EWELINA KWIATEK
(UNIWERSYTET PEDAGOGICZNY W KRAKOWIE)
ORCID 0000-0002-3383-0217

ABBREVIATIONS AND ACRONYMS IN THE ENGLISH AND POLISH PHOTOGRAMMETRIC TERMINOLOGY

ABSTRACT

The subject of this article comprises abbreviations and acronyms in photogrammetric terminology in English and their translation into Polish. The first part of the article provides various definitions of abbreviations and acronyms, discusses their structure and presents lexicographic sources on abbreviations and acronyms in Polish and English. The second part focuses on photogrammetry with its terminology and problems of deciphering and translating abbreviations and acronyms from English into Polish.

KEYWORDS: abbreviations, acronyms, photogrammetry, LSP translations, LSP dictionaries

STRESZCZENIE

Artkuł jest poświęcony skrótom i skrótowcom angielskim z dziedziny fotogrametrii i ich tłumaczeniu na język polski. W pierwszej części artykułu przedstawiono definicje skrótów i skrótowców, omówiono ich budowę oraz przedstawiono słowniki skrótów i skrótowców w języku polskim i angielskim. Druga część artykułu koncentruje się na terminologii fotogrametrycznej i problemach związanych z rozszyfrowaniem znaczenia i tłumaczeniem skrótów i skrótowców angielskich z tej dziedziny na język polski.

SŁOWA KLUCZOWE: skróty, skrótowce, fotogrametria, przekład specjalistyczny, słowniki specjalistyczne

INTRODUCTION

The aim of this article is to discuss abbreviations and acronyms in English and Polish as well as problems occurring in the translation of abbreviations and acronyms in the field of photogrammetry from English into Polish.

Abbreviations and acronyms are very common in all areas of life, and they are particularly frequent in technical, economic, legal and medical texts (Czyżewska 2006: 45).

The primary motivation for using abbreviations and acronyms is brevity and avoiding repetitions. However, as Kubacki (2016: 8) argues, these elements can cause many difficulties to the translator, especially if he or she does not have much professional experience, does not use adequate dictionaries, cannot decipher acronyms from the context or find them on the Internet. Abbreviations and acronyms, next to numbers and specialized terms, are the elements on which the translator most often stumbles. Incorrect translation of abbreviations and acronyms can ruin the whole translation and intimidate the translator (Byrne 2012: 152).

DEFINITION AND CATEGORISATION OF ABBREVIATIONS AND ACRONYMS

An abbreviation is a shortened form of a word or phrase consisting of one or more letters. According to Müldner-Nieckowski (2007: 8), abbreviations are derivations of words or expressions that are pronounced as whole words, e.g. *etc.* (pronounced as *et cetera*). Abbreviations occur only in written language, since in spoken language the full form of words is used (Kubacki 2016: 8). We write abbreviations down using their canonical forms. When shortening a word, it is important to leave the largest possible part of the word, allowing for its identification, e.g. the abbreviation *geo.* can refer to several words, while *geogr.* narrows the range of options to *geography*.

When abbreviating expressions in Polish in which at least one word begins with a vowel, we use dots between the segments of the abbreviation, e.g. *p.n.e.* 'before our era', i.e. *Before Christ*. The abbreviations B.C. and A.D., which mark dates as before or after the birth of Christ, are usually written in English in small capitals and with full stops. Traditionally, A.D. is written before the date, e.g. A.D. *79*. However, more and more often we can see AD written with full-sized capitals and without full stops, which reflects tendency to omit the full stops in abbreviations (Trask 1997).

In abbreviations of foreign origin, we put a dot after each segment in Polish, e.g. *a.m.* (Latin: *ante meridiem*), despite the fact that in English there are both spelling variants, with and without periods (Müldner-Nieckowski 2007: 10). Abbreviations *a.m.* and *p.m.* are not capitalised and written with full stops in British English, but American English prefers 10.00 AM, with small capitals and full stops (Trask 1997).

However, dots are not used in Polish when the abbreviation ends with the same letter as the abbreviated word, e.g. *mgr* 'magister', i.e. master, *dr* 'doktor', i.e. doctor. The same rule applies to British English that favours omitting the full stops in abbreviations that include the first and last letters of a single word, e.g. *Dr*, *Mr*, *Mrs*, but not to American English that prefers *Dr.*, *Mr.*, and *Mrs.* with full stops.

