

**TERMINOLOGICAL COLLOCATIONS IN (CZECH) MEDICAL TEXTS****Ivana BOZDĚCHOVÁ***Faculty of Arts, Charles University, Prague***1. INTRODUCTION**

In spite of its undoubtable and inevitable relative stability (relating to the choice of terms and the composition of structure) specialized style is in a state of continual development. The semantically dominant components of specialized texts are terms even though these texts are not made up exclusively of terms only. As Kocourek (2001) claims it is usually the combination of natural-language components, formalized-language components and non-verbal semiotic elements. So far, previous linguistic studies focused mainly on terminology, recent research tends to emphasize textual aspects.

Terminological systems for individual specialized fields arise through the selection from a multitude of expressive possibilities of the written language, as a result of active intervention of specialists working in the given field, who, in co-operation with linguists share in the decision about the choice of a semantic motivation of a term, its word-formation structure and, in the case of multi-word term, its syntactical character. The system of medical terms (especially the anatomical vocabulary) directly reflects the natural state of affairs – relations between terms are based on conceptual relations, which are primary. The systematic nature is reflected also in the linguistic form of the terms – though not always formally, by word-formation relations (as, for instance, with regularly recurring morphemes that express conceptual relationships).

For the purpose of our analysis we have proceeded from excerpting contemporary written specialized medical texts in confrontation with specialized (monolingual and multilingual) medical dictionaries (see Sources). In this paper we shall try (in a brief survey of work in this field so far, mainly in Czech linguistics) to sketch out the problems of the typology of multi-word terms (commonly collocations) and their status, delimitation and extent (including the word order inside them) and to characterize the state of present-day Czech terminology and specialized communication (primarily in the medical field). By examining individual naming units we will endeavour to characterize (both in meaning and form) entire naming types, since, from the onomasiological point of view it seems important to work out general tendencies. We will also present the main features of the field of contemporary Czech specialized communication and its terminology both from the international point of view and in its historic perspective.

## 2. CONCEPT, TYPOLOGY AND CHARACTERISTICS OF MULTIWORD NAMINGS (COLLOCATIONS)

Multi-word terms (along with idioms the most solid and most established units in the system and in the language) may be described, as a combination of (one-word) lexemes, by the term collocation,<sup>1</sup> more recently used now in Anglo-American (especially corpus) linguistics.<sup>2</sup> In the sense of Sinclair's (1991) understanding (a collocation as any type of sense-making combination) an ideosyncratic syntagmatic combination of lexical units, independent of word class or syntactic structure is understood as a collocation (cf. Fontenelle, 1992). Hausmann (see Heid, 1994) characterizes collocation as a "polar" combination, consisting of a base (the unit that carries its full lexical meaning) and the collocates (with a modified or reduced lexical meaning). This understanding is based on the prerequisite that bases having identical collocates belong to the same field. According to the author a pragmatic description of collocations means understanding them as conventionalized expressions (common collocations are "the normal way" of expressing a given meaning). Hausmann calls collocations "semi-finished products" of language.

As Čermák (1994: 208) points out, the origin of a collocation depends on mutual collocability and hence also compatibility. Onomasiologically they can therefore (together with derivation, composition, polysemy and combination) be regarded as a type of internal nomination (with adoption representing external nomination). In this context the author uses the term collocational paradigm for a category of words combining with an external member on the basis of their semantic character, i.e. their collocability. The stability of a collocation (see Čermák, 2000) can depend on the stability of its denotates, as reflected in the linguistic system ("temporary" or "timeless" view), potentiality, rules and regularity.

Collocations, and hence also multi-word terms as their type, are indissoluble. In Czech linguistic this is pointed out especially by Poštolková (1979); she states that they arise from the combination of oneword lexical units, one of which is used in a figurative sense, with the two together representing an entirely new unit of meaning.

"The one-word character of a terminologized lexical unit is very often only seemingly so. An external feature of semantic differentiation (specification, etc.) of the term is the attachment of a further expression (koruna přehrady [crest of a dam], rudní žíla [ore vein], svěrací čelist [clip jaw], javor klen [sycamore maple]) or of several terms (křídlo kosti klínové [wing of sphenoid bone], hřeben vysokého tlaku vzduchu [ridge of high pressure], stroj na zpracování dat [data processing machine], odolnost proti světlu [resistance to light], etc.), i.e. the creation of a terminological word group - a syntactically correlative word construction." (Poštolková, 1984: 85)

For English, present-day English grammatical theory (represented primarily in grammar by Longman Grammar of Spoken and Written English, 1999) recommends a distinction to be made between multi-word lexical units and collocations:

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1 The term collocation was first used in Czech linguistics by Mathesius (1975) when he compared lexical collocations (combinations) in Czech and English. This comparison showed that in analytical English (unlike in synthetic Czech) the boundaries between compound words and collocations are blurred.

