By Patricia Brenes

IN MY OWN TERMS

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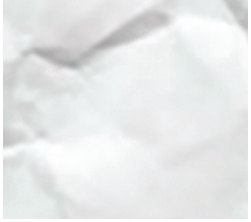


Introduction

The idea for this eBook came when my colleague, Kathy Forest, suggested that I convert my blog, inmyownterms.com, into an eBook. Transferring three years of blogging into one eBook is impossible; I therefore have made a special selection to answer the questions that arose for me when I took my first steps in Terminology. Whether you are a translator or work in a different field, my hope is that this collection of posts will give you a better idea about this subject and help you decide if Terminology is a field you would like to explore further.

When I first started looking for information on Terminology, I found that the information was scattered here and there, and it was a very painful process trying to understand the concepts from a beginner's perspective. This had been bugging me for a while because, to me, Terminology was an abstract concept and I always wondered what a terminologist really did. Do I have to study linguistics to become a terminologist? Where can I get certified? Is it worth it? (It sure was!).

A second motivation for creating this eBook is that, being originally from Costa Rica, I wondered if students from my country and other Latin American countries were receiving training in Terminology. In many universities, Terminology training is yet to be added to translation curricula. Professor Patricia García Ces wrote an article in 2007 about the need to teach Terminology in Argentina since, in her own words, "Translation graduates complete their studies with the idea that terminology is a mere collection of technical words." [my translation]

I hope that my selection is appropriate and that you also become a Terminology Lover, like many of us who have come to enjoy this profession/passion. As always, you are welcome to send me your comments and feedback to my blog's email inmyownterms@yahoo.com.

Please note that the texts in blue are hyperlinks, so that you can read more about the topic being discussed.

Acknowledgements

It is very difficult to thank everybody without forgetting someone special. But I will start with the beginning of my project to write a blog on terminology. Gabriele Sauberer and Blanca Nájera, Director and Deputy Director, respectively, of Termnet, are first on my "guilty" list. As I didn't have any project at hand, they agreed that I could create a blog in lieu of a final Terminology project. The idea grew out of the first lessons I took to become Terminology Manager and I am thankful that they saw the potential.

Then comes Rodolfo Maslias, Head of Terminology Coordination Unit (TermCoord) of the European Parliament; Maria Pia Montoro, Terminologist and Web Content Manager at TermCoord and author of the terminology blog WordLo (recremisi.blogspot.com); and Licia Corbolante, Italian terminologist and localization specialist and author of the blog Terminologia etc (blog.terminologiaetc.it). They were the first to motivate and support me by retweeting and sharing my blog posts widely, and by introducing me to key players in the field of Terminology. I had the honor to meet them personally and not only are they outstanding professionals but also caring human beings. My thanks to all TermCoord staff who made me feel at home during my two visits there. Those are friendships that last forever.

To my boss, Claudia Engle, Head of the Translation Section of the Inter-American Development Bank, for encouraging and supporting my career and for all her great advice and infinite patience. To each and every colleague in the Translation Section. They all have a special place in my heart as they supported me from day one and helped me revise my posts and gave me useful feedback.

To all my followers, subscribers and friends in and out of the social media network, who are always there to give words of encouragement, this eBook would not exist if it weren't for the messages that I receive from all of you. Special thanks to Luis Alonso Alvarez for designing this eBook and to professional translator Susana Raine for proofreading and doing the final edit.

For me, family is always first and this last acknowledgement is extra special. To the most amazing husband in the world, Sergi Raneda, who has always been so patient with me. We spent endless weekends at home because I had to work on my blog, or I was not paying attention to him because I was tweeting and retweeting. To my brothers and sisters, nephews and nieces, and other family members who always support me from afar; and most importantly, to my parents, Omar and Isabel, wherever you are in the universe, thank you for your sacrifice and love.

Common Terminology Abbreviations and Acronyms

The Terminology field is not free of the common practice of abbreviated forms, so I share below a list of abbreviations and acronyms that you might come across during your Terminology readings.

#t9y	Twitter hashtag for terminology
#xl8	Twitter hashtag for translation
AMTA	Association for Machine Translation in the Americas
ANSI	American National Standards Institute
ATE	automatic term extraction
ATR	automatic term recognition
BNC	British National Corpus
CAT	computer-assisted/aided translation
CEN	Comité Européen de Normalisation (European Committee for Standardization)
CL	controlled language
CMS	content management system
CTE	contrastive term extraction
DCA	Data Category as Attribute
DCS	Data Category Specification
DC	Data Category
DCR	Data Category Register
DCS	Data Category Selection
DCT	Data Category Registry (ISOcat);
DCTN	Data Category as Tag Name
DIN	Deutsches Institut für Normung (German institute for standardization)
DTD	Document Type Definition
EAFT	European Association for Terminology
EAFTerm	East Asia Forum on Terminology
EDI	electronic data interchange
ERP	Enterprise Resource Planning
ET	equivocal term
ETIS	European Server of Terminological Information
ETSI	European Telecommunications Standards Institute
FBT	Frame-Based Terminology
FDIS	Final Draft International Standard (ISO)
FE	Frame element (FBT)
FRL	Frame representation language (FBT)
G11N	Globalization
GDT	Grand dictionnaire terminologique

GTW	Association for Terminology and Knowledge Transfer
GUI	Graphical User Interface
HTML	Hypertext Markup Language
I&D	information and documentation
I18N	Internationalization
IATE	Inter-Active Terminology for Europe
IDF	Inverse Document Frequency
IEC	International Electrotechnical Commission
Infoterm	International Information Centre for Terminology
IR	information retrieval
ISO	International Organization for Standardization
ISO/TC	ISO's Technical Committee
ISO/TC 037	ISO's Technical Committee "Terminology and other language and content resources"
ISOcat	ISO's data category registry (software and database)
IT	Information Technology
ITU	International Telecommunication Union
IULA	Institut Universitari de Lingüística Aplicada de la Universitat Pompeu Fabra
JIAM-CATT	Annual Meeting on Computer-Assisted Translation and Terminology – Réunion annuelle sur la terminologie et la traduction assistée par ordinateur
KBES	Knowledge-Based Expert System
KIF	Knowledge Interchange Format
KWIC	keywords in context
L10N	Localization
LE	Language Engineering
LGP	language for general purposes
LISA	Localization Industry Standards Association
LM	linguistic marker
LMF	lexical markup framework
LOK	language for ontological knowledge
LSP	language for special/specific purposes
LT	language technology
LU	lexical unit
MAHT	machine-assisted human translation
MARTIF	Machine-Readable Terminology Interchange Format
MATER	Magnetic Tape Exchange for Terminological/Lexicographical Records
MT	machine translation
MTCF	Microsoft Terminology Community Forum

MTE	manual term extraction
MWU	multiword unit
NLP	natural language processing
OASIS	(OASIS Ontologies) Organization for the Advancement of Structured Information Standards
OK	ontological knowledge
OLIF	Open Lexicon Interchange Format
OMG	object management group
OML	Ontology Markup Language
OSCAR	Open Standard for Container/Content Allowing Re-use
OTELO	Open Translation Environment for Localization
OTEXT	text handling interchange
PM	project manager/management
POS	part of speech
QA	quality assurance
QC	quality control
RE-ALITER	Red Panlatina de Terminología (IT, CA, ES, FR, GA, PT, RU)
RITerm	Red Iberoamericana de Terminología Rede Ibero-americana de Terminologia Xarxa Iberoamericana de Terminologia
ROI	return on investment
SALT	Standards-based Access to Multilingual Lexicons and Terminologies
	Societat Catalana de Terminologia
SEO	search engine optimization
SGML	Standard Generalized Markup Language
SHOE	Simple HTML Ontology Extension
SKU	specialized knowledge unit
SL	source language
SME	subject matter expert
SQL	Standard Query Language
ST	suggested term
TBX	TermBase eXchange
TC	term candidate
TDB	terminological database
TDC	terminological data collection
TE	term extraction
TEnT	Translation Environment Tool

TERM-CAT	Catalan Terminology Center
Termisti	Centre de recherche en terminologie de l'Institut supérieur de traducteurs et interprètes de Bruxelles
TERMI-UM	(TERMIUM Plus) Government of Canada's terminology and linguistic data bank
TermNet	International Network for Terminology
TKB	terminological knowledge database terminological knowledge base
TL	target language
TM	terminology management
TMF	Terminological Markup Framework
TML	Terminology Markup Language
TMS	Terminology Management System
TNC	Swedish Centre for Terminology
TO	terminology owner(s)
TP	terminological project
TT	terminology team target text
TU	terminological unit
UDC	Universal Decimal Classification
UML	Unified Modeling Language
UT	unequivocal term
UZEI	Basque Lexicography and Terminology Centre
XML	eXtensible Markup Language
XOL	XML-based Ontology Exchange Language

Twitter Handles and Hashtags Relevant to Terminology

Before I give you my list of handles and hashtags, you probably know that both handle and hashtag in Twitter are good examples of Terminologization (see Chapter IV). So here is a short history of their origin.

CB radio

The term handle comes from the CB radio system (Citizens Band radio) that originated in the United States in 1945 as a personal radio service to permit citizens a radio band for personal communication. It was the slang word for a user's radio name (alias). CB was the social network at one time.

The term hashtag was used in 1988 on the Internet Relay Chat (IRC) to categorize items such as images, messages, videos, and other contents into groups so that users could find them more easily. It was Chris Messina who first proposed to use hashtag for Twitter groups. Although Twitter rejected his idea saying that it was a term for nerds, Stowe Boyd (as he himself claims in one blog post) was the first to use the term hashtag to denote those "channels" of communication.

Hashtags:

#t9y – #terminology

#terminologymanagement

#TC37

#IATE

#tttconf (International Translation Technology Terminology Conference)

#1nt (interpretation)

#data

#l10n (localization)

#language

#lexicology

#linguistics

#tech (technology)

#techxl8 (technical translation)

#xl8 – #t9n – #translation

#xl8tools

And here are the handles of terminologists, companies, organizations, and individuals who regularly tweet about Terminology.

Handles:

@anambennasar

@BesharatFathi (teletermino)

@CalamburTrad (Marta Prieto)

@EAFT

@GornostayT (Tatjana Gornostaja)

@IULA_UPF

@logosnat

@mulleflupp (Raphaël Toussaint)

@nundrea (Núria de Andrés)

@olgajeno (Olga Jeczmyk)

@Paul_Translator (Paul Smith)

@rodolfomaslias

@sdltrados

@termcat

@termiguelsaib (Miguel Sánchez)

@terminologia (Licia Corbolante)

@TermList

@TermNet

@TermServ

@tildeCom

@tmtranslators

@wordlo (Maria Pia Montoro)

@Your_Term

Sources and further reading:
Bennet, Shea. The History of Hashtags in Social Media Marketing [INFOGRAPHIC] [consulted on November 8, 2015]
Citizens band radio. In Wikipedia [consulted on November 8, 2015]
Why is a Twitter handle called a handle? In Quora [consulted on November 8, 2015]

I.

