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## Evaluation of Multilingual Land Surveying Dictionaries – Part I

### 1. Introduction

Before starting the discussion of lexicographic resources that might be useful for land surveyors, the name of the field needs to be clarified as it is both intriguing and ambiguous. The field is commonly referred to as *surveying*, or most recently *geomatics*, in Anglo-Saxon countries, while in the continental European tradition, it is called *geodesy* (*geodezja* in Polish). Arguably, the name surveying is too general because it indicates that anything can be surveyed, e.g. a literature survey. Many researchers opt for the name *land surveying*, which was used in the past. However, the paradigm changed in the Anglo-Saxon tradition and the current name of the field is *surveying* [9: XIII]. The name geomatics can also be found in the literature as the discipline evolves in the direction of computer science and sophisticated mathematical calculations. It is important to note that the terms *surveying*, *land surveying*, *geodesy*, *geomatics* are often used as synonyms although we must be aware of the fact that they represent different concepts. We will see it clearly in the titles of dictionaries that will be described in this paper.

This paper provides an overview of multilingual land surveying dictionaries that were published in Poland as hard copies. The full bibliographic information for dictionaries discussed in this paper is provided in the References section at the end of this paper.

### 2. Land Surveying Dictionaries as Representatives of LSP Dictionaries

Land surveying dictionaries belong to the group of specialised dictionaries, which are often called language for specific purposes (LSP) dictionaries. These

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dictionaries are more specialised than, for example, scientific and technical dictionaries. In contrast to these dictionaries, LSP dictionaries cover a limited number of disciplines. It is typically one major discipline and a few other fields directly related with it. In the case of land surveying dictionaries, the main discipline is geodesy and related disciplines include cadastre, real estates, photogrammetry, optics, etc.

LSP dictionaries are not so common or easily available as general language dictionaries due to the fact that the number of their users is limited to professionals and technical writers who deal with the field in their work.

This paper provides a chronological overview of paper land surveying dictionaries that were published in Poland.

**2.1. *Słownik geodezyjny w 5 językach: polskim, rosyjskim, niemieckim, angielskim, francuskim*  
'Geodetic Dictionary in 5 Languages:  
Polish, Russian, German, English and French'  
by Waclaw Sztompke**

The oldest multilingual land surveying dictionary is *Słownik geodezyjny w 5 językach: polskim, rosyjskim, niemieckim, angielskim, francuskim* 'Geodetic dictionary in 5 languages: Polish, Russian, German, English and French' [10]. After World War Two researchers in the field of geodesy noticed that they had problems studying foreign literature on the subject and they needed a specialised geodetic dictionary. The Scientific-Technical Association of Polish Surveyors, whose members were Polish surveying engineers and technicians, decided to elaborate a 5-language geodetic dictionary. The Scientific-Technical Association of Polish Surveyors appointed Geodetic Terminology Commission in 1949.

Its first major tasks encompassed (Introduction to [10]):

- finding Polish equivalents for terms included in the Technical Dictionary elaborated by Fédération Internationale des Géomètres,
- finding Polish equivalents for terms in the Photogrammetric Dictionary compiled by the Société Internationale de Photogrammétrie.

In 1951 the Commission started working on the 5-language geodetic dictionary. The decision was made that the dictionary should include terms from the following domains: astronomy, photogrammetry, geodesy and land surveying, instrumentation and optics, cartography, cadastre, measures, mining surveying, rail surveys, marine surveys, agricultural surveys, topography and topographic map symbols. The Commission decided that in order to provide the rich content, the dictionary should contain about 15,000 terms and should be compiled relatively quickly, possibly in the course of 3 or 4 years. Shortly, this task turned out to be too overwhelming and Commission agreed to limit the scope and content of the dictionary to 5,000 terms, being the feasible task in the planned period of time [10]. The Commission appointed teams of professionals who were responsible for finding terms in the

fields of their specialisations and matching them with their equivalents. Terms were identified in Polish literature as Polish is the first language of the dictionary. The Commission did not decide on grouping terms according to their subject field specialisation as in their view it would make the dictionary complicated and confusing for its users. Instead, all terms were put together and arranged in the alphabetical order.

