 230,000 acronyms and initialisms.

The database is accessible from www.medilexicon.com.

3.2.4 IATE (INTERACTIVE TERMINOLOGY FOR EUROPE)

European Union's multilingual terminology database maintained by the Translation Centre for the Bodies of the European Union / Centre de traduction des organes de l'Union européenne. The project was launched in 1999 with the aim of providing a web-based infrastructure for all EU terminology resources, enhancing the availability and standardization of the information. IATE has incorporated several terminology databases that European institutions and agencies used in the past. Terms in IATE are available in 25 languages.

The database is accessible from iate.europa.eu.

3.2.5 ECHA-TERM

European Union's multilingual database of terms from the field of chemistry, and especially chemical substances. The terms are available in 23 languages.

The database is accessible from echa-term.echa.europa.eu.

3.2.6 ABBREVIATIONS.COM

A multilingual online database of acronyms, abbreviations and initialisms. The database contains hundreds of thousands of entries across 22 languages, organized by a large variety of categories from computing and the Internet to governmental, medicine and business.

The database is accessible from www.abbreviations.com.

Σ *SUMMARY*

   This chapter provided an overview of various terminology resources that a translator may find useful in his/her daily work. We recommended a number of specialized dictionaries (both print and electronic) that cover terminology in various subject domains. We also mentioned a number of publicly available online terminology databases that can serve as resources complementary to dictionaries.

4 TERMINOLOGY MANAGEMENT

QUICK OVERVIEW

The closing chapter deals with the theory and practice of terminology management, focusing specifically on Computer-Aided Translation tools and technologies. We will see how terminology is handled by translation software and how collections of terms can be exchanged between various programs. We will also present a number of tools for efficient terminology management, and introduce term extraction as a way to streamline the creation of term collections.

AIMS

In this chapter you will learn:

- how computer technologies and software tools can help with the organisation and management of terminology;

- about termbases and ways to exchange termbase data;

- about useful terminology management tools and solutions;

- about term extraction and term extractors.

KEYWORDS

terminology management, Computer-Aided Translation (CAT), termbase, glossary, TBX format, term extraction

REQUIRED TIME

180 minutes

4.1 What is terminology management?

As terminology collections grow bigger, and especially when more people work on them, the need for some kind of organisation or system arises as a prerequisite for further development. If left unmanaged, terminology can easily become inconsistent or confusing. This may have very serious consequences in certain high-risk fields such as medicine, military or law.

Terminology management is a set of activities that ensure systematic collection, development, storage, reviewing, updating and distribution of terminology data. Nowadays, terminology is best managed with the help of dedicated software.

4.2 Terms and translation software

We mentioned at the beginning of the previous chapter that terminological accuracy is an important aspect of the quality of translation. We also suggested that the translator is not required to *know* a particular term, but that he/she needs to be able to *find* the correct term and *verify* its usability in a particular context. How can computer technology help tackle this task?

The field of **Computer-Aided Translation** (CAT) has brought various types of technology and software that make the translation process faster and easier. Because terminology is at the core of translation work, tools have naturally been devised for terminology management and referencing. In fact, one of the central concepts of CAT software is a module that caters for terminology needs. Regardless of the actual implementation, such a module will:

- help you manage electronic term collections (referred to as **termbases** or **glossaries**);

- monitor the currently translated text and compare it against a selected termbase in real time;

- automatically suggest and/or insert the respective translation if the source text contains a term that is stored in the termbase;

- support using several termbases simultaneously for reference;

- allow the online sharing of termbases among a team of translators;

- allow adding new terms on an as-you-go basis;

- provide features for basic terminology organisation and management (adding, modifying and deleting terms);

- cooperate with dedicated terminology management software if more sophisticated features are needed.

4.2.1 TERMBASE

A termbase is a bilingual or multilingual electronic database of terms used by CAT software. It contains specific pairings of source and target terms, and optionally also associated metadata (such as comments, context notes or usage examples).