2 As Heid (1994) points out, collocations are central for lexicographers, corpus linguists and terminologists.

“A multi-word lexical unit is a sequence of word forms which functions as a single grammatical unit. The sequence has become lexicalized.” (p. 58) Multi-word lexical units should be distinguished from collocations, which consist of independent words that tend to co-occur. Used as examples are the adjectives broad and wide, found in different collocations, though they are broadly synonymous (p. 59)”.

Word combination is therefore lexicalized in collocations. Kocourek (1979) judges lexicalization primarily from the semantic point of view when he points out that a phrase is lexicalized if the phrase or word by which it can be replaced belongs to the same semantic category (if, at the same time, we know that the phrase belongs to the lexical category, then it is lexicalized and we no longer need to prove it). Here the viewpoint of commutation is applied. According to Kocourek only an expert, who also defines most of the terms, can decide what is and what is not lexicalized. For the lexicalization of term collocations the question therefore arises whether the examined phrase appears in the position of the definiendum (= the defined concept) in a specialized definition.<sup>3</sup> For the examination of their lexical status it is necessary to judge their position in the synonymic series and the terminological system, their syntactical structure, their textworthiness, their semantic unpredictability, their provable occurrence and their syntactic cohesiveness. The author concludes by stating that in specific instances of judging the combination of these viewpoints there is no uniform answer to the question whether a phrase is lexical or contingent.

Kuchař (1963) draws attention to this ambiguity primarily from the textual angle: the dependence of a multi-word nomination on the text is so marked that it is difficult to say which specific word combinations can be regarded as nomination units and which as the description of an articulated concept. Even though, according to him, the boundary of nomination in concreto and in abstracto is not entirely clear, it is nonetheless possible to determine certain clues that predetermine some word combinations (and structures of these combinations) for the function of nomination. These are both extra-linguistic clues (whether and to what degree the defined content is part of a conceptual system, for instance, a terminological one) and linguistic ones: (a) is the dominant feature of the combination a word category that is primarily syntactically independent (a noun)?, (b) is the combination a formal representation of a content structure analogous to one-word nominations, or is it even the equivalent of a word (and can it at least be transformed into a one-word nomination)?, (c) frequency or at least repeatability of the combination in other statements.

Term and (its) context is also discussed by Man (1965). He demonstrated that a word's dependence on its context is the greater the less its autonomy is as a term; consideration of a wider context is evident in individual terms – these always remain individual. Emphasis must therefore be put on context especially with words receiving their terminological meaning through semantic transfer (this applies in particular to verbs, whose terminological validity is emphasized by their context).<sup>4</sup> The contents named by the term is as a rule quite clear thanks to its contextual relations; frequently we would not understand it without knowing the whole text.

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3 “Phrasal terms are phrases with a specialized definition.” (*ibid.*, p. 145)

4 The author also points to the way the task of context appears during translation from a foreign language. If the terminological collocation is understood as a contextual combination, inaccuracies arise during translation, every literal translation of a foreign collocational term really proceeds from its contextual connection; it fails to ensure that the foreign term needs to be expressed by a term from the terminological system it belongs to.

An understanding of collocations from a wider (general linguistic and confrontational) angle produces a series of further aspects and characteristics of these denominational units. At the same time, other questions arise, e.g. to what extent collocations should be viewed typologically; as we have observed before, it is often difficult to see differences in criteria or approaches between collocations and compound words, because they are essentially of the same character. Compound words came into Czech primarily under the influence of German word formation, in terminology also through Latin and Greek. Despite their load capacity, compound words are used much less in terminology than multi-word nominations, although they hold their place in them, nor are they used to the same extent as derivatives. The frequency of multi-word terms in terminology is generally estimated at up to 77% (Masár, 2000: 35). The typology and analysis of word combinations is influenced also by the character of the language concerned, especially the semantic properties of its lexical units – lower or higher autonomy of the word, the manner of expressing syntactical dependence, etc.