The dictionary compiled by the Commission consists of:

- a) the main part which includes numbered entries that are arranged in alphabetical order (Fig. 1); entries are in Polish, followed by Russian, German, English and French equivalents; gender specification is provided for Polish, Russian, German and French nouns in the form of abbreviations, where (m) means masculine, (f) stands for feminine and (n) for neuter; this part ends with a list of topographic map symbols, also arranged alphabetically;
- b) indices in foreign languages and an index of Polish synonyms (Fig. 2).

3520 szczegół (m)	деталь (f), подроб- ность (f)	Einzelheit (f)	3520 detail	estimation (f) détail (m)
3521 szczegół (m) sytuacyj- ny	ситуационный пред- мет (m)	Situationseinzelheit (f)	3521 detail of situation	détail (m)
3522 szczelina (f) przejier- nika	щель (f) диоптра	Visierspalle (f)	3522 sighting slot	fente (f) du viseur
3523 szczelina (f) wrębowa	зарубная щель (f)	Hiebspalte (f)	3523 fissure of notch, fissure of hollow cut	fente (f) d'entaille

Fig. 1. Entry in the dictionary by Sztompke (1955)

Source: [10: 256–257]

<b>A</b>
adiator 3479
aerofotogrametria 632
afelium 2858
alienacja 2774
ampulka 605
ankrowanie 1142
anomalia odśrodkowa 62
aparat projekcyjny 3146
apeks ruchu słońca 78
apogeum 2859
awanport 2702
azymut 1672

Fig. 2. Polish index in the dictionary

Source: [10: 361]

To save space Polish and foreign synonyms were put together with the main entry under the same number. If a Polish term cannot be found in the major part of the dictionary, one might try to search for it in the Polish index. Foreign indices include both main terms and synonyms, which are arranged in alphabetical order.

The dictionary includes many words which are archaic. They refer to measuring methods and instruments which are no longer in use, e.g. *adiator* and to cadastral terms which were used in the past, e.g. *księga łąnowa*, *łąka służna*. The scope of information in the dictionary is limited to equivalents and gender specification for nouns. The dictionary is out of print. It may occasionally be purchased in second-hand bookstores.

## 2.2. *Słownik geodezyjny polsko-angielsko-niemiecki* ‘Polish-English-German Land Surveying Dictionary’ by Jerzy Tatarczyk

The second oldest dictionary is *Słownik geodezyjny polsko-angielsko-niemiecki* by Jerzy Tatarczyk [12]. As the name of the dictionary suggest, it consists of three parts: Polish, English and German.

Entries in the Polish part of the dictionary are arranged in alphabetical order. The terms is preceded by the reference number and followed by its English and German equivalents presented in separate columns. German nouns are accompanied by gender specification that comes right after the noun in the form of abbreviation (‘m’ means masculine, ‘f’ stands for feminine and ‘n’ for neuter).

Polish terms that are ambiguous are followed by subject field specification (Fig. 3). Polish entries in the dictionary belong to 13 different disciplines that are represented by the following abbreviations:

- astr.* for *astronomia* ‘astronomy’
- aut.* for *automatyka* ‘automatics’
- bud.* for *budownictwo* ‘civil engineering’
- fiz.* for *fizyka* ‘physics’
- fot.* for *fotografia* ‘photography’
- geom.* for *geometria* ‘geometry’
- geol.* for *geologia* ‘geology’
- górn.* for *górnictwo* ‘mining’
- inf.* for *informatyka* ‘computer science’
- mat.* for *matematyka* ‘mathematics’
- mech.* for *mechanika* ‘mechanics’
- met.* for *metrologia* ‘metrology’
- opt.* for *optyka* ‘optics’

<p>3796 rzut (<u>mat.</u>), projekcja, rzutowa nie (<u>opt.</u>), wyświetlanie np. fil- mu</p>	<p>projection</p>	<p>Projektion f</p>
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Fig. 3. Entry in *Słownik geodezyjny polsko-angielsko-niemiecki*

Source: [12: 114]

Other abbreviations used in the dictionary include: GB for the British version of the word, USA for the American spelling, *jedn.* for jednostka ‘unit’, *pl.* for plural and TV for television (Fig. 4). The number of entries in the Polish part is 5,310.