We do not use dots in the Polish abbreviations of mathematical, physical and chemical names, in abbreviations of measurement units, e.g. *s* 'sekunda', i.e. second, *km* 'kilometr', i.e. kilometer, and in abbreviations of monetary units, e.g. *zł* 'złoty'. In English, particularly in scientific writing, the names of units are always abbreviated and written without full stops or a plural *s*.

Names of well-known organizations and companies are commonly abbreviated as a set of initials written with capital letters, without full stops, both in English and in Polish, e.g. *BBC* (British Broadcasting Corporation), *PAN* 'Polska Akademia Nauk', i.e. Polish Academy of Sciences.

Acronyms, unlike abbreviations, can function independently as words (Müldner-Nieckowski 2007: 8). They have number and gender and are inflected. Acronyms are derived words, which are created by shortening multi-word units and are used both in speech and writing, e.g. *ZUS* from the name *Zakład Ubezpieczeń*

Społecznych 'Social Insurance Fund' (Lipiński 2006). Saloni (2010: 137–138) claims that many Polish abbreviations gave rise to acronyms, such as *Pekaes*, which comes from the abbreviation *PKS* 'Przedsiębiorstwo Komunikacji Samochodowej', i.e. road transport company.

Jadacka (2006: 144) believes that acronyms are created from "multi-word names of institutions, banks, enterprises, companies, offices, organizations, parties, associations by cutting off certain components from the whole name" [translated by EK].

Taking the structure as the criterion, Sękowska (2002: 169–170) distinguishes the following types of acronyms in Polish:

- *literowce* (EN initialisms). They are formed from the first letters of a group of words. We pronounce each letter individually, e.g. *PKN* 'Polski Komitet Normalizacyjny', i.e. The Polish Committee for Standardization.
- *głoskowce* (EN acronyms). They are formed from the first letters of a group of words. We pronounce the acronym as a word, e.g. *MEN* 'Ministerstwo Edukacji Narodowej', i.e. Ministry of National Education.
- *sylabowce* (EN acronyms). They are formed from the first syllables of a group of words or from other parts of a group of words. We pronounce the acronym as a word, e.g. *Fablok* 'Fabryka Lokomotyw', i.e. Engine Factory.
- *skrótowce mieszane* (EN mixed acronyms). They are formed by combining two or more of the above categories, e.g. *PZMot* 'Polski Związek Motorowy', i.e. Polish Motor Union. Their pronunciation depends on the composition. *PZMot* is pronounced partly as individual letters, i.e. *pe-zet* and in part as a word–*Mot*.
- *skrótowce złożeniowe* (EN complex acronyms). They are made up of the whole word being defined and a part of the word that defines it, e.g. *Invest-bank* ('bank inwestycyjny' in Polish). The pronunciation of such acronyms depends on their orthography.

Acronyms in Polish are usually written in capital letters without full stops, e.g. *AGH*, *PKO*, unless they contain conjunctions and prepositions, in which case they also appear in the acronym, e.g. *IMiD* ('Instytut Matki i Dziecka', i.e. Institute of Mother and Child) or diacritics *ch*, *dz* and *sz*, e.g. *DzU* ('Dziennik Ustaw', i.e. Journal of Laws), *Sz.P.* ('Szanowna Pani/Szanowny Pan', i.e. Dear Sir/Madam). Some acronyms are written in lower case, leaving the first letter capitalised, e.g. *Pafawag* ('Państwowa Fabryka Wagonów').

Pronunciation of Polish acronyms depends on the type of acronym. Initialisms are pronounced letter by letter, while acronyms made up of initial letters or syllables are pronounced like independent words. Foreign-language acronyms are pronounced according to established conventions, e.g. *DVD* (as in English: di-wi-di), *TGV* (as in French te-że-we).