### 3. STATUS, DELIMITATION AND EXTENT OF COLLOCATIONS

An important criterion for the delimitation of collocations (syntactically this is about nominal groups)<sup>5</sup> from a formal point of view is the way they are structured (i.e. chiefly syntactically or by the word-category type of structure). Here too, along with unmistakable indications, we find a number of open questions (see Čermák, 2000), such as: how important for the delimitation (identification) of a collocation is its length, extent (number of words), as well as its (uninterrupted) continual character, etc. As for the extent of multi-word terms (term collocations), the majority of them in Czech (about 90%) is formed by between one and three components. Also important is the sequence of the individual parts (components) of a collocation (which can be entire phrases) – the degree to which they are established and their obligatory character. This set of problems is rather extensive and complex.

The automatic detection of collocations (including term collocations) is one of the most difficult tasks also for contemporary corpus linguistics, which for that purpose endeavours to develop a functioning system of semantic annotation. Thus the partial corpus analysis of Czech prepositional terms (Šulc, 2005) from the viewpoint of their usefulness in the delimitation of the boundaries of the terms has shown that the preposition with 97% probability represents the boundary of the term.<sup>6</sup>

The word-order type of the structure of term collocations is closely connected with their word-type composition and, in consequence, with the syntactical relations between their individual parts. Term collocations (generally), unlike non-terminological ones, are more often nominal than verbal phrases (see Čermák, 1998)<sup>7</sup> and most often compounds of adjective and noun, or of two nouns (in nominative, or in nominative plus instrumental). In these nominal term structures the adjectival component is as a rule in postposited place (by contrast to the usual anteposition of a concordant attribute in free word combinations or in other types of established word combinations).

5 For semantic, valency and functional properties of nominal groups see in greater detail Grepl, and Karlík (1998, pp. 175-209).

6 Cf. also Bozděchová (2005).

7 The author observes that it would be linguistically very important to compare statistical data from several languages in order to make judgements about the existence of some general tendency.

From the author's research (ibid.) it emerges that the most frequent collocational types (in the material researched by him, i.e. SYN 2000) represent the following structures: (1) N + N (propria), (2) Adj. + Adj. (terms), (3) Adj. + Adv. (phrasemes), (4) Adj. + N (terms), (5) Adv. + Adj. (terms). This confirms the predominantly nominal character of term collocations.

The word order of term collocations reflects the structuring of the content of the named concept; thus, with the nominal structures mentioned (Czech type *jednokanálový časový analyzátor impulsů* [single-canal time impulse analyzer] each of the preceding attributes in turn expresses a further aspect limiting the scope of the superior concept. Use of names with an inverted word order (than that customary in Czech) is suitable and justified only in the nomenclatures of certain fields of knowledge, where the model for the creation of the nomenclature system was Latin. (Otherwise in a text generally the reason for a word order inversion can be contrast, emphasis or enumeration.)

In Czech the obligatory nature of the word order within multiword terms is connected to the dichotomy of *langue* – *parole* (i.e. the position of those terms in the vocabulary and their use in texts); a firm, established sequence undoubtedly has a significance in certain terminological systems (thus an inversion can undo the terminological validity of a multi-word combination, e.g. *skok dalek ý* [long jump] and *dalek ý skok* [a long jump]). In such cases the sequence is independent of the use in a text (context). In some cases, however, the word order does not have to be immutable; depending on various factors it can be changed in the text. As a rule this is generally possible when the word order is not word-shaping (“term-shaping”), in other words when there is no doublet (or triplet, etc.) of terminological and non-terminological (free) word combinations differing only in the sequence of their parts. Such use of multi-word terms (differing in the internal sequence of their parts) could be described as wordorder variants of the same multi-word term (see below), in which case it would be suitable to regard the “dictionary” form as the basic one, given by the method underlying the dictionary processing (e.g. in the case of subordinate nominal phrases their alphabetical place according to the determining noun – *obrna končetin jednostranná* [one-sided paralysis of the extremities]), reflecting at the same time the conceptual (primarily hierarchical) relations between the given denotates.

#### 4. SPECIALIZED COLLOCATION IN DICTIONARY AND TEXT (A PROPOSAL FOR TERMINOLOGICAL DIFFERENTIATION)

Fundamental for a delimitation of multi-word terms and for the needs of social practice and communication is a delimitation of collocations, i.e. a differentiation between specialist nomination means (as system units, dictionary units) and the textual combination of such means (textual units).