Freelance translators tend to use termbases as their personal databases of terminology. These usually take the form of bilingual glossaries which the translator builds up by manually entering source and target term pairings as he/she proceeds from one translation job to another. This process often takes many years, so termbases become a valued resource that is part of the translator's know-how. Therefore, termbases are rarely shared with other freelancers (who represent competition in the market), unless they cooperate as part of a small team.

Personal termbases are rarely reviewed by a trained terminologist, so the translator himself/herself is fully responsible for what comes in. Terms are not added according to a rigorous system imposed from above, which can potentially lead to problems such as term duplication or competing translations. Also, personal termbases are seldom annotated with metadata (apart from occasional notes on term usage) because the time spent on comprehensive annotation rarely pays off, considering the nature of freelance translation work.

As today's computer technology is very fast even on consumer level, freelancers now often prefer to collect all terms in a single, "catch-all" termbase, rather than keep separate termbases for individual fields or clients. (This used to be common practice in previous decades when searching through large data collections represented a bottleneck.)

On the other hand, termbases used by big corporations and institutions are managed quite differently. First of all, they tend to have large teams behind them, which means that the term collections grow faster and bigger. To keep them focused, organised and consistent, they undergo regular review and maintenance. Typically, terms need to be approved by a person in charge before (or soon after) they enter the database, which minimizes the risk of error and inconsistency. This is really important: as corporate termbases are meant to be shared by the company's many departments and branch offices, errors can have much greater consequences compared to freelancer use.

Large corporations and institutions often operate on an international scale, so it makes every sense to design their termbases as multilingual. This means that the company or institution can store its entire stock of terminology across all supported languages in one place.

Corporations and institutions also tend to maintain several dedicated termbases organised by field, industry or product range because keeping one large termbase for everything would be too impractical, considering the amount of data involved.

4.2.2 THE TBX FILE FORMAT

Over the years, various CAT solution providers have introduced their own file formats to store termbase data. In order to simplify exchange of terms between CAT programs and ensure a certain level of compatibility, the TBX file format (short for TermBase eXchange) was published in 2008 as an **international standard**.

TBX is an open format based on the widely-used XML markup language. It was devised as a standard for representing and exchanging information about terms, words and other lexical data. The main purpose of TBX is to ensure that your data can be used in different software applications. All modern CAT programs, free or commercial, support TBX along with their own formats.

TBX is a plain-text, human-readable format that can be viewed in any text editor. The listing below shows one termbase entry taken from a TBX file. We will now have a look at the structure of the entry:

```
<termEntry id="10234_34">
  <langSet xml:lang="en-US">
    <descripGrp>
      <descrip type="definition">An absolute (machine) address
      specifying a physical location in memory.</descrip>
    </descripGrp>
    <ntig>
      <termGrp>
        <term id="34">absolute address</term>
        <termNote type="partOfSpeech">Noun</termNote>
      </termGrp>
    </ntig>
  </langSet>

  <langSet xml:lang="fr-fr">
    <ntig>
      <termGrp>
        <term id="39">adresse absolue</term>
        <termNote type="partOfSpeech">Noun</termNote>
      </termGrp>
    </ntig>
  </langSet>
</termEntry>
```

Confusing as it may look at the first sight, it is actually very easy to read. The *termEntry* element introduces a new termbase entry. The *id* attribute that goes with this element carries a numeric identifier under which the entry is stored in the termbase. The languages in which the term is provided (in our particular example, English and French) are set in the *langSet* elements.

The term itself is stored in the *term* element; we can see that our entry stores the English term "absolute address" together with its French equivalent, "adresse absolue". Any descriptions that go with the term must be enclosed within a *descripGrp* (description group) element. Note that our term has been accompanied with its English definition, "An absolute (machine) address specifying a physical location in memory", while the French definition is not provided.

Because they are stored as plain text, TBX files can be edited manually in a text editor such as NOTEPAD. However, this is rarely done because large termbase listings can be quite intimidating to work with. Instead, dedicated software tools are preferred for termbase management.