2045 metr – (jednostka długości)	metre (GB), meter (USA)	Meter n
2046 metr kwadratowy (m <sup>2</sup> )	square metre (GB), square meter (USA)	Quadratmeter n
2047 metr przestrzenny	–	Raummeter n
2048 metr sześcienny – (jednostka objętości)	cubic metre	Kubikmeter n, m
2049 metrologia	metrology	Metrologie f, Mass- und Gewichtskunde f, Messwesen n, Messlehre f

Fig. 4. Abbreviations used in *Słownik geodezyjny polsko-angielsko-niemiecki*

Source: [12: 64]

English and German parts of the dictionary are in fact indices. They include alphabetically arranged entries either in English or in German. Entries are preceded by a reference number that sends users back to the meaning of the entry in the Polish part (Fig. 5).

44 addressing	4658 aiming device
1996 addressing method	3003 air
4202 addressing system	53 air photogrammetry
1996 addressing technique	4113 air pollution
3653 addressless instruction	4293 air shaft
3322 adit	1555 airborne computer
1384 adjacent angle	3912 airborne scanner

Fig. 5. English index in *Słownik geodezyjny polsko-angielsko-niemiecki*

Source: [12: 160]

The dictionary by Tatarczyk [12] was modified, expanded and published on CD-ROM in 2005 [13].

### 2.3. *Podręczny słownik geodezyjny angielsko-polski, polsko-angielski* ‘Concise English-Polish, Polish-English Land Surveying Dictionary’ by Ryszard Hycner and Iwona Szortyka

An important lexicographic publication in the land surveying field is *Podręczny słownik geodezyjny angielsko-polski, polsko-angielski* by Ryszard Hycner and Iwona Szortyka [8]. Prof. Hycner has a strong interest and considerable scientific output in the field of English and Polish land surveying terminology.

Apart from the dictionary, prof. Hycner also co-authors a book *Surveying, Geodesy and Professional Ethics*, which is a selection of source texts and their translations directed at students, lecturers and surveyors [7]. The book includes an English-Polish mini-dictionary of key words that appear in the texts. Key words are terms, e.g. *blunder*, *cross hairs*, *reference spheroid* and general language words, e.g. *alleged*, *casual* or *endeavour*.

As for the land surveying dictionary, it consists of three sections. Each section starts from the English part, which includes terms in English and their Polish equivalent and the Polish part, which includes Polish terms with English counterparts. Section 1 comprises terms and phrases from the field of geodesy and cartography. It represents such disciplines as land surveying, spatial geodesy, photogrammetry, remote sensing and land information system. Section 2 is devoted to real estate, cadastre, land registry, legal issues and related topics. Section 3 covers topics that relate to teaching geodesy and cartography at the academic level. The dictionary ends with the index which gives the page number on which a given term can be found.

Figure 6 present entries from the first part. The dictionary distinguishes between nominal and verbal meanings as we may see in the entry *set*.

S	
satellite orbital theory	teoria orbity satelity
scale	skala
scan	skanować
scope	zasięg, zakres, pole (działania)
secondary control	osnowa 2 rzędu
self-contained total station	zintegrowany total station
self-leveling level	nivelator samopoziomujący
self-reducing tachometer	tachimetr autoredukcyjny
sequential	sekwencyjny, kolejny
set	n: seria, zbiór v: nastawiać, ustawiać
set out	wytyczyć
set up instrument	ustawić instrument
setting out surveys	pomiary realizacyjne
sight axis	oś celowania
significant figure	cyfra znacząca
site reconnaissance	wywiad terenowy
slope distance	odległość skośna
slope taping	pomiar taśmą wzdłuż pochyłości
solution of a linear equations set	rozwiązanie układu równań liniowych
spatial analysis	analiza przestrzenna
spatial attribute	atrybut przestrzenny
spatial network	sieć przestrzenna
sphere	kula
spherical trigonometry	trygonometria sferyczna
spirit leveling	nivelacja geometryczna

**Fig. 6.** Presentation of entries in *Podręczny słownik geodezyjny*, in the part of dictionary devoted to geodesy and cartography

Source: [8]

#### **2.4. *Polsko-angielski, angielsko-polski słownik terminów z zakresu geodezji, map i nieruchomości* 'Polish-English, English-Polish Dictionary of Land Surveying, Mapping and Real Estates' by Jerzy Downarowicz and Henryk Leśniok**

The most recent land surveying dictionary is *Polsko-angielski, angielsko-polski słownik terminów z zakresu geodezji, map i nieruchomości* [4]. It is the third edition of the dictionary elaborated by Jerzy Downarowicz and Leśniok.