Thus, from the formal, syntactic point of view the boundary is generally blurred between (1) a multi-word term, based on a conceptual relationship of co-ordination between its parts (formally in a paratactic construction, e.g. *vidlička a nůž* [knife and fork]) and (2) a paratactic construction of two terms (that, as an entity, is not a term, e.g. *anglická a americká literatura* = *anglická literatura a americká literatura* [English and American literature = English literature and American literature], *regulace sympatiku a parasympatiku* = *regulace sympatiku a regulace parasympatiku* [regulation of the sympathetic and parasympathetic nerve = regulation of the sympathetic nerve and regulation of the parasympathetic nerve]). Such summation or “contraction” of several terms

arises in texts primarily for reasons of economy of expression; frequently therefore we find combinations of terms in themselves multi-part (e.g. *chromozomální, skeletální a kostní abnormalita, hypercelulární a hypocelulární kostní dřev* [*chromosomal, skeletal and bone abnormality, hypercellular and hypocellular bone marrow*]).

From the viewpoint of the obligatory character and a (possible) ambiguity of delimitation of multi-word terms in a text (e.g. the relativity of differentiation between the components of a multi-word nomination and an expanded expression or combination of nomination of an articulated concept, etc.), even in their relation to their (system, dictionary) position in terminology it seems useful to us, and also terminologically more precise, to distinguish in term collocations between langue and parole concepts by means of term doublets: (1) *multi-word term* (= a system unit, a unit in terms of language and dictionary), (2) *multi-word terminological construction* (= a text unit, the result of speech activity, a textual combination of terms).<sup>8</sup> Compare, e.g. these pairs of names from medical texts: *nádor nezhoubný / nádor nezhoubný plen mozkových*, [*non-malignant tumour / non-malignant tumour of the meninges*; *otrava alkoholem / otrava alkoholem velmi prudká*, [*alcohol poisoning / very intensive alcohol poisoning*], *senná horečka / senná horě ka s astmatem* [*hay fever / hay fever with asthma*], etc. The second nomination of the above pairs can (on the basis of the existence of the first nomination, as a part of the terminological system) be regarded as a (two-word) terminological combination, hence, with a view to the first (“roof”) collocations, as collocations of a higher order (in this case as second-order collocations) which, in the context, figure as an entity denominating one (complex) concept. The succession of the creation of such multi-part terminological combinations reflects the hierarchy position of the named content.

With regard to the grammatical dependence of the individual parts of these term collocations we can distinguish between collocations with a linear structure (non-preposition ones - *lokální anestézie* [*local anaesthetic*]), those with preposition – *krvácení do míchy* [*bleeding into the spinal cord*] and non-linear ones (without preposition - *polycystická choroba ledvin* [*polycystic kidney disease*], with preposition - *kýla s neprůchodností bez gangrény* [*hernia with impassibility without gangrene*]). From the viewpoint of the direction (process) of determination we can speak of left-hand linearization (*cyklická kontinuální ambulantní peritoneální dialýza* [*cyclical continuous outpatient peritoneal dialysis*], *horní šikmý sval* [*superior oblique muscle*]) or right-hand linearization (*čidlo tlaku krve* = [*sensor of blood pressure*], *křeč žvýkacího svalu* [*locked-jaw*]) and their combinations (*odběr vzorku kostní dřevě* [*removal of a sample of bone marrow*], *růstové zóny dlouhých kostí* [*growth zones of the long bones*]).

In term collocations (especially in more complex ones) we quite often encounter prepositional cases. Unlike in non-terminological collocations the prepositions sometimes achieve a system, e.g. in the names of diseases with the preposition “s” (= “with”), which indicates the presence of another, usually accompanying condition, disturbance, pain, etc. (*chřipka se zánětem plic* [*influenza with pneumonia*], *zlomenina s uvolněním epifýzy* [*fracture with detachment of epiphysis*]).

8 Cf.: term (both for a one-word system unit and a textual unit), term collocation (both for a multi-word system unit and a textual unit), multi-word term (for a multi-word system unit), multi-word terminological construction (for a multi-word textual unit).

## 5. CONTEMPORARY CZECH SPECIALIZED COMMUNICATION AND ITS TERMINOLOGY IN THE INTERNATIONAL CONTEXT

A typical feature of contemporary scholarly research and scholarly communication (see Daneš, 1997) is a widening of contacts between scholarly institutions and scholars on an international scale, the large scope of scholarly texts, and especially the large number of specialized journals (important chiefly in the natural sciences), and a very marked use of spoken forms of communication. “English has become the „language of science“ (“lingua franca“, “language for wider communication”); this has had results for the position of other national languages in the world,” (ibid., p. 68). The author points out that foreign languages, and especially English, have been exerting a strong influence on scientific Czech (particularly in the field of terminology and the lexicon generally, but also in style and the compositional structure of sentences). This is due not only to the effect of translation, but also to the fact that scholars read and study primarily the literature written in English.