4.3 Terminology management tools

In today's globalised world, properly managed terminology can represent an invaluable asset and a competitive advantage for companies that operate on an international level. Therefore, most terminology management solutions are provided as commercial products.

From the viewpoint of technology, current terminology management tools come in one of the following three forms:

- **standalone software applications**: they are installed and run from your computer's hard-drive like any other programs;

- **integrated tools**: they are installed as components of a comprehensive translation solution (a "CAT suite");

- **web-based services**: they are provided as online applications that run inside a web browser.

Certain tools are offered in more than one form simultaneously, in order to match user preference and to ensure the widest possible installed base. Typically, integrated terminology management tools are also sold as standalone programs so that they can be used by people who only need a terminology management solution and do not want to pay for a full-fledged CAT suite.

4.3.1 SDL MULTITERM

Launched in 1990 and now published by the company SDL, MULTITERM represents an industry standard in terminology management. The program can be used by translators and terminologists as a standalone application, or it can be integrated with the company's flagship SDL TRADOS STUDIO translation suite. Both MULTITERM and TRADOS STUDIO run on Microsoft Windows, which is the only operating system officially supported by SDL.
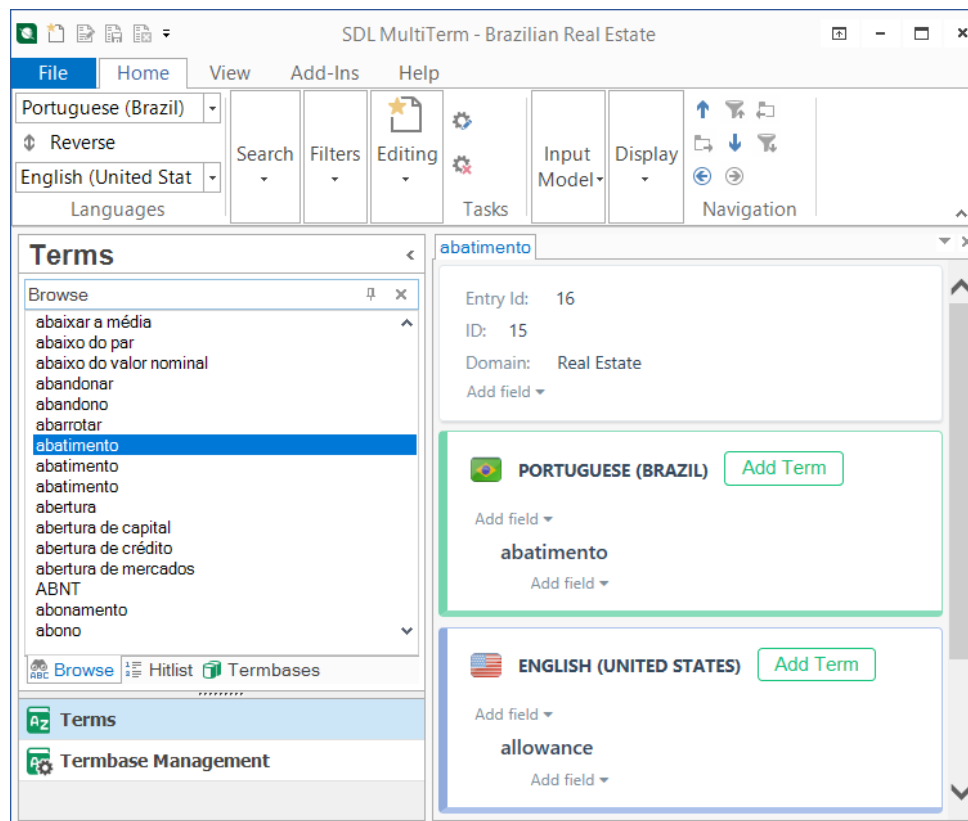
Fig. 2 – SDL MULTITERM.

The image above displays the main program window of SDL MULTITERM in which a bilingual termbase is being edited. The termbase contains terms in Portuguese and English that relate to real estate (as the "Domain" field shows).

More information on SDL MULTITERM can be found on the product website: https://www.sdltrados.com/products/multiterm-desktop.