The first edition of this dictionary was published in two stages as *Angielsko-polski słownik dla geodetów* 'English-Polish dictionary for land surveyors' [1] and *Polsko-angielski słownik dla specjalistów z zakresu pomiarów geodezyjnych, map, planów i nieruchomości* 'Polish-English Dictionary for Professionals from the Fields of Land Surveys, Maps, Plans and Real Estates' [2]. The English-Polish dictionary included nearly 13,000 terms from geodesy and related fields covering sixteen domains which have some common points with land surveying. These domains are indicated in entries by the following abbreviations:

*fort* for technical photography,

*fortg* for aerial and terrestrial photogrammetry,

*ged* for geodesy and land surveying,

*gew* for geodetic surveying, satellite geodesy, geodetic astronomy and geophysics,

*gip* for engineering and industrial geodesy, measurements of displacements and terms from the field of civil engineering, industrial engineering, hydrological engineering, structural analysis, mechanics of materials,

*gor* for mine and underground surveying,

*inf* for computer science,

*ins* for surveying instrumentation,

*krt* for cartography, technical drawing and printing,

*mat* for mathematics,

*mor* for marine surveys and metrology,

*ogl* for general technical vocabulary,

*pln* for spatial planning and town planning,

*rwyt* for adjustment calculus, error theory, mathematical statistics,

*urzt* for rural and forestry surveying, agriculture, soil science, mass appraisal and measurements in forests,

*top* for topography, land and geologic forms.

The English-Polish dictionary [1] was the starting point for the elaboration of the Polish-English dictionary which was published four years later [2]. The terminology in the new dictionary was expanded compared to the English-Polish version, some domains were modified, e.g. photometry was added to technical photography (*fort*), remote sensing was added to aerial and terrestrial photogrammetry (*fortg*),

*gip* was re-organized so that the category of terms from three fields of engineering was generalised to cover engineering terms and structural analysis (mechanics of materials was removed), underground geodesy in the *gor* class was changed into geology, the *urz* category was changed into *grl* class which covered only rural and forestry surveying, soil science and forestry, the *inf* class was expanded by adding data processing to it, the *ins* class was also widened by including selected terms from the field of physics, in the *mor* class radio navigation was introduced, the *pln* class was narrowed by removing town planning and finally, a new class was introduced. This class was indicated as *nrm* and covered real estates and selected legal terms.

The authors of this dictionary claim that the elaboration of the Polish-English dictionary was much more difficult than compiling the English-Polish version. It is due to the fact that geodetic terminology is not standardised in Poland [3] and existing standards related to terminology in this field cover only a fraction of terms<sup>1</sup>. Moreover, professionals and academics often use different terms to name the same concepts. Technological development and new technologies give rise to a quick increase in the number of terms, which gradually become a part of the specialised lexicon. Taking all these factors into account, the authors of the dictionary decided to register terms they encountered without establishing their terminological relevance. Obviously, basic selection criteria were applied and inaccurate designations, elements of jargon and borrowings from other languages were scrutinized and either accepted in their correct form or rejected.

The second edition of the dictionary by Downarowicz and Leśniok [3] is a bi-directional dictionary consisting of the Polish-English part followed by the English-Polish part. This updated dictionary includes around 35,000 entries from 17 fields marked with the following abbreviations:

- fot* for *fotografia techniczna i fotometria* 'technical photography and photometry',
- ftg* for *fotogrametria lotnicza i naziemna oraz teledetekcja* 'aerial and terrestrial photogrammetry and remote sensing',
- ged* for *geodezja ogólna i miernictwo* 'geodesy and land surveying',
- gew* for *geodezja wyższa, geodezja satelitarna, astronomia geodezyjna, geofizyka* 'geodetic surveying, satellite geodesy, geodetic astronomy and geophysics',
- gip* for *geodezja inżynieryjno-przemysłowa, pomiary przemieszczeń oraz terminy z budownictwa i statyki budowli* 'engineering and industrial geodesy, measurements of displacements and terms from the field of civil engineering and stress analysis',
- gor* for *geodezja górnicza i geologia* 'mine surveying and geology',
- grl* for *geodezja rolna i leśna, gleboznawstwo, leśnictwo* 'rural and forestry surveying, soil science and forestry',
- inf* for *informatyka, przetwarzanie danych* 'computer science and data processing',

<sup>1</sup> Polish standards for land surveying terminology: PN-86-N-02207 *Geodezja. Terminologia*. PN-87-N-02251 *Geodezja. Osnowy geodezyjne. Terminologia*. PN-N-99310 *Pomiary realizacyjne. Terminologia*.