The international context is seen as a serious factor in the creation of the contemporary terminology also by Kocourek (2002: 201); as a concrete example he refers to calquing, which, in the international, more particularly the European, context represents a useful means for terminological harmonization. The risks of such harmonization, however, were first drawn attention to by Hausenblas (1962), who pointed out that different languages prefer different types of terminological nomination and that, moreover, there is not sufficient agreement between them in repertoire or in the pragmatic and syntagmatic obligatory character (this difference emerges in the adoption of terms). The manner of expression in calquing (calquing in the sense of “taking over the inner form of words”) depends on the language type – a morphologized language prefers derivatives (Czech mainly through the creation of suffixes), while a lexicalized language is more likely to choose constructional (multi-word) nomination. In contemporary Czech terminology terms are calqued chiefly from the classical languages. Note the compound words or combinations of multiword names in anatomy, formed on the basis of Latin, expressing, for instance, the relationship between two neighbouring features: *tepnožilní spojka* [*arterioloovenular anastomosis* – Lat. *anastomosis arterioloovenularis*], *hřbetní nožní tepna* [*dorsal pedis arteries* – Lat. *arteria dorsalis pedis*] etc. Terms from living languages, on the other hand, are more often taken over (from the point of view of the receptor language they mostly have no inner form).

At present it can be said, generally speaking, that, under the impact of international communication, Czech has accepted many semantic impulses and international idioms (the means used in contemporary Czech specialized texts are roughly at the level of idioms in the world languages). In medical terminology compare, e.g. *žila blanitého hlemýždě* [*vein of cochlear aqueduct* – Lat. *vena aqueductus cochleae*], *deltová větev* [*deltoid branch* – Lat. *ramus deltoideus*], *ostrovní tepny* [*insular arteries* – Lat. *arteriae insulares*], *předsíň* [*atrium* – Lat. *atrium*], etc.

Also alive is the metaphorical and metonymic creation of terms (they usually have a clearer motivation – the relation between the original and the newly-named object is usually clear and, moreover, the systematic character of these nominations is an advantage). From the more recent medical terminology see, e.g. the figurative names of syndromes: *syndrom červeného muže* [*red man syndrome*], *s. neklidných nohou* [*restless leg s.*], *s. vyprahnutí či vyhoření* [*burn-out s.*], *s. rozštěpeného mozku* [*split brain s.*], etc. In analogy with foreign-language names, diminutive suffixes are also used in a specific way (this is not always a statement of mere magnitudinal

relations); e.g. in medical terminology: *puchýřek*, *váček*, *sklípek* [Lat. *vesicula* vs. *vesica* = bladder, blister], *kanálek* [Lat. *canaliculus* vs. *canalis* = canal, duct, passage], *hlavička* [Lat. *capitulum* vs. *caput* = head], *tělisko* [Lat. *corpusculum* vs. *corpus* = body, bulge, prominence], *provazec*, *provázek* [Lat. *funiculus* vs. *funis* = string, tie], *kolénko* [Lat. *geniculum* vs. *genu* = knee, bend], etc.

## 6. CZECH MEDICAL TERMINOLOGY – CONFRONTATIONALLY AND HISTORICALLY

Medical terminology arose and gradually developed from the beginnings of medicine itself. Its beginnings all go back to ancient Greece and Rome (indeed terminology is the main legacy of ancient medicine). In the Middle Ages, however, we observe a gradual retreat from Greek towards Latin, and in modern times towards the national languages.<sup>9</sup> English elements are unstoppably penetrating into contemporary medical terminology in the national languages (as indeed also into other terminologies and into the non-specialized vocabulary). As Doležal (1999, p. 10) observed, English has created, in the national languages, mutations very similar to Latin and Greek (and, unlike the Czech progressive orthography, also a conservative orthography), with English and American terminology often abandoning the principles of Newtonian precision and instead reaching out for poetical similes.