First Notions on Terminology

This collection of posts starts by talking about the "fear" you might experience when you first approach Terminology. A series of definitions and differentiations of terminology follows, including an explanation of why Terminology is considered a science. This is followed by a description of what terminologists around the world do, and who the users of terminology are, to give you a general idea of how terminology permeates different study areas. Then a must-have source: a brief description of TermTerm, a termbase that includes all the terms used in the field.

A. Overcoming terminologiphobia: Causes and cures

It was professor Mark D. Childress who referred to this term in his article "Terminologiphobia," published in June 2006 in MultiLingual Magazine. It was a fun article about how he had to deal daily with the terminology phobias that students had when encountering terminology management for the first time.

I smiled when I read his article because I remembered the first time I myself approached the overwhelming task of learning about terminology. Why is this fear so common among translators and other professionals who deal with terminology every day? From a visit to the dentist to a call to our bank or lawyer (well, unless you haven't paid your debts, of course!), we deal with terminology every day!

The funny thing is that it is precisely that contact with specialized terminology that has made it so scary. We have always wanted our doctor to go straight to the point and "speak our language," and Childress suggests that those negative experiences with terminology make people fearful. A powerful psychological factor, I would say!

Professor Childress makes a suggestion to Terminology teachers and instructors, which is to make it a more approachable and practical subject.

This is why I created **In My Own Terms**, and I did what had to be done to overcome my fear: start slowly and with the basics. You have access to great information on the Internet today. Check out my basic Readings in Terminology, visit TermCoord's webpage to learn about their traineeships and find out about the universities that offer courses, or just check out their e-books and follow their blogs for interesting and entertaining posts. Check out BIK terminology for practical cases in Terminology work, and if you speak Italian, the blog by Licia Corbolante, Terminologia etc, is also full of practical cases. (If your Italian is basic like mine, she has this great tool that allows you to double click on any word and it gives you a definition!)

Maybe after a few clicks here and there you will realize, as Professor Childress says, that you have been a Terminologist for far longer than you ever thought!

Sources and further reading:
Childress, Mark D. Terminologiphobia. Multilingual Magazine, June 2006 (page 86).

B. What is Terminology?

When you study Terminology, a differentiation is always made in its definition because the word refers to three concepts: terminology as the study of terms, terminology as the practical aspect of doing terminographical work, and terminology as a set of specialized terms.

Below you will find some definitions I have gathered from some of the major sources available:

As a field of study:

1. ISO 1087-1:2000 defines terminology as the "science studying the structure, formation, development, usage and management of terminologies in various subject fields."

2. Glossary of Terms used in Terminology: "The study of terms, concepts, and their relationships."

3. Pavel's tutorial: "The language discipline dedicated to the scientific study of the concepts and terms used in specialized languages."

4. TerminOrgs: "It is the name of an academic and professional discipline associated with studying and managing terms. Considered a branch of linguistics, terminology is closely related to lexicology (defining words and creating dictionaries), but with a focus on concepts (analysis, definition, denotation) in special domains. The field of terminology typically supports content creation, translation and other forms of knowledge management."

5. Birger Hjørland: "Terminology (with capital T) is the study of terminology."

6. UN's Guidelines for terminology policies: "Terminology science is the subject field that investigates the structure, formation, development, usage and management of the terminologies in various subject fields, and that prepares the methodological foundation for many applications."

As terminographical work:

The role of a terminologist is to gather the terms covered in a specialized field in one or more languages, select a term or coin a new one, and compile them in a terminological collection that can be recorded in terminological databases for future use. The terminology work that s/he performs is based on terminology rules and procedures.

Terminology work can be ad-hoc or systematic. Ad-hoc terminology is prevalent in the translation profession, where a translation for a specific term (or group of terms) is required quickly to solve a particular translation problem. Systematic collection of terminology deals with all the terms in a specific subject field or domain of activity, often by creating a structured ontology of the terms within that domain and their interrelationships.

M. T. Cabré mentions five stages of terminology work and makes a differentiation with the terminology work using corpus and computer tools, more specifically for stages one and three.

1. Definition and delimitation of the work: Subject is presented and knowledge on subject matter is acquired. The work is delimited by subject, target group, objective and scope. The work is also defined in terms of the macro and micro structure of the work (type of entry, order of entries, linguistic and extralinguistic information available for each entry, etc.). This last step is excluded for a computerized process.

2. Preparation of the work: More information is acquired and selected and the knowledge is structured versus macro and micro conceptual structuring, and the work plan is prepared.

3. Elaboration of the terminology: This stage includes five steps for manual terminology work: compilation of work corpora, terminological extraction, creation of the extraction records, analysis and revision of extraction records, and elaboration of terminological records.

In a computerized procedure, the steps vary in process and number: compilation of

the work corpus using digitalized text corpora or the Internet; structural, morphological and syntactic markup of the texts (optional, according to the corpus analysis program used); disambiguation (also optional); automatic and assisted terminology extraction; revision or assisted terminology extraction; revision of the term list; automatic information transfer to a database; and manual or assisted completion of the records.

4. Work supervision: Covers two steps: analysis and revision of terminological records and resolution of problematic cases.

For multilingual terminological work, M. T. Cabré further explains that terms that belong to the same concept should be correlated for every language, making sure that definitions and illustrations are used for verification of concepts. The terminologist must fill in all the blanks in every language by consulting specialized works and subject-matter experts, as necessary.

5. Presentation of the work: Also covers two steps: presentation of the terminological glossary and edition.

Sources and further reading:
Cabré, M. T. (1999) "Terminology in practice: Terminography." Terminology. Theory, methods and applications. Amsterdam: John Benjamins. 115-159.
COTSOES. Recommendations for Terminology Work
Sager, J. C. (1990) A practical course in terminology processing. Amsterdam: John Benjamins. 152-153.
Terminology. Wikipedia [consulted on 29/5/2017]

As a set of terms:

1. Maria Teresa Cabré: "An interdisciplinary field of enquiry whose prime object of study are the specialized words occurring in natural language which belong to specific domains of usage."

2. isocat.org: A "set of designations belonging to one special language" (ISO 1087-1:2000). The same definition is found in the glossary of IATE TermCord (Terminology Coordination Unit of Inter-Active Terminology for Europe).

2. TerminOrgs: "A set of terms in a specialized area, such as "networking terminology" or "automobile manufacturing terminology."

3. Pavel's tutorial: "The set of special words belonging to a science, an art, an author, or a social entity."

4. Birger Hjørland: "Terminology (with small t) is a technical vocabulary, i.e., a collection of terms, which has a certain coherence by the fact that the terms belong to a single subject area."

5. Silvia Cerella Bauer: "A vocabulary of words, terms and phrases that are used for a specific industry, organization, or field of study."

C. Terminology, terminography, lexicology, lexicography

These concepts, all derived from applied linguistics, are usually subject to debate. The following descriptions may seem simplistic to the more experienced person, but my

intention is to provide simple explanations and, if your curiosity is piqued, for you to go to the more detailed sources below.

Terminology is the study of special-language words or phrases associated with particular areas of specialist knowledge (also called "language for specific purposes," LSP). It is concept-based, which means that terminology work starts with the concept and then tries to find the terms. See MySmartTerm1 for more definitions of terminology and my section on Termbase for more details on the concept-based principle.

Terminography is concerned exclusively with compiling collections of the vocabulary of special languages. The outputs may be called terminology, specialized vocabulary, glossary, or termbase. The approach is descriptive but it can also be prescriptive (as it may be subject to standardization), particularly in scientific, technical, and medical work where safety is a primary consideration.

Lexicology is the study of words, also called "general purpose language," GPL, (not involving specialist knowledge). Dictionaries, for example, are the main product of lexicology work, and you start with a term which may contain more than one concept.

Lexicography is the writing of the word in some concrete form, i.e., a dictionary. It is also called applied lexicology because it is the output of the lexicology process. The approach is only descriptive, not prescriptive.

The treatment of synonyms, polysemes, and homonyms is different in terminography and lexicography:

Terminography (e.g., glossary, termbase)	***Lexicography (e.g., dictionary)***
Synonyms of the same subject field are grouped together (in the same entry in a termbase).	*Synonyms are presented separately, scattered throughout the dictionary.*
Polysemes and homonyms are presented separately (different entries) because they represent different concepts.	*Polysemes are presented in one entry (dictionary entry) and homonyms are presented as two headwords and grouped together.*

In terms of grammar, a dictionary (lexicology's main output) may include any word, while a glossary or a termbase (terminology's outputs) only include specialized-language words or phrases.

Sources and further reading: An Introduction to Lexicography by D.P. Pattanayak;
Terminography and Lexicography by Anja Drame (TermNet);
The Importance of Terminology by the Department of Computing of the University of Surrey (UK),
Lexicography by the Wikipedia.

D. Is this a glossary, a lexicon, or a thesaurus? How to tell them apart.

We have all encountered different types of controlled vocabularies and the truth is sometimes we don't know if we are dealing with a glossary, a thesaurus, or a lexicon because in real life these terms tend of be used interchangeably, even in other languages. The French Wikipedia says that "Le terme glossaire est souvent confondu avec lexique", and the Financial

Times Lexicon says in its introduction that you may "suggest new terms for this glossary."

In my post on the glossaries of the Pan-Latin Terminology Network (Realiter), in the cover pages, most of the words "lexicon" were translated into English as "glossary," and not "lexicon." Some of them had definitions; some of them only had terms. So, how to know if we are using the right term? Indeed, it's not an easy task but I have gathered some definitions that I think will help us get a clearer differentiation. Do you have better definitions? Feel free to share them!