*ins* for *instrumentoznawstwo geodezyjne i wybrane terminy z fizyki* ‘surveying instrumentation and selected terms from the field of physics’,  
*krt* for *kartografia, rysunek techniczny, poligrafia* ‘cartography, technical drawing and printing’,  
*mat* for *matematyka* ‘mathematics’,  
*mor* for *pomiary morskie, radionawigacja, metrologia* ‘marine surveys, radio navigation and metrology’,  
*nm* for *nieruchomości i wybrane terminy prawnicze* ‘real estates and selected legal terms’,  
*ogl* for *terminy ogólnotechniczne* ‘general technical vocabulary’,  
*pln* for *planowanie przestrzenne* ‘spatial planning’,  
*rwy* for *rachunek wyrównawczy, teoria błędów, statystyka matematyczna* ‘adjustment calculus, error theory, mathematical statistics’,  
*top* for *topografia, formy terenowe i geologiczne* ‘topography, land and geologic forms’.

It is worth noting that categories (both names and content) and their abbreviations in the second edition of the dictionary are exactly the same as in the Polish-English dictionary<sup>2</sup>. The abbreviations play a very important role as they enable people who are not professionals in the field of geodesy, e.g. translators, students, layers, to find terms they are looking for.

Apart from designations of disciplines, we find other symbols in the dictionary, such as *US* for American spelling, \* for archaisms and = for synonyms and acronyms.

Entries in the dictionary are arranged in alphabetical order. The organization of entries is very interesting. In the Polish-English part, entries which are semantically related are grouped together under one entry. For example, the entry *mapa* ‘map’ contains such terms as *aktualizacja mapy* ‘map revision’ *nazwa mapy* ‘map title’, *oznaczenie mapy* ‘sheet designation’. These terms are presented as a continuous sequence of information that is separated with semi colons. Each term referring to a new concept is capitalised for better recognition (Fig. 7).

Hyponyms (types) of the term are provided as separate entries after the main term. Each of them is given in a new line which starts from the tilde that replaces the main entry name. For example, after the term *mapa* ‘map’ we find ~ **agrochemiczna** ‘agrochemical map’, ~ **bogactw naturalnych** ‘map of mineral resources’, ~ **drzewostanu** ‘forest stand map’ (Fig. 8).

In the English-Polish part, terms referring to related concepts are presented as separate entries. Therefore, for *map* we find such entries as *map control*, *map coordinates*, *map scale*, *map use* (Fig. 9).

The dictionary by Downarowicz and Leśniok is now available in the updated version, which is the third edition of this lexicographical publication [4]. The differences between the second and third edition seem to be minimal as both the macrostructure (the organization of the dictionary) and microstructure (the appearance of individual entries) remain the same.

**mapa** *krt* chart; map; **aktualizacja mapy** map revision; **archiwalny egzemplarz mapy** record copy (of a map); **bibliografia map** map bibliography; **brzeg mapy** border of map; **czytanie mapy** map reading; **koncept autorski mapy** compilation manuscript <plot>; **korygować mapę** revise; **makieta kolorów** (*koncept rozkolorowania*) colour model; **mapka do skorygowania wycinka mapy** *mor* chartlet; **materiały do aktualizacji mapy** *krt* revision data; **matryca mapy** fair draft <drawing>; **nadkładka mapy** overlay; **naniesienie poprawek** map correction; **nazwa mapy** map title; **nomenklatura mapy** wieloarkuszowej series designation; **ocena estetyczna mapy** aesthetic appreciation of a map; **opis mapy** cartographic lettering; **opracowanie** (*redakcja*) **mapy** map compilation <composition>; **opracowanie wstępne mapy** preliminary compilation; **opracowywać** (*mapę*) compile; **oznaczenie mapy** (*godło mapy*) sheet designation; **oznaczenie**