The number and gender of an acronym in official language and when the acronym denotes the name of a well-known organization is determined by the characteristics of the main component of the acronym. For example, *MEN* 'Ministerstwo Edukacji Narodowej', i.e. Ministry of National Education, has a singular number and a neuter gender, like Ministerstwo 'Ministry' in Polish. In colloquial

language, however, acronyms are treated like words. They are always singular, and their genus is determined by their endings. Consonant ending forms are masculine, acronyms ending in accented -e, -i, -o or -u are neuter, e.g. *PZU* (pe-zet-u), while acronyms ending in accented vowel -a can be feminine, e.g. *RPA* (er-pe-a) or neuter, e.g. *PTTK* (pe-te-te-ka). Acronyms whose pronunciation ends in an unaccented -a, as in the word *CPLiA* (ce-pe-lia) have only the feminine gender (Müldner-Nieckowski 2007: 10–11).

Inflection of acronyms depends on their pronunciation. Acronyms ending in a consonant, apart from some exceptions like *ZSRR*, which does not inflect, are inflected like masculine nouns, e.g. *NOT* (*NOT-u, Nocie, NOT-owi*). Acronyms ending in -e, -i, -o, -u and accented -a are not inflected. On the other hand, acronyms ending in the unaccented -a are inflected like feminine nouns (*ibidem:* 11).

It is important to note that in English typically not the structure of abbreviations or acronyms is the focal point, but the morphological processes that lead to their creation. Shortening processes involve a loss of material and lead to the creation of formations whose form and meaning are associated with those of base word(s). Shortening processes include abbreviation, blending and clipping. Two basic types of abbreviation are initialisms and acronyms (Plag 2003: 126).

Blending is amalgamation of parts of different words. It depends on combining two (rarely three or more) words into one deleting material from one or both of the source words. Plag (2003: 123) distinguishes two types of blends:
- blends which are existing compounds shortened to form a new word, e.g. *geoinformation* (from geographic information)
- proper blends, which denote entities that share the referents of both elements and are typically formed according to the principle A B + C D = A D (e.g. *boatel* from boat + hotel).

Clipping occurs by shortening the word by omission of one or more syllables. In most cases the initial part of the word is retained in a clipping, e.g. *lab* created from laboratory.

By analysing the two approaches, it may be noticed that shortening and abbreviating are often treated as synonyms and used interchangeably. In fact, they have the same equivalent in Polish 'skracanie'. In Polish acronyms are types of abbreviations. There are differences between individual types of contracted forms, i.e. Polish complex acronym *Invest-bank* would be considered a blend in English.

DICTIONARIES OF ABBREVIATIONS AND ACRONYMS

Abbreviations and acronyms are very often the subject of lexicographical research. According to Stanisław Szadyko (2009: 15), so far more than 800 dictionaries in various languages containing abbreviations and acronyms have been published. Lexicographic publications devoted to abbreviations and acronyms in

Polish include *Słownik skrótów* (Dictionary of abbreviations) by Józef Paruch (1992), *Słownik skrótów i skrótowców* (Dictionary of abbreviations and acronyms) by Jerzy Podracki (1999), *Wielki słownik skrótów i skrótowców* (Great dictionary of abbreviations and acronyms) edited by Piotr Müldner-Nieckowski (2007).

Among dictionaries of abbreviations and acronyms in English we can distinguish such positions as: *The Penguin dictionary of abbreviations* (1989) edited by John Paxton, *The Oxford dictionary of abbreviations* (1992) edited by Fran Alexander *et al.*, *The Wordsworth Dictionary of Abbreviations and Acronyms* edited by Rodney Dale and Steve Puttick (1997), and many others. There are also many electronic sources currently available in English, such as *A Dictionary of Abbreviations* (2011) by Burt Vance and *Acronym Finder* (2021).

Apart from dictionaries of abbreviations and acronyms, which cover vocabulary in abbreviated form in general language, there are numerous dictionaries of abbreviations and acronyms in specialist languages, both in Polish, e.g. *Słownik skrótów informatycznych* (Dictionary of Information Technology abbreviations) edited by Adam Faudrowicz and Witold Sikorski (1999), as well as dictionaries covering English abbreviations and acronyms together with their translations into Polish, e.g. *Słownik skrótów elektronicznych angielsko-polski* (English-Polish dictionary of electronic abbreviations) edited by Ewa Romkowska (1988), *Słownik skrótów informatycznych: angielsko-polski* (English-Polish dictionary of IT abbreviations) edited by Jacek Szaniawski (1997), *Dictionary of abbreviations used in marine correspondence and documents = Słownik skrótów stosowanych w dokumentach i korespondencji żeglugowej* edited by Jan L. Kochanowski (2000).