4.3.2 TERMSTAR

TERMSTAR (published by the company STAR AG) is another well-established terminology management solution that comes both as a standalone application and as an integral part of a complete CAT suite, TRANSIT. With the help of another product sold by the company, WEBTERM, it is possible to access, manage and share TERMSTAR databases online.

More information on TERMSTAR can be found on the product website: https://www.star-group.net/en/products/terminology-management.html.

4.3.3 ONLINE SOLUTIONS

With the wider availability of broadband Internet connection and online database services, an increasing number of web-based terminology management solutions have cropped up in the past decade. They follow the current trend of **cloud computing**, where classic computer programs are being replaced by applications running inside a web browser, and data is stored in secured data centres rather than saved locally.

This brings the undisputable advantages of **distributed access** (termbanks can be used and managed from any place that has Internet connection) and automatic **data back-up** (all termbase data is regularly backed up by the provider of the service, and can easily be retrieved in case of hardware failure).

Below is a brief list of web-based terminology management solutions. Most of these are commercial; in fact, their price and licensing scheme often make them suitable for global corporate users rather than individual freelance translators. However, some of these solutions provide a scaled-down free version for personal use:

TERMWEB:
https://interverbumtech.com/products-services/termweb

EVOTERM:
http://www.evoterm.net

TERMBASES.EU:
https://www.termbases.eu

TERMWIKIPRO:
https://pro.termwiki.com

QTERM:
https://www.memoq.com/en/qterm-professional-terminology-management

4.4 Term extraction

The most useful termbases are those that contain the highest number of entries, especially when they are properly managed. The more verified terms are in a termbase, the higher the chance that the termbase will be able to provide a solution during the process of translation.

However, building a sufficiently large termbase can take a long time because entering terms manually is time-consuming. One way to create term collections in a more streamlined fashion is **term extraction**: a data-mining method through which termbases can be populated with the help of computer technology.

The idea behind term extraction is based on the fact that in all specialist fields and professions there are vast amounts of text available electronically; these are literally loaded with terms. If a computer program – a **term extractor** – was taught to analyse text, identify terms and put them on a list, the process of building terminology banks could be automated.

This is a challenging task, to say the least. In fact, software tools for recognizing terms (which can be quite complex and often carry grammatical and morphological inflections) are still not reliable enough to allow full automation.

There are three main term extraction approaches that term extractors apply in order to tackle the task:

- **Linguistic**: the term extractor attempts to identify word combinations that match certain morphological or syntactic patterns ("adjective + noun", "noun + noun", etc.). This will of course detect many combinations that are actually not terms, so the candidates are filtered using various pattern-matching techniques. The linguistic approach is heavily language-dependent because term-formation patterns differ from language to language. Therefore, term extraction tools using a linguistic approach are generally designed to work in a single language (or closely related languages), and cannot easily be extended to work with other languages.

- **Statistical**: the term extractor looks for repeated sequences of lexical items; this is because terms are key words that often reoccur in the text. The frequency threshold (which refers to the number of times that a word or a sequence of words must be repeated to be considered a candidate term) can typically be specified by the user. The major strength of the statistical approach is that it is language-independent.

- **Hybrid**: this represents a combination of the two methods above, and is the most common approach used in term extraction today. The term extractor is primarily statistical but rules and filters are incorporated to allow picking candidate terms that have certain linguistic features.

Term extraction can be approached with two different goals in mind. In **monolingual** extraction the program analyses a text in a particular language, identifies potential terms, and produces a word list that can serve as a basis for a termbase (translations of the terms in the list will have to be provided). In **bilingual** term extraction the program analyses a source text together with its translation, identifies candidate terms in the source text, and tries to match them with their equivalents found in the translation. The result is a ready termbase containing terms in two languages.

However, as term extractors are still not sophisticated enough to perform either of the tasks with 100% reliability and consistency, the results of both monolingual and bilingual term extraction must always be verified by a human terminologist or translator. There-

fore, we can speak of term extraction as a computer-aided rather than a fully automated process.