Term	Preferred definition	Source
Glossary	Alphabetical list of terms in a particular domain of knowledge with the definitions for those terms	TermTerm
	Terminological dictionary that contains a list of designations from a subject field, together with equivalents in one or more languages. NOTE: In English common language usage, glossary can refer to a unilingual list of designations and definitions in a subject field.	IATE (ISO 1087:2000)
Lexicon/ vocabulary	A stock of terms used in a profession, subject, or style; a vocabulary.	The Free Dictionary. Merriam Webster also uses them as synonyms so, technically, a lexicon should not be a glossary.
Nomenclature	A system of generating new terms for a particular field. Nomenclature is a set of external rules. A good nomenclature system has few rules, all of which should be understood and applied, preferably with reproducible results, by more than one person.	A blogpost by Metallone explains the difficulties of differentiating nomenclature from terminology, and proposes working definitions for each. (Recommended)
Ontology	Ontology, like a thesaurus, is a kind of taxonomy with structure and specific types of relationships between terms… relationships are greater in number and more specific in their function. They are used in more complex information systems, such as the Semantic Web.	Taxonomies SIG.org
Taxonomy	A simple hierarchical arrangement of entities where you have a parent-child kind of relationship.	Dimitrov, Marin. What's the difference between ontology and taxonomy? (Quora)
	Taxonomy is the simplest variant [of controlled vocabularies] as it contains only terms that are organized into a hierarchical structure.	What are taxonomies? By Jordan Cassel
Taxonomy vs ontology	On the technical side, ontologies imply a broader scope of information. People often refer to a taxonomy as a 'tree' and, extending that analogy, I'd say that an ontology is often more of a 'forest.' An ontology might encompass a number of taxonomies, with each taxonomy organizing a subject in a particular way.	New Idea Engineering
Terminology	Set of designations belonging to one special language	ISO 1087-1:2000

Term	Preferred definition	Source
Thesaurus	A taxonomy that includes related and synonymous terms/words, or "associative relationships" as explained in a blog post on this topic by The Accidental Taxonomist. They go on to say that "This is largely true, and I will add that a thesaurus also must have equivalence relationships (between a "preferred term" and its synonyms or nonpreferred terms), whereas synonyms/nonpreferred terms are merely optional in taxonomies, depending on the taxonomy size. ISO 25964 definition for thesaurus: "Controlled and structured vocabulary in which concepts are represented by terms, organized so that relationships between concepts are made explicit, and preferred terms are accompanied by lead-in entries for synonyms or quasi-synonyms."	
Topic map	A standard for the representation and interchange of knowledge, with an emphasis on the findability of information. Similar to concept maps and mind maps in many respects, though only Topic Maps are ISO standards. Topic Maps are a form of semantic web technology like the RDF (Resource Description Framework).	

Sources and further reading:
The Basel Register of Thesauri, Ontologies & Classifications (BARTOC.ORG)

E. The science of Terminology

Although a relatively "new" field, the truth is that the systematic ordering of specialized terminologies to communicate expert knowledge has been carried out for many decades, as evidenced by the early technical dictionaries produced by subject experts such as Carolus Linnaeus with his Species Plantarum (1753) and Systema Naturae (1759); Heinrich Paasch with his maritime dictionary of 1885, and Alfred Schlomann with his 21 illustrated technical dictionaries that took him 35 years to complete from 1906 to 1940.

Interestingly enough, these and other experts were not translators, they were subject experts who developed methodologies to do terminology work that became the foundation for more active research in the field. Thanks to their efforts, people such as Helmut Felber, Ernest K. Dresen, and Eugen Wüster not only developed the methodology further but helped bring Terminology to the forefront of the scientific world. Wüster gave Terminology its own scientific theory, the **General Theory of Terminology**, which clearly defined its object of study and concepts (in contrast with words, which are the object of study of Linguistics). His theory completely differentiates Terminology from Linguistics on different fronts.

Other theories have built on Wüster's theory, such as M. Teresa Cabré's **Communicative Theory of Terminology**, which consolidated it as an autonomous scientific discipline. Mind you, there are individuals who consider Terminology a mere practice because it owes the theoretical bases to other disciplines, such as Linguistics, but thanks to terminologists such as Wüster and Cabré, the activities performed to study terms can be communicated, described, and justified according to their theories which are based on accepted principles. Some others argue that it is not fully autonomous because it relies on other disciplines, but what discipline is

entirely pure? Most of them feed on each other. Economics, a long-standing profession, is still considered by some a pseudoscience. According to Orlando Patterson, "the American public is decidedly more mixed toward economics, ranking it well below established scientific fields such as physics or biology, and even below sociology."

If you are a translator, you know the initial struggle with the translation career. The same question as to whether translation was a scientific discipline was raised in the 1970s and 1980s. American scholar, James Holmes, in his paper "The name and nature of translation studies," claimed that a prerequisite to call it a science was the "existence of communication channels such as conferences and scientific publications." So, this is yet another rationale upholding the fact that Terminology is indeed a scientific discipline. You only need to take a look at TermCoord's webpage to find all the evidence.

Terminology has gained a great reputation thanks to the work of these and other experts and linguists and it is likely to become a sought-after career among linguists and nonlinguists in the coming years. For a summary of terminology theories, read my post Terminology Theory in Easy-to-Swallow Pills.

Sources and further reading:
Patterson, Orlando. Overreliance on the Pseudo-Science of Economics in The New York Times, February 9, 2015.

F. Terms used in Terminology

TermTerm is a freely accessible multilingual terminology database containing about 1,600 terms: central concepts of terminology work and definitions taken from relevant terminology standards, in German (1,350 terms), English (1,900 terms), French (950 terms), and Greek (1,100 terms). It is available in SDL MultiTerm Online and quickTerm.

The original data is the result of a collaboration between students of the Masters' degree program "Terminology and Language Engineering" of Cologne University of Applied Sciences in Germany, the Hellenic Society for Terminology (ELETO), and elcat (an innovative e-learning system for terminology launched by the Cologne University of Applied Sciences in collaboration with selected industry partners and the International Network for Terminology -TermNet-).

Over the course of several projects, these institutions found it necessary to clarify the terminology of Terminology and to prepare this data into a terminological database. This is a must-have among your favorites.

G. Who uses terminology?

A few years ago, I created this table based on a lesson on terminology users for the "Foundations of Terminology" course at Pompeu Fabra University (see source at the end of this section). I was reading through the materials and thought that this would be a very interesting piece of information to share here. I think this table proves that Terminology has a bright future as it covers many professional fields and it is very encouraging for young language lovers who are looking to follow a path in Terminology. It is always important to keep your users in mind because once you start your terminology work, it is of key importance to identify your users and their needs in order to define what information should be included in your glossary or termbase.

For example, a translator may need definitions, but subject experts might not require them. So, I hope this gives you a better idea of who the users of terminology are.

Group 1		Potential users
Group 1a.	Professionals who collect terms and make specialized dictionaries or include them in general dictionaries, or develop new terms to update a lexicon	Terminologists Lexicographers Specialized neologists
Group 1b.	Professionals who use terminology as resource for non-terminological work	Specialists Mediators LSP teachers Translators Information science professional Etc.
Group 2		
Group 2a.	Professionals who use terminology directly to express their knowledge and communicate with other professionals	Specialists/experts
Group 2b.	Professionals who use terminology to facilitate the representation or communication with other interlocutors	Language mediators Translators Interpreters Supervisors Linguistic experts Terminology experts Journalists Etc.
Group 3	**Professionals for whom terminology is**	
Group 3a.	a functional system of representation and standardization	Standardizers Information science professionals Knowledge engineers Linguistic engineers Etc.
Group 3b.	a natural means of expression	Translators Interpreters Specialized supervisors and writers Linguistic experts Terminology experts Science journalists LSP teachers Terminology professors Planners Etc.
Group 4	**Group of professionals who use terminology as an object of their work**	
Group 4a.	For research	Philosophers of knowledge Cognitive psychologists Linguists Translation researchers Terminology theoreticians Semiologists Etc.
Group 4b.	As practice	Terminographers Software engineers Etc.
Group 4c.	As a didactic object	Terminology professors Specialty professors Etc.

Source: IULA. Terminology: Definition and Functions [online]. In Grup IulaTerm. Online Postgraduate Course of Foundations of Terminology. Barcelona: IULA. Universitat Pompeu Fabra, 2014. http://iulaonline.iula.upf.edu

II.

The Multifaceted Terminologist

This chapter presents a general overview of what a terminologist does. As for any profession, different profiles exist so I have included a few descriptions I found online that give us a better idea of the multifaceted terminologist.

One of the first questions I asked myself when I learned about this profession was:

A. What does a terminologist do?

Terminologist Uwe Muegge shared in Twitter the result of a joint expert collaboration among several organizations and individuals regarding role descriptions for terminologists, translators, interpreters (spoken and signed language), and transcriber-translators. Below is their description for terminologists, which I have copied from their document. Read other role descriptions and more information by downloading the PDF here.

"Terminologists specialize in identifying the terms that are used by subject field experts when writing documents and for oral communication within individual disciplines. They create and disseminate terminological resources by recording terms or using specialized software to 'extract' them from texts. They document terms and related concepts by crafting definitions, locating meaningful contexts, and providing guidance for usage. Frequently, terminologists play a role in naming new concepts or new products. They are also experts in using a variety of terminology management software solutions.

Terminologists may work in monolingual environments or they may create terminology resources that provide translation equivalents in two or more languages. Terminologists are often responsible for supporting or enforcing the use of standardized terms in an organization or publication environment. Today, terminologists are at work in foreign language services (translation and interpreting), in technical writing, in standardization, patent, and legal services, in information and documentation, in product planning and marketing, in research and development, in language planning and language maintenance, and in publishing houses (especially for dictionaries).

Many translators and interpreters are trained in the procedures for documenting multilingual terminology, but many terminologists also have training as technical writers, lexicographers, information scientists, and other subject field experts. In addition to courses in terminology management that are offered in translator training and technical writing programs, relevant courses include information management and semiotics, a branch of philosophy. National and international professional organizations conduct special training seminars and workshops, offer certification programs, and some universities offer graduate degree programs in terminology studies."

B. Job description

The following two sources will clear up any doubts you may have. Needless to say, every job description is different, depending on your client's needs.

The first is the "Professional Profile for Terminologists" from the Council for German-Language Terminology (RaDT). It has four sections: Introduction, What a Terminologist Does, Prerequisites, and Training and Qualifications (the latter refers to instruction in German).

The second was found in tcworld.info (a magazine for international information management) and it's an article by Dr. Klaus-Dirk Schmitz called "The Terminologist." It includes sections on the following topics: Who works with terminology? What does the job profile look

like? What are the tasks? What is the required knowledge? What are the existing educational or training paths? What is the study duration? Where is further education and training available? (also referring to instruction in German) plus Reference Literature.

"What does it take to be a terminologist" is a Termcoord article that briefly provides a general idea of a terminologist's work.

A March 2015 post on this blog provides an updated role description. Read "New Role Description for Terminologists" here.

The Pavel Tutorial, mentioned elsewhere in this book, also gives a description of the Terminology Manager's role.