Dictionaries of abbreviations and acronyms may have varying spans, which depend on the degree of specialization of the dictionary or the medium on which the dictionary is stored. The highly specialized IT dictionary by Faudrowicz and Sikorski contains over 1 000 abbreviations, while *Wielki słownik skrótów i skrótowców* by Müldner-Nieckowski covers 74 370 abbreviations and acronyms that were observed in Polish between 1974 and 2006 (Müldner-Nieckowski 2007: 7). The electronic dictionary *A Dictionary of Abbreviations* (2011), which is also available in a paper version, contains over *100,000* abbreviations and acronyms, while *Acronym Finder* has more than 5 million entries for abbreviations and acronyms in English (American English).

PHOTOGRAMMETRIC TERMINOLOGY

Photogrammetry is the science and technique of making measurements from photographs. There are two types of photogrammetry: aerial photogrammetry and terrestrial photogrammetry. The former one consists in taking digital images or videos with a camera or a laser scanner mounted on the bottom of a plane. It is used in topographical mapping, e.g. to control the areas of the crops that were declared by

farmers and for which they receive funding from the European Union. The latter depends on registering images or videos by means of camera located on the surface of the earth and is most commonly used in architectural restoration.

"The Photogrammetric Terminology: Third Edition (2016) Listing" by Stuart Granshaw published in *Photogrammetric Record* triggered the analysis of translation problems related to abbreviations and acronyms. The glossary is in English and contains 1 032 entries. Data in the glossary is organised in two columns: entry and definition. The definition field provides broad information as apart from the explanation of the term, it may also include the full form of the term, grammatical and orthographic information, cross-references to other terms, information on preferred and deprecated uses of some word forms and references indicating the source of the term. The entries in the glossary come from articles published in different numbers of the *Photogrammetric Record* magazine (Kwiatek 2020: 73–74).

The glossary includes a large proportion of abbreviations – 203 entries are either abbreviations or acronyms or include abbreviations and acronyms, e.g. *base-to-height ratio* entry includes information on its abbreviation (*B: H ratio*) in the definition. A great majority of abbreviations are entries in the glossary. There are a few cases when both the full form and their abbreviations appear in the glossary, e.g. *least-squares matching (LSM)* and *multiview stereo (MVS)*. There are also a few polysemic abbreviations, which have different meanings in different disciplines. Some of them have two or more meanings in the field oh photogrammetry or the fields that are closely related to it, e.g. *FBM* stands for *feature-based matching* in photogrammetry and *fundamental bench mark* in geodesy.

Great majority of abbreviations are initialisms, e.g. *ALS*, *BRDF*, *DLT*, *OTF* or acronyms, e.g. *ALOS*, *FIG*, *RICS*, *NASA* (179 out of 203 entries). There are a few terms that are shortened forms as the longer forms are not used any more except to explain the name, e.g. *radar*, *lidar*. What is interesting is the fact that terms which are shortened forms are written in lower case (Kwiatek 2013). Some of the entries in the glossary are blends, e.g. *edgel* 'edge element', *pixel* 'picture element', *voxel* 'volume element', *groundel* 'ground element', *surfel* 'surface element', *geodata*, *geoinformation*, *geoinformatics*. Clippings can also be spotted, e.g. *g* (from *gon*), *rad* (from *radian*). There are also a few borderline cases, e.g. *B: H (base-to-height) ratio*, *B-spline* (basis spline), which resemble clippings, but in which the first part of the formation was shortened but the head is complete like in compounds. We may also encounter contractions such as *1D* (one dimensional), *2D* (two dimensional), *dB, kB, MB, TB* and mixed forms, e.g. *ICESat*, which include acronyms and clippings (Ice, Cloud and land Elevation Satellite).

Byrne (2012: 152–153) divides abbreviations and acronyms on the basis on information they carry. Following his classification, one may list such categories as:

• International organizations, e.g. *ACM* 'Association of Computing Machinery', *ISPRS* 'International Society for Photogrammetry and Remote Sensing', *ESA* 'European Space Agency';

- National organizations, e.g. *IRSO* 'Indian Remote Sensing Organization', JAXA 'Japanese Space Exploration Agency';
- Names of satellites and navigation systems, e.g. *GPS* 'Global Positioning System', *ICE Sat* 'Ice, Cloud and land Elevation Satellite';
- Photogrammetric terms: measuring methods, devices, models, e.g. *UAV* 'Unmanned Aerial Vehicle', *lidar* 'light detection and ranging', *DTM* 'Digital Terrain Model';
- General technical terms, e.g. *pixel* 'picture element', *NIR* 'near infrared', *MSL* 'mean sea level'.