Czech medical terminology, just as other Czech terminological systems, went through a long historical development, connected to the development of individual fields of medicine in our country. A turning point in the history of medicine and the beginning of medical science in the Czech lands (cf. Pleskalová, 2004) is the foundation of Charles University (7 April 1348), although for the relevant Czech terminology the field of medicine connected with practical life was far more important. Contemporary terminology therefore reflects the level of knowledge and development of medical science and of practical medicine.<sup>10</sup> For that reason every term should be understood in its historical context. The international medical vocabulary is based on Greek and Latin expressions;<sup>11</sup> these are convenient because of their simple structure, precision, expressiveness and general comprehensibility. It will therefore, also in future, draw primarily on the fund of these two languages, along with some penetration of elements from modern languages. (In the international medical vocabulary many English terms have already established themselves, for instance, many abbreviations, expressions from invasive cardiology, medical technology and methodology, as well as computer terms. However, many of these expressions were taken over by English from Latin.) Medical terminology (in Czech and in other languages) will therefore undoubtedly preserve its international character.

Half a century ago, Sochor (1955: 29) had this to say about Czech medical terminology:

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9 Naturally, the situation is different in the various national languages; in Poland, e.g., a national medical terminology is preserved – Polish doctors only use the Latin terminology, and more recently also the English terminology, for international conferences.

10 Černá (1996) notes that in the oldest terminology words were used in a broad sense – the described reality was so complex and so little experienced that words initially arose with a wider lexical meaning; with development in the given field and its accessibility to a wider circle of recipients it became more specific and precise.

11 To a lesser degree we also find Arabic elements and, with the development of modern medicine, we also find an invasion of elements from contemporary world languages.



“Our scientific vocabulary is still in complete subservience to Latin and Greek and only very slowly Czechifies some foreign words in orthography or by suitable Czech affixes and endings”.

“A little later Tejnor (1983: 47) similarly characterized the state of affairs:

“Terms from Greek or Latin roots are current in medicine, with terms from English (*black out, stress*) sometimes causing embarrassment.”

At much the same time Kábrt – Valach (1984) point out:

“...the whole Czech medical terminology is Latin and largely also Greek; translations into Czech are only used very rarely, on the contrary it is desirable to acquaint ourselves with the international form”.

The present state of affairs reflects a time distance with the result that the picture is somewhat different (similarly there is now a different situation in the whole Czech vocabulary and the form of foreign and adopted elements). The general growing influence of English on other languages and the penetration of English elements into their vocabulary is pointed out by the author in the preface to a terminological translation dictionary (Murray, 1995); he states that the process of European integration begins to affect medicine as well (although doctors in different countries may use the same term in rather different ways and with very different frequency). An interesting German sociolinguistic statistic in 1981, concerning a common scientific language (U. Ammon: *Deutsch als Publikationssprache der Wissenschaft*, 1988, quoted in Daneš 1997: 80), found that medical literature was published to 73.1% in English, 5.9% in Russian, 5.5% in German and 4% in French.

Meanwhile the penetration of English appears more clearly in the use of English elements in contemporary medical communication than in any substantial impact on the Czech medical terminological system. This is demonstrated by a medical specialist (MUDr. Evžen Fabian, head of the medical editorial board) in the preface to one of the newest medical translation dictionaries (Topilová, 1999):

“Medicine has kept its classical Graeco-Latin terminology, while having enriched it with English concepts from a number of entirely new fields. Panel discussions by specialists at international congresses are conducted in English. They all understand each other, with intense interest, even if the English of various participants in panels and at consensual conferences sounds somewhat different. At international airports patients are handed over in English at medical transports. Satellites use English in mediating correct and speedy direction of organs for transplantation to assigned receptors. Indeed, English has, in our time, entered our awareness to such a degree that we insert brief and expressive concepts into purely Czech specialized medical sentences in order to accurately define and condense our statement or viewpoint. Knowledge of English as a contact language in our common world medicine has become just as necessary as knowledge of medicine itself if we wish to work in that field with a good feeling of a lifelong calling.”

## 7. CONCLUSION

Specialized terminology represents a solid component of every standard language (along with its standard character its basic characteristics include systematic nature, unambiguity and precision). Terminology reflects the state of scientific knowledge in the field concerned; its form and established character is therefore closely linked to the invariability of scientific views. Investigation of the types of terms and their formation, arising from the needs referred to, can bring valuable theoretical and practical insights to linguistic scholarship. For such an investigation terminology seems especially suitable just because of its changeable constancy and its tendency towards systematization. In addition to the development of scientific knowledge as such, the internationalization of terminology is a source of the present-day dynamics of terminology. In each language concerned, however, its influence should help ensure the effectiveness of specialized communication, or help enhance it. Terminological culture (i.e. careful attention to the national terminology in its largely international character) should therefore be an enduring component of attention to our linguistic culture.

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