Fig. 7. Entry *mapa* 'map' in *Polsko-angielski, angielsko-polski słownik terminów z zakresu geodezji, map i nieruchomości*

Source: [3: 78]

- **agrochemiczna** *grl* agrochemical map; map of soil reaction and availability
- **aktualna** (*prowadzona na bieżąco*) *krt* current map
- **anaglifowa** *fig* anaglyphic map
- **anamorficzna** *krt* cartogram
- **batymetryczna** *mor* bathymetric chart
- **bogactw naturalnych** *krt* map of mineral resources
- **bonitacyjna** *grl* land capability map; soil valuation map
- **brzegowa** (*w skalach od 1:40 000 do 1:225 000*) *mor* coast chart
- **części świata** *krt* continental map
- **dła niewidomych** *krt* tactual map
- **dotykowa** *krt* tactual map
- **drogowa** *krt* road map; route-map
- **drzewostanu** *grl* forest stand map; stock map

Fig. 8. Hyponym of *mapa* 'map' in *Polsko-angielski, angielsko-polski słownik terminów z zakresu geodezji, map i nieruchomości*

Source: [3: 79]

<b>map</b>	<i>krt</i>	mapa, plan; tablica; odwzorowanie
<b>map archiving</b>	<i>krt</i>	przechowywanie mapy
<b>map author</b>	<i>krt</i>	autor mapy
<b>map bibliography</b>	<i>krt</i>	bibliografia map
<b>map catalogue</b>	<i>krt</i>	katalog zbioru map
<b>map cataloguing</b>	<i>krt</i>	inwentaryzacja map, katalogowanie map
<b>map collection</b>	<i>krt</i>	zbiór map, zbiornica map
<b>map content</b>	<i>krt</i>	treść mapy
<b>map control (for building drafts)</b>	<i>gip</i>	mapa geodezyjna kartometryczna (do projektowania budowli)
<b>map coordinates</b>	<i>krt</i>	współrzędne na mapie
<b>map copyright</b>	<i>krt</i>	prawa autorskie mapy
<b>map correction</b>	<i>krt</i>	naniesienie poprawek, eliminacja błędów na mapie
<b>map evaluation</b>	<i>krt</i>	interpretacja mapy, ocena mapy
<b>map extract</b>	<i>krt</i>	wycinek mapy
<b>map format</b>	<i>krt</i>	format mapy
<b>map frame</b>	<i>krt</i>	ramka mapy
<b>map graticule</b>	<i>krt</i>	siatka kartograficzna mapy
<b>map grid</b>	<i>krt</i>	siatka mapy

Fig. 9. Entries for *map* in the EN-PL part of the dictionary

Source: [3: 342]

The authors do not provide the count of entries in the updated version, however, they assure that the new dictionary contains an updated and expanded collection of terms that appeared during the technological turnover and were caused by the development of electronics and computer science. In the third edition of the dictionary, especially entries from such fields as digital photography, digital cartography and land information system were expanded. The field of real estate (nrm) was enriched with terminology that refers to real estate transactions and related legal terminology.

Both the second and third edition of the dictionary are available on the market. They may be purchased in bookshops and on-line for the price of around 55 PLN.

## 2.5. *Leksykon geomatyczny* ‘Lexicon of Geomatics’ by Jerzy Gaździcki

*Leksykon geomatyczny* was originally published as a hard copy. The scope of this dictionary is narrowed compared to other geodetic dictionaries. The main focus of the dictionary is on Geomatics, which is an interdisciplinary field of science and technology that covers acquisition, analysis, interpretation, dissemination and practical application of geoinformation [6]. Geoinformation is information about spatial and temporal features of the world that surrounds us. Geoinformation is thus

crucial not only for professionals from such fields as land surveying, geography, cartography, cadastre, soil science, mining, environmental protection, spatial planning, forestry, agriculture, public transport, but also for investors who are interested in real states, tourists and travellers. Geomatics is linked to remote sensing, global positioning systems and geographic information systems.

Lexicon consists of two parts: the extensive Polish-English part counting nearly 100 pages, which is called *Leksykon geomatyczny* ‘Lexicon of geomatics’ and the English-Polish part, which is the glossary of terms presented in the main part (titled *The English-Polish Dictionary of Geomatics*).