Some entries resemble acronyms as they are written with capital letters but they are in fact proper names, indicating names of satellites, e.g. *IKONOS* or software packages, e.g. *IDRISI*.

TRANSLATION OF ABBREVIATIONS AND ACRONYMS

Translation of acronyms and abbreviations is the subject of study of numerous Polish scholars, e.g. Górnicz (2000), Czyżewska (2006), Kierzkowska (2011), Kubacki (2016), Witalisz (2016), Linke-Ratuszny (2016).

Abbreviations and acronyms should be translated into the target language by providing their full names in the target language. This rule does not apply to acronyms that stand for the names of well-known organizations, e.g. *UNESCO*. The translator should leave the abbreviations and acronyms which cannot be deciphered in the original form, without providing the full names but adding a note that the item has the same form in the target text as in the source text as the translator could not decipher it using the available sources (Kierzkowska 2011: 23).

As a rule, when translated into Polish, English abbreviations are left in the original English version, unless it is customary to use Polish abbreviations, e.g. *EU* (European Union) has the official equivalent in Polish, i.e. *UE* which stands for *Unia Europejska*. The first time an abbreviation or acronym appears in the text, its full name in Polish should be given, followed by its English abbreviation or acronym in parentheses (Vademecum Tłumacza 2021: 76). Kubacki (2016: 17) even claims that in the text translated into Polish from foreign languages there is a tendency to borrow abbreviations and acronyms after translating the full form into Polish.

It is recommended not to use too many abbreviations and acronyms. There is no obligation to use an abbreviation in a Polish text just because it appears in the English text. Each time a translator is planning to use shortened forms, readability and comprehensibility of the text should be considered. If it is possible and when it does not lengthen the document, full forms should be used and abbreviations should be avoided. If Polish abbreviations are not common and using the full forms would involve a significant lengthening of the document and the forming of unreadable,

long sentences, the translator should provide the full form of the abbreviation in Polish and in brackets the English abbreviation along with its expansion, when the abbreviation is used for the first time. Then, the English abbreviation should be used consistently throughout the text (Vademecum Tłumacza 2021: 76–77).

Byrne (2012: 153) delineates translation rules that apply specifically to translation of acronyms that are proper names. Acronyms which are the names of international or national organizations usually remain in their original, unchanged form, regardless of the language into which they are translated, or are replaced by official equivalents if they exist in the target language. Abbreviations that are derived from company names must not be translated, as they determine the legal identity of the company. On the other hand, abbreviations that have been created for the purpose of the document, in order to avoid repetition in the text, can either be translated into the target language or can be left unchanged. Byrne also suggests how to translate units of measure. "The most common strategy for dealing with them, is to leave them alone, particularly if they are SI [International System of Units; French: Système International d'Unités] quantities" (2012: 156–157). Both SI and non-SI units typically have their official equivalents., e.g. *dB, KB, MB, TB, g* (gon) and *rad* (radian) have the same equivalents in Polish.

Kubacki (2016: 13) claims that a translator who translates a text that includes abbreviations and acronyms may come across such problems as: inability to decipher an abbreviation or acronym, problems with correct spelling, pronunciation and declension of such forms, the use of pleonasms, misunderstanding of abbreviations and acronyms by translators who are not familiar with the legal systems of the source and target countries and redundancy in translation of foreign acronyms. Most of these problems, apart from the one that tackles the legal system, are applicable to technical and scientific texts.