The UN explains here what its terminologists do.

The following links are to job vacancies that are no longer open but that will give you an idea of a terminologist's job at the United Nations, at IBM Canada, and at the International Communication Union (ICU), a leading organization that works with standards.

What is a terminologist? by the Canada Translation Bureau.

Read an interesting discussion on LinkedIn "Struggling with the definition of Terminologist"

C. From translator to terminologist: Terminology as a professional career

There are translators who manage terminology and there are those who have become full-time terminologists. More and more translators and other professionals are becoming terminologists or have dived headfirst into terminology research and work.

Proz.com held its Annual Virtual Conference 2015 "Managing glossaries and terminology" in the context of International Translation Day. It involved the participation of renowned guest panelists who have been in the translation business for a long time and who eventually became involved in terminology work and research, some even working as full-time terminologists. Jeff Allen was the moderator, and guest panelists were Barbara Inge Karsch, Michael Beijer, Jim Wardell, and Mirko Plitt. (Click on the link at the end of this post to read their full bios).

Terminologist Barbara Inge Karsch (whom I interviewed for my blog) said she started out as a translator and later became a terminologist for large companies such as Microsoft, after which she started her own terminology consultancy services company. She loves terminology because, in her words, she can "help people solve problems" and she's an "advocate for the difficult task that freelance translators have to accomplish."

Jim Wardell, a German-to-English translator for almost 40 years, indicated that the longer he is in the translation business, the more he realizes that "Terminology is excruciatingly important, getting it right, being fanatical about terminology, because this is what sets you, as a translator, apart from all the others who don't do their homework, and that's what makes your translations shine. My passion is to make sure that I do my homework and to sermonize to others to be good and do it." Some translators don't spend enough time doing their homework, that is, searching for the right terminology, and rush through their translation work just to get it done on time. He gave special advice to newbie translators in the sense that they should start doing their terminology homework early by recording every term in their termbase so that they don't come back later on to haunt them.

According to Mirko Plitt, a German linguist has worked as a translation reviser and been involved in localization for a long time, "Terminology was not a question of technology but about how people work together. What I find interesting about Terminology is not only a very genuine, integral, and essential aspect of what translation is about but an important tool to bring together the different stakeholders into the translation process, to make the people understand what something is about and how to say it in a different language. It's non-trivial. It's a combat that is never won; you must keep fighting it. It's representative of what translation is about. It's complex and you can be passionate about it."

Michael Beijer, a full-time professional translator and terminologist, has been a translator for nearly 20 years who soon realized that he had an obsession to collect dictionaries and glossaries. It made him mad to see source texts that were "messy" (which was about 80% of the time) in which authors would use six different terms for the same thing (misspelled, hyphenated, nonhyphenated). This made him think that he had to do something about it as it was driving him crazy. "Translation and Terminology are inextricably intertwined," he said. "Translating is the easy part as it comes naturally to you, but it is the terminology that trips you up. Sixty percent of my work is translation and the rest is terminology work." He is a "terminology private investigator," as Jeff Allen put it.

Jeff Allen is known for his work in controlled language writing for translation, machine translation dictionary building and post-editing, translation memory, among other things. As of late, he has been getting more and more involved in Terminology. He underlined the increased interest in Terminology among translators by pointing out that, at a recent event he attended, the Q&A session at the end consisted mostly of questions on terminology.

At the beginning, Jeff Allen mentioned that it seemed that people were too busy to sign up for the conference. Indeed, people are busy at that time of year but (in my opinion) it's also partly because translators, in general, don't seem to be paying enough attention to the potential of Terminology to boost their professional careers. Panelists agreed that we need to raise awareness about Terminology. Some translators rush to have their translations ready but they need to educate the client regarding the importance of doing thorough terminology work from the beginning.

As was often mentioned during the virtual conference, those of us who are involved in Terminology have found a new religion and have become Terminology fanatics. In my effort to raise awareness about the importance of Terminology, I invite you to watch the recording of this interesting and valuable conference to learn about their experience in becoming translators-terminologists. Click here to read their bios and watch the video.

D. Terminology as an added value for your resumé

More and more translators are starting to realize that they can't just keep writing job description resumés but rather need value-added resumés, which means they must find new ways to set themselves apart from the competition.

A little over two years ago, I started writing my blog on Terminology **In My Own Terms**. Since then, I have received many messages from translators who said it had not occurred to them that Terminology could be a way to advance their careers. So, what is all the hype? In the past years, the blogs that actively address Terminology have ranked among the 10 top language professional blogs in bab.la's annual competition, a clear indication of the increased interest in Terminology.

Experts agree that learning about Terminology is key to a successful translation career.

Rodolfo Maslias, Head of the Terminology Coordination Unit (TermCoord) at the European Parliament confirms it: "Terminology is an excellent choice for [...] a specialization for linguists."

As Terminology continues to get more and more attention, I believe new training opportunities will emerge. Therefore, if you don't know where to start, the first step is to stay informed and up-to-date. Subscribe to these blogs: TermCoord's blog is updated daily with the latest events and activities. WordLo by Maria Pia Montoro offers great insights into Terminology and a comprehensive list of terminology tools and systems. Terminologia etc by Licia Corbolante is in Italian and although I don't know much Italian, I find her posts brilliantly written with short and sweet practical cases of terminology. Besharat Fathi's blog Terminosophy: The Road to Terminology is the newest kid in the terminology blogging town, and a great place to learn a lot about Terminology theory. There is also an inactive blog that provides useful cases on terminology management that I visit regularly: BIK Terminology, by renowned terminologist Barbara Inge Karsch.

Once you get a better idea of what Terminology can do for you, you have more formal options, such as TermNet's Certification for Terminology Managers, which offers a basic and an advanced online course every year, and the School of Terminology, a one-week workshop that enables you to get certified on-site (usually in Germany or Vienna). The Pompeu Fabra University in Barcelona offers an Online Master Program in Terminology in English or Spanish, with the possibility of taking the courses separately in case you can't sign up for the full Master's program right away.

There are also videos that introduce Terminology in various forms, presented by renowned terminologists. You can also keep up to date by following the major players in Terminology in social media. Lastly, you can learn from the experts by reading the collection of interviews by TermCoord called "Why is Terminology your Passion?" I think this is a great way to learn about the different roles that terminologists play around the world.

Don't underestimate the power of Terminology. Offering terminology management to your clients will put you on the right track to a successful career. You should not only know how to manage terminology efficiently but also get more involved in the Terminology world to keep track of the latest trends. Let the Terminology bug bite you!

E. Getting a job as a terminologist

This is a topic that terminologist Besharat Fathi discussed in her blog post "Road to Terminology." In it, she presents a collection of 14 recommendations given by prominent terminologists such as Gerard Budin, Maria Teresa Cabré, and Klaus-Dirk Schmitz. Click here to read.

III.

History of Terminology

This collection of posts refers to the history of Terminology, for which I have chosen my three infographics that summarize the several phases of how it all started. I have placed them at the end of the chapter because, first, I want you to know how Terminology has evolved thanks to the intensive work by scientists who started gathering their technical terminology and the Terminology schools they founded. One of my favorite parts of my blog has been to write their biographies that tell us about the impressive work they did for the advancement of Terminology.

If you have been reading my blog for a while or already know something about the history of Terminology, you are probably aware that Terminology didn't start with linguists but rather with subject-matter experts who started compiling and standardizing terms with a view to improving communication amongst them and preventing duplication of efforts. It was thus practical experience that gave rise to different schools of Terminology in those times.

Also, If you have been reading my "Who is Who" biographies, you remember experts-turned-terminologists such as Carolus Linnaeus, **Swedish medical doctor and botanist** (1707-1778), Antoine-Laurent Lavoisier, **French chemist** (1746-1794), Heinrich Paasch, **German-Belgian nautical expert** (1853-1904), Alfred Schlomann, **German engineer** (1878-1952), Sergej Alekseevič Čaplygin, **Russian aerodynamics expert**, (1892-1942), Ernest K. Dresen, **Latvian/Russian-Soviet linguist** (1892-1937), Dmitrij Semënovič Lotte, **Russian engineer** (1898-1950), John Edwin Holmstrom, **English engineer** (1898-19-) Helmut Felber**, Austrian civil engineer** (1925-2005), and of course Eugen Wüster, **Austrian engineer** (1898-1977). They came from different schools and some were even doing terminology work in their own countries without knowing that others in other countries were doing similar work.

A. Classical schools

The classical schools of Terminology are the Vienna (Austrian) School, the Soviet School, and the Czech (Prague) school, all of which emerged from the work done by these experts. According to Maria Teresa Cabré, three approaches were taken by these schools:

- A first approach that considers terminology to be an interdisciplinary but autonomous subject at the service of scientific and technical disciplines.

- A second approach focusing on philosophy, which is primarily interested in the logical classification of concept systems and the organization of knowledge.

- A third approach focusing on linguistics, which considers terminology a subcomponent of a language's lexicon and special languages as subsystems of general language.

The **Vienna** or **Austrian School** was born thanks to the work of Eugene Wüster who in 1931 presented his thesis on the international standardization of technical language with emphasis on electrical engineering, at the Technical University of Berlin. His dissertation was the turning point for Terminology as a science. The International Standards Association (ISA) created the widely-known Committee 37 on Terminology. While living in Austria Wüster founded a private terminology research institute. The General Theory of Terminology was developed on the basis of his thesis, and its principles and methodologies –univocity, the synchronic approach, the onomasiological approach, and the standardization of terms– gave rise to what we know today as the Vienna School.

The **Czech** or **Prague School** is based on functional linguistics. As M.T. Cabré put it: "The Prague School is the most 'linguistics-centered' school," and it was founded on the theory

of literary language and the theory of cultural language. It was almost exclusively concerned with the structural and functional description of special languages, in which terminology plays an important role. It focused on the standardization of languages and terminologies, and its terminological work was linked to the Czech Language Institute (a part of the Academy of Sciences). Czech scientists and linguists focused on the theoretical and applied research of Terminology. According to M.T. Cabré, the School was led by Eduard Benes, Vilém Mathesius, Josef Vachek, Nikolai Trubetzkoy, and mainly Lubomir Drodz and Ferdinand de Saussure.

The **Russian School** was founded in 1933 by Dmitrij Semënovič Lotte and Sergej Alekseevič Čaplygin and gained momentum thanks to the translation into Russian, in 1935, of Wüster's thesis (four years after its publication). In 1961, D.S. Lotte published "Fundamentals of the Structure of Scientific and Technical Terminology." Lotte and Čaplygin also created the Scientific and Technical Committee on Terminology, which later published "Guide for the Preparation and Regulation of Scientific and Technical Terminologies." It focused on the standardization of concepts and terms in light of the problems associated with multilingualism in the former Soviet Union.