The Polish-English part covers nearly 600 entries which are arranged in the alphabetical order. Each entry includes a term in Polish, its English equivalent, definition of the term in Polish which is completed with information on the origin of the term or related concepts (introduced with the arrow). Terms are capitalized, whereas equivalents are italicized. The dictionary encompasses 50 pictures that illustrate and clarify the meaning of certain terms (Fig. 10). Some entries are described in great detail, for example *GPS*, where not only the structure of the system but also its operation is discussed. For terms, which seem to be culture-specific, no equivalents were provided, e.g. *REGON*, which is Polish National Official Register of Business Entities.

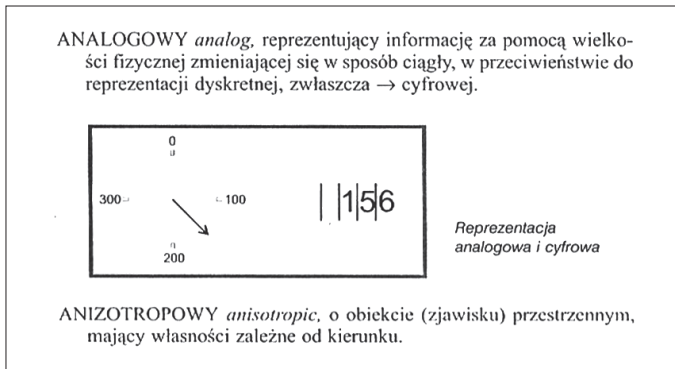


Fig. 10. Presentation of data in the main part of *Lexicon* (2002)

Source: [6]

The second part of the dictionary, i.e. the English-Polish glossary counts as many as 25 pages. The entries consist of the italicised English terms or acronyms, followed by the capitalised Polish equivalent, which is in fact, the Polish headword in the *Lexicon* (Fig. 11).

Gaździcki [6] highlights that the lexicon is an interdisciplinary publication which may be useful in teaching and studying subjects that are related to Geoinformation, reading and understanding professional literature in English and in translating from English into Polish, and vice versa.

<i>Model, topological network</i>	MODEL TOPOLOGICZNY SIECIOWY
<i>Modem</i>	MODEM
<i>Monocomparator</i>	MONOKOMPARATOR
<i>Mortgage</i>	HIPOTEKA
<i>Multimedia communication</i>	KOMUNIKACJA MULTIMEDIALNA
<i>Multispectral</i>	WIELOSPEKTRALNY
<i>Murphy's law</i>	PRAWO MURPHY'EGO

**Fig. 11.** Presentation of data in the English-Polish part of *Lexicon*

Source: [6: 123]

*Lexicon of Geomatics* was published on-line on the website of the Polish Association for Spatial Information in 2004 as *Internetowy leksykon geomatyczny* 'Internet Lexicon of Geomatics' [5].

### 3. Conclusions

The comparison of land surveying dictionaries reveals that the majority of dictionaries are actually glossaries as they provide only terms with their equivalents with very little or no information on the meaning of terms. Only *Leksykon geomatyczny* provides definitions of terms. Most dictionaries have Polish as the main language, which means that the dictionary was originally compiled in Polish and then indices in foreign languages were added to it, or a similar foreign part was created. It is especially visible in the case of the oldest dictionaries that provide more information in the Polish part than in other languages.

It is important to note that many authors of the dictionaries noticed the need of introducing subject field specification to dictionaries which enables to give a more precise meaning of terms. Most dictionaries presented in this article cover between ten and seventeen fields that are related to land surveying. *Lexicon of Geomatics* is the exception. It is more specialised than other dictionaries and its scope is narrowed to such fields as remote sensing, global positioning systems and geographic information systems. It may result in the small number of entries in this dictionary. After 2000, we can observe a distinct move towards electronic dictionaries as many updates of dictionaries published after this date, had been released either in the electronic form [13] or in on-line form [5].

To summarize this discussion, *Polsko-angielski, angielsko-polski słownik z zakresu geodezji, map i nieruchomości* (2010) seems to be the best choice for surveyors at the moment as it is up-to-date, has the greatest number of terms, provides subject field specification and related terms. It is available on the market for a very reasonable price.

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