One of the greatest problem a novice translator typically faces is inability to decipher the meaning of an abbreviation or acronym. A translator typically does not have a specialised knowledge of the field the text belongs to so they have to do some research on the field using the Internet. When the context is correctly identified, the translator may start looking for equivalents which can be found in specialised dictionaries or in parallel texts. *CEON Biblioteka Nauki* in an on-line repository of articles published in Polish scientific journals. Most of the articles have abstracts both in Polish, and in English. A translator using this repository has to type a search word and may limit the search to specific disciplines or journal titles. As photogrammetric dictionaries may be difficult to get hold of due to the fact that they were published in a limited number of copies and are typically available in libraries (Sitek 1990; Kurczyński 2014), a translator may try consulting scientific and technical dictionaries e.g. *Słownik naukowo-techniczny angielsko-polski* (English-Polish Dictionary of Science and Technology) or abbreviation dictionaries, e.g. to identify English equivalents and their acronyms, or dictionaries of abbreviations, e.g. *Słownik skrótów i skrótowców angielskich* (Dictionary of English abbreviations and acronyms) by Kostyra (2006). Searching the web for scientific papers published

by Polish scholars in English and in Polish may also help in identification of correct equivalents for English abbreviations and acronyms.

The other problem a translator comes across when translating English abbreviations and acronyms into Polish is correct spelling, pronunciation and declension of abbreviations. Most English abbreviations and acronyms when translated into Polish remain in their original form, e.g. *NASA, NAVSTAR, SAR,* unless they have official equivalents in Polish, e.g. *DTM* 'Digital Terrain Model' is translated as *NMT* 'Numeryczny Model Terenu', *MSL* 'mean sea level' is translated into Polish using the full form *średni poziom morza*. It is not abbreviated as *ŚPM* and instead of the Polish abbreviation, the English one is typically used.

The pronunciation of English abbreviations that are used in their original form in Polish is adjusted to Polish rules. Initialisms in Polish are pronounced letter by letter, while acronyms made up of initial letters or syllables are pronounced like independent words, e.g. *ALOS*. English acronyms are pronounced according to established conventions, e.g. *GPS* (as in English: /ˌdʒiː.piːˈes/). As far as inflection is concerned, English abbreviations and acronyms that remain in their original form after translating the text into Polish are typically uninflected, except for very popular acronyms, e.g. *GPS*, which inflect just like Polish nouns, e.g. *pojazd z GPS-em* 'vehicle with GPS' or pleonasms.

The other translation problem encountered while rendering abbreviations and acronyms into the target language is the frequent use of pleonasms. Łyda and Warchał (2009: 94) indicate that especially novice translators and interpreters struggle in their rendition. A pleonasm is a redundant word in the multi-word linguistic unit, e.g. *burning fire*. Pleonasms may include synonymous expressions, repetitions or periphrastic forms, so items which involve semantic overlap and indicate the tautological nature of the expression (Szymanek 2001: 237). Dirven and Verspoor (1998: 149) believe that pleonasms may be treated as devices for controlling text efficiency but also as vectors of expressive function. Kubacki (2016: 15–16) claims that such pleonasms as *numer NIP* 'number NIP' (NIP stands for tax identification number), where the signifier and the acronym have strong bonds, got lexicalised in the Polish language and they are not considered as language errors anymore. They are used in various forms for citizens which are elaborated by government bodies.

Pleonasms are also frequent in photogrammetric texts. Using Sketch Engine I compiled a corpus of approximately 114 000 words in Polish based on three keywords: GPS, WGS84 and UAV and limiting the corpus content to websites and documents dedicated solely to land surveying and photogrammetry. I created concordances for the three keywords and it turned out that for *GPS* 'Global Positioning System', fourteen pleonasms were found. *System GPS* occurs in such phrases as *błąd systemu GPS* 'GPS system error' or *satelity systemu GPS* 'GPS system satellites'. *WGS84* 'World Geodetic System '84' was encountered in the pleonasm *układ WGS84* (5 instances), where *układ* refers to the reference system. Finally, *UAV* which stands for 'Unmanned Aerial Vehicle' and is synonymous to

UAS 'Unmanned Aerial System' and drone was found in such pleonasms as *system UAV* (7 instances), *technologia UAV* 'UAV technology' (3 instances) and *platforma UAV* 'UAV platform' (3 instances). Based on this data, we may notice that pleonasms are functional in photogrammetric texts.

There is also a problem of polysemy as various abbreviations and acronyms can have different meanings in different disciplines. Therefore, it is crucial to identify the context at the beginning and to find the full form the abbreviation or acronym stands for, which matches this context. The examples below show how the acronym *ACM* is represented in two dictionaries of abbreviations: in (1) *Wielki słownik skrótów i skrótowców* (Müldner-Nieckowski 2007) and in (2) *Słownik skrótów i skrótowców angielskich* (Kostyra 2006).