The three schools maintained close contact and collaborated with each other, and to them we owe the foundation of what Terminology has become today. New theories and approaches have updated and developed the traditional theory to take into account not only new technologies but also to adjust to new cultural and communicative needs. But as M.T. Cabré put it: "The universal validity of the premises established by the classical theory, which is indebted to the historical and scientific context when they were formulated, was thus questioned; but questioning them did not mean that their appropriateness for certain applications, subject areas and goals be denied."

Sources and further reading:
Cabré, M.T. Terminología. Teoría y Práctica.
Cabré, M.T. Terminology: Theory, Methods, and Applications.
Faculdade de Letras da Universidade do Porto. Notes on Terminology. MTSL. Canadian Translation Bureau
Herțeg, Crina. The contribution of the Prague School to the study of language.
Kast-Aigner, Judith. The terminology of the European Union's development cooperation policy. Gathering terminological information by means of corpora.
Terminology. Theory and Practices. A PowerPoint presentation. Unknown author.

B. Who is Who in Terminology: Biographies

Read the amazing biographies of some of the subject-matter experts who started working systematically with Terminology by creating technical dictionaries that followed some type of methodology. My blog includes 12 biographies under the section "Who is Who in Terminology." This has been one of my favorite sections since I created the blog. There are 12 biographies and counting!

C. Terminology history in infographics

I created the following three infographics to show the history of Terminology in a more entertaining way. Well, at least I had a lot of fun creating them!

Theory is the toughest part, especially if you don't have the linguistic background that most books require that you have. Been there, done that, got the t-shirt! But theory is important so I am always pleased to see the blog stats that indicate that they get the most views from readers. I try to write my posts in a way that is easy to understand, to give you a taste so you can to decide if you want to explore more. That is why most of my posts include my sources and recommendations for further reading. Learning is a lifelong process.

The birth of terminology

by inmyownterms

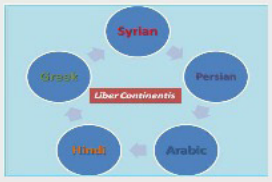
the first steps

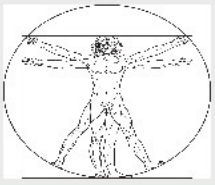
IT STARTS HERE

Thematic monolingual dictionaries were recorded as early as the year 2600 BC made by the Sumerians on clay bricks

Scribes selected and registered terms in subject areas as varied as cattle, common objects and deities and compiled a comprehensive dictionary by 2200 BC

By the end of the Pharaonic Empire (c. 1800 AD) the first dictionaries appeared in Egypt.



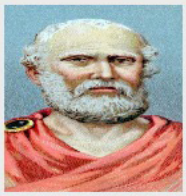


During the 6th century neologisms on animal anatomy were recorded by translators of Greek physician Galeno de Pérgamo

Monolingual and multilingual medical dictionaries were predominant, and in the 4th century, physicist Rhazés listed names of the human body and diseases in five languages in his book Liber Continentis

During the first Christian century, grammarian Herodianus and physician Herodotus prepared glossaries based on medical terms used by on Hippocrates to describe the human body

neologism



During the 9th century, physician Hunayn ibn Ishaq described in Syriac Greek medical terms taken from works by Hippocrates and Galen.

Nicole d'Oresme translated in 1370 a book by Aristotle and had to create terms that did not exist in French, such as aristocracy, monarchy, tyranny...

From term compilation to reflection on language, the first philosophical reflections were made by Plato when he wrote Cratylus on the origin and accuracy of words.

More To Come Soon ...

Source: Curso Básico de Terminologia by Lidia Almeida Barros. Editora da Universidade de São Paulo, 2004

THE BIRTH OF TERMINOLOGY: FROM TODDLER TO TEEN

In my own terms

Part II

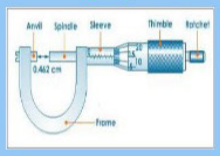
1

The need to refer to a group of words that designated elements belonging to a specific field of knowledge and a discipline to study it started during the Renaissance.

2

Nomenclature" appears in French in the 16th century as "glossary, list of words" and is often confused with "dictionary" (words pronounced, speech)

3



The English word "technology" went from being a mere "discourse on words" in 1615 to acquire a more refined status of "collection of terms belonging to an art" by mid-17th century

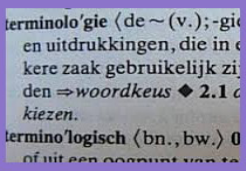
4

The Dictionnaire universel by Antoine Furetière (1690) and other works at the end of the 17th century called for a normalized description of technical and scientific terms.

5

Naturalists such as Swedish Carl von Linné (1707-1778) proposed a universal system with specific rules to create names for flora and fauna regardless of the language spoken by the scientist.

6



A "science of terms" gained acceptance by mid-18th century. German professor Christian Guttfried Schütz coined the term "terminologie" in 1770; and the adjective "terminologisch" dates from 1788.

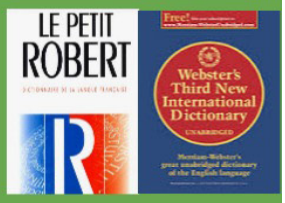
7

This process of scientific word formation set nomenclature apart from terminology and in 1837 William Whewell (19th century) defined it as a "system of terms employed in the description of objects of natural history."

8

The progressive and partial replacement of "nomenclature" by "terminology" implied a change in focus, demonstrated in the transition from "name" to "term".

9



From there on, "terminology" became a common entry in European dictionaries: e.g., Le Petit Robert (1978) and the 3rd edition of Webster (1961).

Modern Terminology History*

inmyownterms

Who were and are today the major players in the history of terminology and how has terminology evolved?

5 periods of evolution:

As technology evolved in the 20th century engineers and technicians became leaders in terminology development to name new concepts and agree on terms.

1. 1930-1960 *The origins*

of Terminology as a scientific discipline began with the work of Austrian E. Wüster and Russian D.S. Lotte. It was centered on the design of methods for the systematic formation of terms, stemmed from the need to standardize concepts and terms for the technical and scientific fields.

Wüster once said that the intellectual fathers of terminology theory were German Alfred Schlomann (systematic nature of special terms), Swiss linguist Ferdinand de Saussure (systematic nature of language), E. Drezen --who also worked with Lotte-- (standardization), and Englishman J. E. Holmstrom from UNESCO (international dissemination of terminology)

2. 1960-1975 *The structuring*

of the field began with the rapid advancement of informatics, and scientific research lead to the development of the first monolingual, bilingual and multilingual terminological databases, the appearance of mainframe computers and databanks – first approaches to standardization.

Others say the Austrian Eugene Wuster, the Latvian Ernst Drezen and the Russian Dmitrij Lotte are considered the spiritual fathers of modern terminology. All three were engineers who recognized the deficits of professional communication.

3. 1975-1985 *The boom*

is marked by an increased popularity of informatics and the proliferation of language planning, terminology projects and the spread of PCs. Terminology plays an important role in standardization and harmonization, linguistic variation and transmission of technical and scientific knowledge.

The 3 classic schools of terminology, the Austrian (Vienna), the Soviet, and the Czech (Prague) schools, all emerge from Wüster's work, which was also the base for the General Theory of Terminology, later developed and enhanced by his successors. Also, the Quebec School in Canada carried out work on sociolinguistic planning and standardization.

4. 1985-1900s

The expansion

is characterized by the territorial and scientific expansion of Terminology, as it moves from Europe and Canada to Portugal, Spain, Latin America, Africa and Asia. There's an increased number of topics under study and terminology projects in new specialized subject areas, new perspectives evolve from the development of the language industry, international networks for cooperation and scientific exchange are set up, terminology training is organized, advances in computer science – better software is developed.

Schools and working methods in terminology are: (a) Terminology adapted to the linguistic system – Vienna, Prague and Moscow; (b) Translation-oriented terminology – Quebec , the Walloon part of Belgium, - international organizations like UN, UNESCO, EU, FAO etc.; (c) Terminology oriented towards language planning – Quebec, Catalonia, Wales.

The future is here

5. 1990s and beyond

Terminology is under revision throughout the world. Wüster terminology has received praise and criticism from language experts. We now have new, for example, proposals on Socioterminology, new theoretical approaches and a new paradigm, as expressed by the Communicative Theory of Terminology of M.Teresa Cabré, as well contributions by Kyo Kageura, both aimed at awarding Terminology the status of an independent discipline. Current work and initiatives in terminology represent a milestone in the history of Terminology and are a major contribution towards its consolidation as a formal discipline.

Besides Cabré and Kageura, other authors such as Juan C. Sager, Alain Rey, Rita Temmerman, and Robert Dubuc, just to mention a few, have paved the way for further study and research with their proposals and publications: Terminology: Theory, Methods, and Applications (Cabré), The Quantitative Analysis of the Dynamics and Structure of Terminologies (Kageura), A Practical Course in Terminology Processing (Sager), Essays on Terminology (Rey), Towards New Ways of Terminology Description (Temmerman). and Manuel Pratique de la Terminologie (Dubuc).

*SOURCES :

1. Terminology: Theory, Methods, and Applications By Maria Teresa Cabré
2. Terminology Today: A science, an art or a practice? Some aspects on terminology and its development (http://www.phil.muni.cz/plonedata/wkaa/BSE/BSE%202010-36-1/BSE%202010-36-1%20(123-134)%20Sageder.pdf)
3. Curso Básico de Terminología, Lidia Almeida Barros. Universidade de Sao Paulo
4. Notes on terminology: http://web.letras.up.pt/bhsmaia/T&L/Terminology.htm
5. Terminology. Institute Vilnius. (http://www.lki.lt/LKI_LT/images/Periodiniai_leidiniai/Terminologija/ Terminologija%2018.pdf)

IV.

Understanding the Basics

A. The onomasiological and semasiological approaches

Try to pronounce these two terms without getting your tongue twisted! Sometimes terms are created to make people think that knowledge is beyond their reach but the truth is there is always an easier way to explain things. Unless you want a Ph.D. in Linguistics, we don't need to do the fancy talk.

Both onomasiology and semasiology study the relationship between words and their semantic values.