4.4.1 TERM EXTRACTION TOOLS

The table below lists a few term extractors that are available either as free or commercial software:

Program name	Type	Comments
TERMOSTAT WEB	free	Web-based; free but requires registration. Supports monolingual extraction only.
SDL MULTITERM EXTRACT	commercial	Comes as an auxiliary tool to complement SDL MULTITERM (see 4.3.1 above). Supports both monolingual and bilingual extraction.
FIVEFILTERS	free	Web-based; supports monolingual extraction only.
SYNCHROTERM	commercial	Supports both monolingual and bilingual extraction.
VOCABGRABBER	free	Web-based; free but exporting the extracted wordlist requires registration. Supports monolingual extraction only.

TASK

Locate the FIVEFILTERS term extraction tool at https://fivefilters.org/term-extraction. Click on the "show options" link and change the Output value to TEXT as shown below:

Find a text on the Internet that potentially contains terms. Copy and paste it into the text field on the term extractor page, and click on the "Get Terms" button. The extractor will produce and display a plain-text list of candidate terms.

Df | ***DEFINITIONS***

Computer-Aided Translation (CAT) – An umbrella term for various tools, technologies and solutions that assist in the process of translation.

Terminology management – A set of activities that ensure systematic collection, development, storage, reviewing, updating and distribution of terminology data.

Termbase (also **glossary**) – A bilingual or multilingual electronic database of terms used by translation software.

Term extraction – The process of analysing text in order to identify words and phrases that are potential terms.

Term extractor – A software tool for term extraction.

TBX – An international standard file format for exchanging termbase data.

?₂? | ***COMPREHENSION CHECK***

1. What benefits does *terminology management* bring to translation practice?

2. What functions does translation software provide with regard to terminology and the use of *termbases*?

3. Explain how *term extraction* works, and why a translator might want to use a *term extractor*.

Σ | ***SUMMARY***

In this chapter we discussed the theory and practice of terminology management, with a focus on Computer-Aided Translation (CAT) tools and technologies. We saw how terminology is handled by translation software and how term collections can be exchanged between various CAT programs. We also presented a number of tools for efficient terminology management, and introduced term extraction as a way to streamline the creation of term collections.

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ODKAZ NA ONLINE LMS KURZ

Tuto studijní oporu najdete také ve formě interaktivního online LMS kurzu pod odkazem:

https://elearning.fpf.slu.cz/course/view.php?id=1404

SHRNUTÍ STUDIJNÍ OPORY

Cílem této studijní opory bylo seznámit účastníky kurzu Odborná terminologie 1 s charakteristickými rysy anglického odborného jazyka, s konkrétním zaměřením na odborné termíny – tj. výrazy používané v rámci různých oborových názvosloví a profesní mluvy.

Stručně byly vysvětleny základní pojmy a koncepty a bylo nastíněno jazykovědné pozadí anglické terminologie (obecná charakteristika anglického odborného jazyka, morfologická charakteristika anglické terminologie a různé slovotvorné procesy, jimiž termíny vznikají nebo do angličtiny pronikají).

Studenti se dále seznámili s užitečnými slovníky a databázemi různých oborových terminologií (tištěnými i elektronickými) v jejich aktuálních verzích. V neposlední řadě byla pozornost věnována terminologii v překladatelské praxi, zejména problematice správy terminologie s využitím současných technologií pro podporu překladu (*Computer-Aided Translation*).

PŘEHLED DOSTUPNÝCH IKON

	Čas potřebný ke studiu		Cíle kapitoly
	Klíčová slova		Nezapomeňte na odpočinek
	Průvodce studiem		Průvodce textem
	Rychlý náhled		Shrnutí
	Tutoriály		Definice
	K zapamatování		Případová studie
	Řešená úloha		Věta
	Kontrolní otázka		Korespondenční úkol
	Odpovědi		Otázky
	Samostatný úkol		Další zdroje
	Pro zájemce		Úkol k zamyšlení

Tato publikace neprošla jazykovou úpravou.