> **(1) ACM**
> ang. *Administration consulting and management*, doradztwo w zarządzaniu i zarządzanie
> ang. *Air Combat Manouvre*, manewr bojowy w walce powietrznej
> ang. *Anti-armour Cluster Munition*, amunicja przeciwpancerna z podpociskami
> ang. *Arab Common Market*, Arabski Wspólny Rynek
> ang. *Association for Computing Machinery*, Towarzystwo Maszyn Obliczeniowych (USA)
>
> *(2) ACM*
> **1. air combat manouvre**
> *wojsk. lotn*. lotniczy manewr bojowy
> **2. Arab Common Market**
> *org. fin.* Wspólny Rynek Arabski
> **3. Association for Computing Machinery**
> *org.* Towarzystwo Techniki Komputerowej (międzynarodowa elitarna organizacja profesjonalistów, zajmująca się zagadnieniami związanymi z technikami obliczeniowymi)

Wielki słownik skrótów i skrótowców (Müldner-Nieckowski 2007) provides five different meanings for the acronym *ACM*, whereas in *Słownik skrótów i skrótowców angielskich* (Kostyra 2006) we find only three. *ACM* in the photogrammetric texts refers to 'Association of Computing Machinery' and is translated as 'Towarzystwo Maszyn Obliczeniowych' in *Wielki słownik skrótów i skrótowców* (Müldner-Nieckowski 2007) and 'Towarzystwo Techniki Komputerowej' in *Słownik skrótów i skrótowców angielskich* (Kostyra 2006). It is necessary to consult external sources, e.g. Internet, encyclopaedias in Polish to see which of the equivalents is correct or more frequent.

CONCLUSIONS

To sum up, a translator of specialised texts in the field of photogrammetry will come across abbreviations and acronyms very often. They pose various difficulties and the translator needs to be aware of them and has to know translation strategies for dealing with them. The aim of abbreviation is brevity. Abbreviations and acronyms result from quick development of science and technology and dynamic changes in communication technology whose inventions are used in photogrammetric instruments and devices. Abbreviations in specialised texts are convenient and efficient means of rendering information for the authors and readers of these texts who are experts in the field but they may pose many problems to non-experts, e.g. translators, technical writers (Kubacki 2016: 19).

BIBLIOGRAPHY

ALEXANDER F., BLAIR P., DAINTITH J., GRANDISON A., ILLINGWORTH V., MARTIN E., STIBBS A., PEARSALL J., TULLOCH S. (1992): *The Oxford Dictionary Of Abbreviations*, Oxford University Press, Oxford.

BYRNE J. (2012): *Scientific and Technical Translation Explained. A Nuts and Bolts Guide for Beginner,* Routledge, London/New York.

CZYŻEWSKA M. (2006): *O skrótach i skrótowcach w pracy tłumacza*, "Lingua Legis", 14: 45–53.

DALE R., PUTTICK S. (1997): *The Wordsworth Dictionary of Abbreviations and Acronyms*, Wordsworth Editions Ltd, Hert.

DIRVEN R., VERSPOOR M. (1998): *Cognitive Exploration of Language and Linguistics*, John Benjamins, Amsterdam.

FAUDROWICZ A., SIKORSKI W. (1999): *Słownik skrótów informatycznych,* MIKOM, Warszawa.

GÓRNICZ M. (2000): *Elementy anglojęzyczne w tekstach medycznych (na podstawie tekstów z dziedziny immunologii opublikowanych w miesięczniku 'Problemy'),* "Poradnik językowy", 2: 19–20.

GRANSHAW S. (2016): *Photogrammetric Terminology: Third Edition (2016) Listing,* "Photogrammetric Record", 31: 113–256.

JADACKA H. (2006): *Poradnik językowy dla prawników,* Semper, Warszawa.

KIERZKOWSKA D. (2011): *Kodeks tłumacza przysięgłego z komentarzem*, Wydawnictwo TEPIS, Warszawa.

KOCHANOWSKI J. (2000): *Dictionary of abbreviations used in marine correspondence and documents = Słownik skrótów stosowanych w dokumentach i korespondencji żeglugowej,* Foka, Szczecin.