Onomasiology comes from the Greek ónoma (name) and logos (study). So, it is the study of designations, and its goal is to find the words that describe a given concept, idea, or object. It answers the question "How do you express X?" The point of departure for an onomasiological approach is always a concept. When creating a termbase we are presented with concepts and once a concept has been clearly defined we have to come up with a term to designate it. In some cases, there might be more than one term but there will always be a preferred term. For example, "a phone that can make and receive telephone calls over a radio link while moving around a wide geographic area" may be a mobile phone or a cellular phone, but you need to specify in your termbase which of the two is the preferred term. This is called the univocity principle, according to which one concept should be designated by only one term and one term should only refer to one concept.

The onomasiological approach goes hand in hand with synonymy. Typical examples of onomasiological dictionaries, for example, are the thesaurus, synonym dictionaries, and word-finding dictionaries. In these cases, thematic order is preferred to alphabetical order (i.e., regular dictionaries).

On the other hand, the semasiological approach starts with the term to find a definition. It comes from the Greek semasia (meaning) and answers the question "What does the word X mean?" This approach is mostly used in the preparation of dictionaries (lexicography). Dictionary editors monitor words that people use most often and how they use them, and decide if those words might be worth including in a dictionary. If the word is extensively used, they look for citations that allow them to come up with a definition. Polysemy (several meanings) goes hand in hand with the semasiology principle.

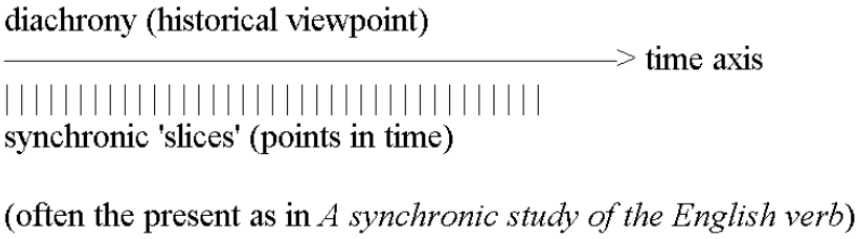
Although Terminology aims to guide its work by the onomasiological approach, terminology work in companies that do not manage terminology systematically is sometimes semasiological, that is, the terminologist might be given a term which s/he will have to research, define, translate, etc. However, as terminologists, we must always go for the onomasiological approach when creating our termbases.

In summary, onomasiology goes from a concept to the term, and semasiology goes from a term to the concept. The first is used in terminology work and the second is used in lexicological work (dictionaries).

B. The synchronic and diachronic approaches

The General Theory of Terminology (also known as the Traditional Theory) proposes as one approach to terminology work that terms and concepts be studied synchronically, that is, analyzed in a given period in time, usually the present, without taking their history into account. The diachronic approach, on the other hand, studies the historical development and evolution of language.

Richard Norquist explains: "Diachronic literally means across-time, and it describes any work which maps the shifts and fractures and mutations of languages over the centuries. Synchronic literally means with-time [...] and studies language at a given, frozen moment."



The terminological distinction between synchronic and diachronic (historical) linguistics was first made by Swiss linguist Ferdinand de Saussure (1857–1913) in his Course in General Linguistics (published posthumously in 1916). Actually, all linguistic study prior to Saussure was diachronic.

To better understand the concepts, Saussure used a chess metaphor. In chess, a person joining the audience watching a game mid-way through requires no more information than the present layout of pieces on the board and who the next player is. They would not benefit from knowing how the pieces came to be arranged in that way. Therefore, chess could be studied diachronically (how the rules change through time) or synchronically (the current rules).

Wüster's Traditional Theory –which was the first theory on Terminology to be formulated– exclusively used the synchronic approach for terminological analysis. However, the Communicative (Cabré) and Sociocognitive (Temmerman) Theories, for example, moved away from the synchronic approach. For example, Temmerman studied the word "splicing" to identify the history of its meaning, particularly its evolution over time, its use by different cultural groups, and its presence in both general and specialized language.

Wendy Marie Schrobilgen, in her Ph.D. thesis on Italian internet terminology, argues that absolute synchrony is impossible because the Web is dynamic and, much like natural language, is ever changing. She used the synchronic approach for most of her work but also made a diachronic analysis for comparative purposes, and suggested that further study on that topic would benefit from a diachronic approach.

Take a look at this fun cartoon to get a final general idea (comparison Spanish–synchronic/Latin–diachronic).

Sources and further reading:
Course in General Linguistics, Wikipedia.
Italian Internet Terminology: A Corpus-based Approach to Banalised Language, by Wendy Marie Schrobilgen
Peculiarities of Terminography, by Georgeta CIOBANU
Synchronic linguistics, by Richard Nordquist.
Synchronic linguistics, Encyclopedia Britannica.
The cognitive shift in terminology and specialized translation, by Pamela Faber Benítez
Diagram source: Linguistics. Universität Duisburg-Essen

C. Terminologization, de-terminologization, re-terminologization

Don't fret! These are three long words that are easy to understand. They are term formation methods. New terms that we create by means of these methods would be ideal candidates to include in our termbase. Also, being aware of this process will help us identify good candidates when we are extracting terms from a corpus. In most cases, the words/terms do not lose their original meaning but rather acquire a dual meaning, thus becoming polysemantic.

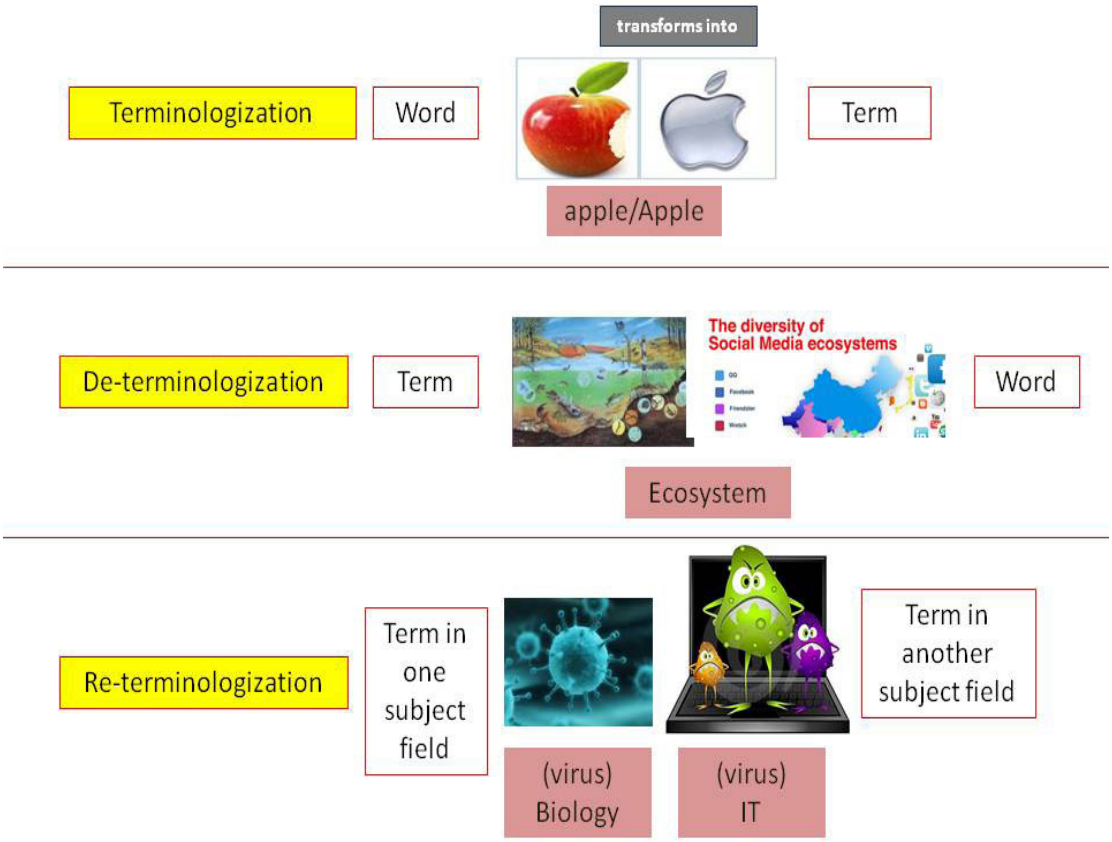
Terminologization**:** This is when we transform a general language word into a technical term (or special-language term). Information technology is a rich source of terminologization: for example, consider how we went from a regular apple to the brand name Apple, a window is now also an operating system, and a mouse is now an animal and an electronic device.

De-terminologization (introduced by Ingrid Meyer and Kristen Macintosh): This is when a technical term is incorporated into general language as a widely known word, in other words, the "technicality sense" is drained out of the term and it is transformed into a regular word. Meyer and Macintosh gave the example of the word "virtual": Today its "virtual reality" meaning has little to do with virtual reality per se: virtual office, virtual sex, virtual money, even virtual corpus and virtual dictionary. It has become a buzzword.

In a blog post published by Barbara Inge Karsch on this subject, she mentioned that there are two categories of de-terminologization: (i) the "new" word retains the same meaning and it becomes so popular that everybody knows "how to use it" (and it might acquire other meaning); and (ii) the "new" word now describes a different concept and no longer shares the essential characteristics of the original term. Pascalina Dury gives the words "ecosystem" and "niche" as examples of technical words that everybody understands nowadays even though originally they weren't understood by most people because they were from the field of ecology.

Re-terminologization: This is the transition of the term from one terminological system into another, preserving or changing its meaning. For example, the term "introspection" that is used in physics and psychology, in the didactic context receives the meaning of self-analysis and self-knowledge. Another easy example is the word "virus," as illustrated below.

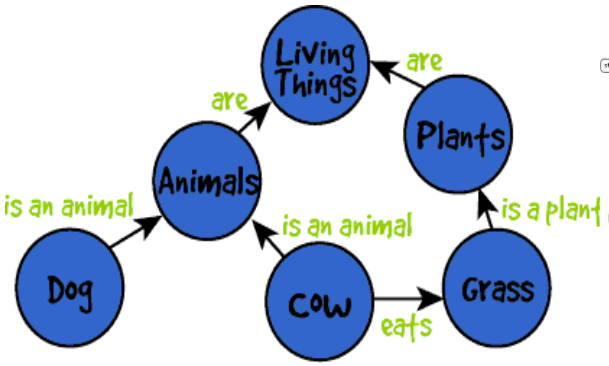
Sources and further reading:
BIK Terminology. Terminology blog by Barbara Inge Karsch "A home run is a home run is a home run?"
Dury, Pascaline. Terminology and Specialized Translation: the Relevance of the Diachronic Approach (2005).
Guidelines for terminology policies. Formulating and implementing terminology policy in language communities. Prepared by Infoterm UNESCO, Paris 2005
Ingrid MEYER, Kristen MACKINTOSH, School of Translation and Interpretation, University of Ottawa, Krista VARANTOLA, Department of Translation Studies, University of Tampere. From Virtual Sex to Virtual Dictionaries: On the Analysis and Description of a De-terminologized Word. EURALEX 1998 Proceedings.
Linguistic Mapping Reveals How Word Meanings Sometimes Change Overnight. Technology review. Nov. 2014.