KOSTYRA M. (2006): *Słownik skrótów i skrótowców angielskich,* Egis, Kraków.

KUBACKI A. (2016): *O abrewiacjach i akronimach w pracy tłumacza przysięgłego*, "Lingua Legis", 24: 7–22.

KURCZYŃSKI Z. (2014): *Słownik polsko-angielski i angielsko-polski z zakresu fotogrametrii* 'Polish-English, English-Polish dictionary on photogrammetry', Geodeta, Warszawa.

KWIATEK E. (2013): *Contrastive Analysis of English and Polish Surveying Terminology,* Cambridge Scholars: Newcastle upon Tyne.

ID. (2020): *Translation and terminological challenges encountered in the compilation of the English-Polish, Polish-English photogrammetric dictionary*, "Studia Translatorica", 11: 71–83.

LINKE-RATUSZNY M. (2016): *Kompetencja tłumaczeniowa w przekładzie tekstów specjalistycznych – analiza wybranych problemów na przykładzie tekstów popularnonaukowych*, "Rocznik Przekładoznawczy", 11: 213–250.

LIPIŃSKI K. (2006) *Vademecum tłumacza,* Idea, Kraków.

ŁYDA A., WARCHAŁ K. (2009): *Pleonasms in PolishEnglish interpreting*, w: ARABSKI J., WOJTASZEK A. (eds.), *Language Learning Studies*, Uniwersytet Śląski/WW, Katowice: 78–89.

MÜLDNER-NIECKOWSKI P. (2007): *Wielki słownik skrótów i skrótowców,* Europa, Wrocław.

PARUCH J. (1992): *Słownik skrótów*, Wiedza Powszechna, Warszawa.

PAXTON J. (1989): *The Penguin dictionary of abbreviations*, Penguin Books, Harmondsworth.

PLAG I. (2003): *Word-formation in English*, Cambridge University Press, Cambridge.

PODRACKI J. (1999): *Słownik skrótów i skrótowców,* Wydawnictwo Naukowe PWN, Warszawa.

ROMKOWSKA E. (1988): *Słownik skrótów elektronicznych angielsko-polski,* Wydawnictwo Naukowo-Techniczne, Warszawa.

SALONI Z. (2010): *O użyciu skrótów w tekstach polskich*, POLONICA", XXX: 137–156.

SĘKOWSKA E. (2002): Budowa wyrazów, w: DUBISZ. S. (ed.), *Nauka o języku dla polonistów*, Książka i Wiedza, Warszawa: 156–187.

SITEK Z. (1990): *Słownik terminologiczny (pięciojęzyczny) z zakresu fotogrametrii i teledetekcji* 'Five-language terminological dictionary on photogrammetry and remote sensing', Wydawnictwo AGH, Kraków.

SZADYKO S. (2009): *O błędnej pisowni akronimów,* Komunikacja Specjalistyczna", 1: 35–52.

SZANIAWSKI J. (1997): *Słownik skrótów informatycznych: angielsko-polski,* ArsKom, Warszawa.

SZYMANEK K. (2001): *Sztuka argumentacji. Słownik terminologiczny*, Wydawnictwo Naukowe PWN, Warszawa.

WITALISZ A. (2016): *Przewodnik po anglicyzmach,* JAK, Kraków.

INTERNET SOURCES

ACRONYM FINDER (2021), <https://www.acronymfinder.com> [last access: 15.10.2021].

CEON BIBLIOTEKA NAUKI (2021), < https://bibliotekanauki.ceon.pl/yadda/search/general.action?cid=9fbed1c7-2cf4-4719-b8f1-a17546d3c677> [last access: 10.12.2021].

TRASK, L. (1997): Abbreviations <http://www.sussex.ac.uk/informatics/punctuation/capsandabbr/abbr> [last access: 10.12.2021].

VADEMECUM TŁUMACZA. WSKAZÓWKI REDAKCYJNE DLA TŁUMACZY (2021): <https://ec.europa.eu/info/sites/default/files/styleguide_polish_dgt_pl_0.pdf> [last access: 16.10.2021].

VANCE B. (2011): *A Dictionary of Abbreviations,* https://www.oxfordreference.com/view/10.1093/acref/9780199698295.001.0001/acref-9780199698295 [last access 19.09.2021].