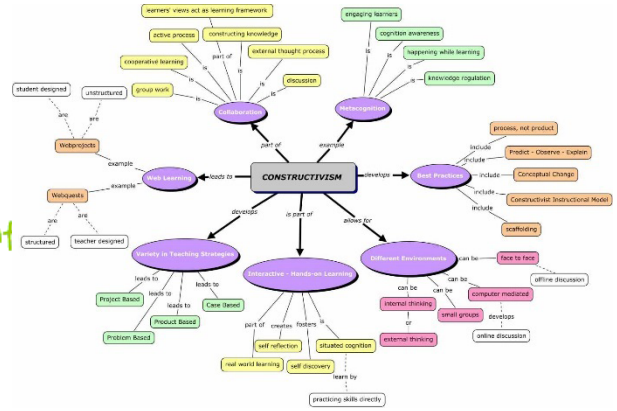


D. Termbase: It's not about the terms! (concept-oriented approach)

Well, yes, a termbase is a repository of terms but the central issue of termbases concerns the organization of concepts. We should differentiate between terminology work (the extraction of terms from sources) and termbase design (how terms are organized, based on concepts). Once you identify the concept you look for its term. That is what they call the semasiological approach in semantics and lexicology: the grouping of words based on their meaning, or, the concept-oriented approach.

Termbase creation starts with concept (or conceptual) analysis, in order to clarify the definition of each concept, its scope or boundaries, and to identify its main characteristics so as to be able to isolate it from other concepts. To identify concepts for analysis, we need a concept system to organize them by subject field, and this is achieved by designing a concept map: a graphic representation of concepts and their relationships. Concept maps may be as simple or as complex as you want them to be, depending on the amount of information you are working with and the level of complexity of the termbase you are designing. In concept maps, you connect terms to each other based on the whether they are broad or narrow concepts. Here are one simple and one complex concept map:





Concepts are structured in hierarchical (generic and partitive) or non-hierarchical (associative) relationships. Hierarchical relationships may be generic or partitive. In the generic hierarchy, we find superordinate and subordinate concepts. The superordinate (also called generic or broader) concept is the general concept under which we have all the subordinate concepts that "inherit" characteristics from the superordinate concept (e.g., dog breeds: Labradors, bulldogs, Chihuahuas). Partitive hierarchy concepts are easy to identify because they are "part of" something (e.g., house, roof, door). In non-hierarchical or associative relationships, concepts do not share essential features, that is, they do not inherit characteristics (e.g., producer-product; bake-bread)

Concept analysis and mapping are very useful during termbase design because they help us come up with a clear structure for our termbase.

Sources and further reading:
Pavel tutorial on hierarchies.
Wikipedia on semasiology.
Semantic Relationships used in Controlled Vocabularies. Read here.
Concept Systems for Terminological Analysis. Read here.
The Theory Underlying Concept Maps and How to Construct and Use Them. Read here.

E. Deconstructing designations: term, appellation, symbol

ISO 704 states it clearly: "Objects, concepts, designations and definitions are fundamental to terminology [...]. Objects are perceived or conceived and abstracted into concepts which, in special language, are represented by designations and described in definitions. A set of designations belonging to one special language constitutes the terminology of a specific subject field."

ISO 704 goes on to say that "designation acts as a synthesis of the definition. A designation is a representation of a concept by linguistic or non-linguistic means." So, terminology is not just words. In natural language, concepts can take the form of terms, appellations, definitions or other linguistic forms; in artificial language, they can take the form of codes or formulae, while in graphics, they can take the form of icons, pictures, diagrams or other graphic representations. There are three types of designations as defined by ISO 704:

Term: A term is a linguistic designation consisting of one or more words representing a general concept in a special language. A term may be simple, expressed in its basic form, that is, it contains only one root (e.g., "sustain") or complex, containing two or more roots (a root word accompanied by

another word or with added prefix or suffix (e.g., {un+sustain+able}). It is typically a common noun or noun phrase. ISO 1087-1:2000 also defines it as a verbal designation of a general concept in a specific subject field. Terms may contain symbols and have variants, e.g., different forms of spelling.

Appellation: An appellation is a linguistic designation of an individual concept. It is a unique concept. It derives from the French word "appeler" which means to name. It becomes unique when you give it a unique name (Nike, Chanel, George Washington, Internet, etc.). In a blog post (see source 4), Barbara Inge says: "Technically, appellations are not translated but remain in their original language. However, an individual concept may have an appellation in different languages." Good examples are international organizations which tend to have appellations in all languages of their member states, such as the European Union, die Europäische Union, or l'Union européenne".

Symbol/formula:

Symbol: A symbol designates both individual and general concepts. It should be simple and easy to recognize and, if possible, self-explanatory, monosemic in a specific context, unambiguous, easy and economical to reproduce, and consistent and appropriate, i.e., designed to permit coordination with and differentiation from other related symbols.

Formula: This is a non-linguistic designation consisting of symbols or symbols related to other mathematical, physical or chemical characters.

NOTE: When the concept depicts a single object, it is called an individual concept and is represented in special language as an appellation (e.g., United Nations, Internet, Worldwide Web) or a symbol (e.g., the Möbius Loop icon). When the concept depicts a set of two or more objects, it is called a general concept and, in special languages, the designation takes the form of a term (e.g., floppy disk, liquidity, money market fund, etc.) or a symbol (©, ≥, $).

Imbalances between designations and concepts may result in ambiguity during concept analysis. For example, in synonymy one concept has several designations (e.g., cell phone [US], mobile [UK], handy [DE].); in polysemy, one designation represents two or more concepts sharing certain characteristics (e.g., bridge: structure to carry traffic over a gap; dental plate), and in homonymy one concept represents two or more unrelated concepts (e.g., bat the animal and the instrument used to hit a ball, or Apple the brand and the fruit).

Finally, take a look at the presentation entitled "Rethinking Terminology Standards: 704 & 1087" (page 15), in which the authors provide a different perspective on designations as defined by those two ISO standards.

Sources and further reading:
Kudashev, Igor. What can be an Object of Terminological Description in a Term Bank? University of Helsinki..
Ritter, Sorrell Introduction to Terminology Management for Localization.
Sall, Ken. A Flexible XML-Based Glossary Approach for the Federal Government: The Next Generation
Inge Karsh, Barbara Blog entry in Bikterminology: Jump List? Or what should we call it?
Language, concept and definition.
Costa, Rute and Roche, Christophe. Rethinking Terminology Standards: 704 & 1087.
TermCoord Glossary of terminology management
Jones, Andrew.Terminology. Tutorial for ISO/TC 211Project Leader, Experts and Delegates. Download here.

F. The semantic triangle: Words don't mean; people mean.

"Foolish Questions" (William Cole)

Where can a man buy a cap for his knee?
Or a key for a lock of his hair?
Can your eyes be called an academy
Because there are pupils there?
In the crown of your head, what jewels are found?
Who travels the bridge of your nose?
Could you use in shingling the roof of your mouth
The nails on the end of your toes?
Could the crook in your elbow be sent to jail?
If so, what did he do?
How can you sharpen your shoulder blades?
I'll be darned if I know, do you?
Can you sit in the shade of the palm of your hand
And play on the drum of your ear?
Do the calves of our legs eat the corn on our toes?
Then why does it grow on the ear?
Can the calf of his leg eat the corn on his toe?
There's somethin' pretty strange around here.

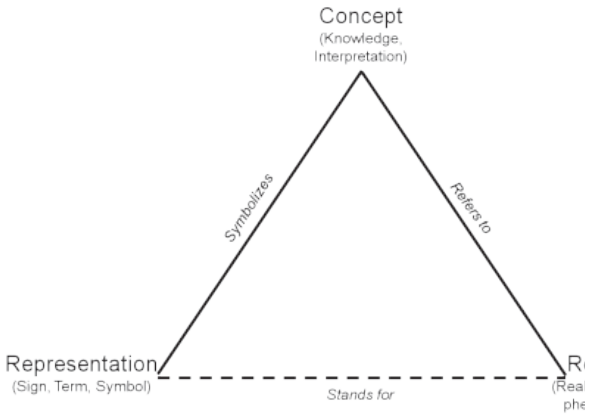
According to the Oxford Dictionary, the 500 most frequently used words in the English language have at least 14,070 different definitions. This is an average of 28 meanings per word. So, it shouldn't come as a surprise that our communication attempts sometimes fail because of misconceptions and ambiguity. We need to have clear and precise concepts connected to our terms in order to design reliable termbases and glossaries.

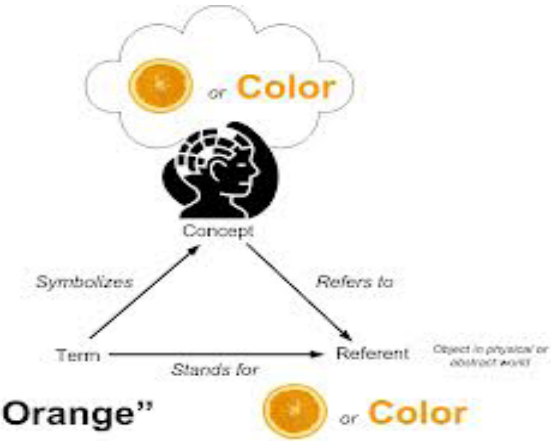
Given that one of the goals of terminology management is to facilitate communication and avoid misunderstandings and confusion, it would be helpful to understand the basics of the semantic triangle, not only because it introduces and explains some of the basic elements upon which terminology is grounded, but also as a foundation for further reading and research.

Two Englishmen, Charles Kay Ogden and Ivor Armstrong Richards, wrote the book "The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism" (1923), in which the semantic triangle was used to explain that understanding comes from within people rather than from words, which they interpret. Or, as the saying goes, words don't mean; people mean.

In that book, they presented three theories: the **Meaning Theory** (there is no single "correct" meaning for each and every word because each word means something different to each person), the **Definition Theory** (in order to avoid that ambiguity we need to define terms or concepts), and the **Symbol Theory** (words evoke images and personal meaning is based on experience). Communication breaks down when people attempt to communicate using arbitrary words. Words have no exact or clear meaning, and meaning depends on context.

You will find different triangles with different terminology, so I mention here the most common: The Sign or Symbol or Term (Representation) is the actual word, term, or sign; the Thought or Reference or Concept is the mental image or idea that the person has of this representation. If the Thought is adequate, the hearer is able to connect it to the Referent or Object.





All meaning is elicited through symbols, or is arrived at through personal interpretation. The meaning is not attached to the word, it emerges by the person hearing it, thinking about it and ultimately arriving at meaning. (See this Prezi presentation for more examples and the video in the Source list.)

The semantic triangle is also known as Triangle of Semantics, Triangle of Reference, the Semiotic Triangle, the Referent Triangle, Triangle of Meaning, the Ogden-Richards Triangle, and the Meaning of Meaning Model.

Richards and Ogden's triangle has been challenged over the years by other semioticians, such as Umberto Eco, who maintain it is overly simplistic. According to Sue Ellen Wright: "One of the major deterrents to using the triangle is its numerous interpretations and the variable of terminology associated with the nodes of the triangle," but then she adds that the triangle is useful "particularly for non-linguists approaching terminology practice for the first time." Further, the semiotic triangle has proven to be useful as a basis for further research even in more advanced terminology work and studies. See, for example, the article "Semiotic Triangle Revisited for the Purposes of Ontology-based Terminology Management," by Igor Kudashev and Irina Kudasheva, in which they adapted the traditional triangle and suggest an alternative model for their terminology project TermFactory. Also, take a look at source 5 below, in which the authors compare the triangle used in traditional Terminology theory versus the sociocognitive Terminology theory.

Terminological data must be handled efficiently and effectively through careful terminology planning and analysis as we constantly process specialized and complex information on how objects are perceived, how we come up with concepts for new or existing terms, and how these perceptions are represented and described. So just by looking at the terminology works mentioned above, it is more than evident that understanding the semantic triangle is a relevant topic for terminologists.

Sources and further reading:
Muntigl, Peter. Introduction to Ivor Armstrong Richards
Cichy, Nadine. Semantic Triangle of Meaning for Interpersonal Communication. A YouTube video by N. Cichy, Associate Professor at Sinclair Community College
Kudashev, Igor and Kudasheva, Irina. Semiotic Triangle Revisited for the Purposes of Ontology-based Terminology Management

Wright, Sue Ellen. Standards for the Language Industry in Terminology, Computing and Translation
communicationtheory.org. The Meaning of Meaning Model
Temmerman, Rita Towards New Ways of Terminology Description. The Sociocognitive Approach.
Berman, Sandford, I. Understanding and being understood. Department of Communication of the University of California.
Bosco, A. What Do You Mean: A Brief Look at Ogden and Richards' Theory of Meaning

G. An overview of concept relationships and why they are important in Terminology

When I read about concept relationships for the first time, I felt as if I was reading it in Klingon. I decided it was too confusing and was sure it was one of those things that I would never put into practice. Of course, being a newbie to Terminology, I was wrong.

Yes, it may seem a bit overwhelming, probably because in our mind we connect it to advanced database management, but once you understand the basics you will also understand why it is important and you will even want to start building your own concept maps. It is not my intention to give a dissertation on the subject, and I have also mentioned it briefly in separate posts, but this time I want to go into a little bit more detail. If you want to learn more, under Further Reading below I provide a few useful links.

One of those links is the Pavel Tutorial which explains that: "In terminology work, the knowledge acquired in a given subject field is structured according to the hierarchical relationships and associative relationships between the concepts that make up the subject field." I will cover hierarchical relationships in this post, because they are the classic system of concept representation, and the most common. There are also associative relationships, a combination of both (combined systems), and others that I will cover next.

Hierarchical relationships are based on degrees or levels of superiority or subordination: The upper level is a class, supertype, or broad concept (e.g., energy), while its elements, subclasses, or subtypes are the lower levels or narrow concepts (e.g., wind energy). The lower classes inherit characteristics from the upper class.

For example, think of them as an itemized list (tree structure) as follows. (For more examples, see Marcia Lei Zeng examples of hierarchical displays).

1. Respiratory Tract Diseases
   1.1. Bronchial Diseases
   1.1.1 Asthma
   1.1.1.1 Asthma, Exercise-induced
   1.1.1.2 Status asthmaticus

Hierarchical relationships are divided into generic-specific relationships and partitive (or part-whole) relationships.

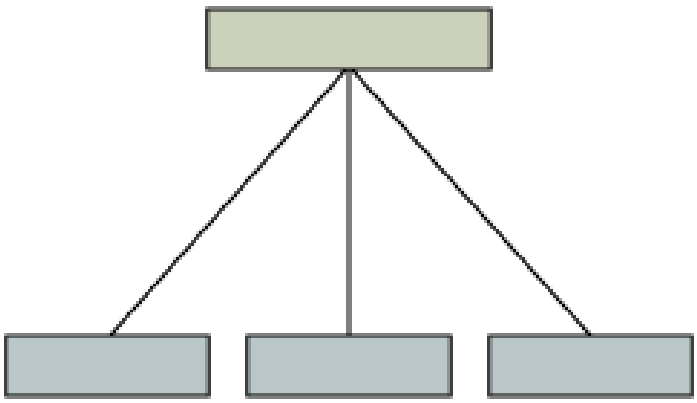
Going back to broad and narrow concepts, generic-specific relationships are classified as:

(i) superordinate terms or concepts that represent a class (the broad concept), and

(ii) subordinate terms that refer to its elements or parts (the narrow concept).

Lei Zeng suggests formulating the statement "[narrower term] is a [broader term]" as an easy way to distinguish them. For example, "[Asthma]" is a "[Bronchial Disease]".

Besides the itemized list, they can be illustratedas tree diagrams, as follows.

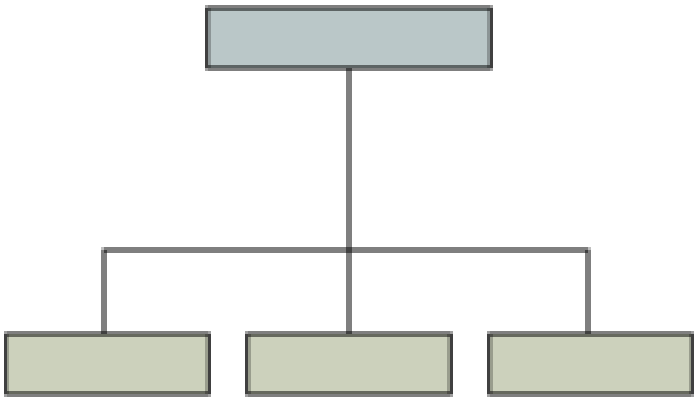


Partitive relationships are relationships made of parts and wholes (that's why they are also called part-whole relationships). A is part of B, a constituent part of something or material of something or member of something.

The concepts at the whole level are called comprehensive concepts, and the concepts at the parts level are called partitive concepts. One concept is included in another. Again, we can illustrate as an itemized list or tree structure:

1. Nervous System
   1.1. Central Nervous System
   1.1.1 Brain
   1.1.2 Spinal Cord

They are illustrated as bracket (or rake) diagrams, as follows.



Anita Nuopponen explains that generic and partitive concept systems are nested hierarchies, the superordinate concept contains or consists of the subordinate concepts. Also, a generic superordinate concept contains the extension of its subordinate concepts; a partitive superordinate concept refers to a whole while its subordinate concept refers to a part in the whole.

Hierarchical relationships, generic and partitive, are the most easily identifiable relationships when we are structuring units of knowledge in a specialized field. But there is a type of relationship that is a bit harder to pinpoint: non-hierarchical (associative) relationships.

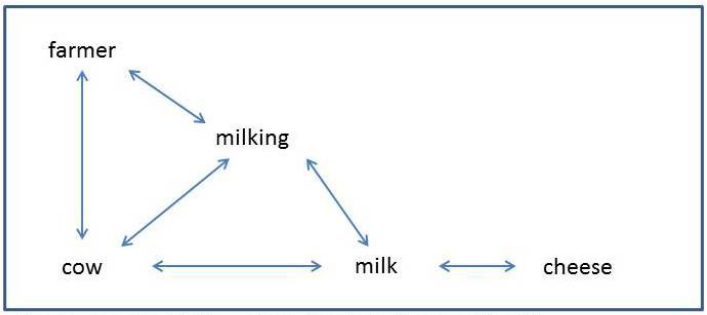
ISO 1087-1: 2000 classifies relationships into two groups: hierarchical and associative. As I mentioned, hierarchical includes generic and partitive; associative (or non-hierarchical) includes sequential, causal, and temporal relationships. However, for the sake of brevity, I will not refer to each one of these but only to associative relationships in general.

From a psychological perspective, association takes place when a person mentally associates A with B. In Terminology work and other controlled vocabularies, they are usually registered under "related terms," "see also," "see related," or "other." In her paper "Semantic Relationships used in Controlled Vocabularies," Marzia Zeng points out that associative relationships are difficult to define; indeed, I have found that some of the definitions on the Internet might be confusing and even subject to debate.

Even so, if the relationship is not equivalent or hierarchical, it is probably associative, as explained by Bean and Green in their book "Relationships in the Organization of Knowledge" (see source 1 below). So, let's not get too technical with definitions and refer instead to these easy examples from the Pavel Tutorial. As you can see, they include examples of synonymy and antonymy, common in this type of relationship:

- **producer-product**: bake – bread
- **action-result**: presidential election – president elect
- **action-tool**: hammering – hammer
- **container-contents**: bottle – fruit juice
- **cause-effect**: humidity – mold
- **opposites**: winner – loser

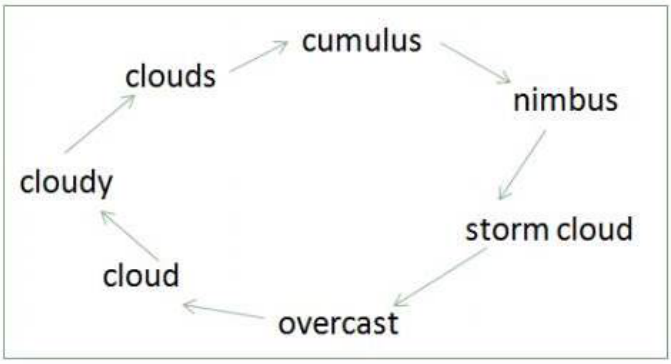
Much better, right? For more examples, see the link below to Zeng's publication. Associative relationships can be represented by double-headed arrows (arrow diagram), as illustrated by A. Großjean:



Reproduced based on : A. Großjean. –Corporate Terminology Management (page 25).

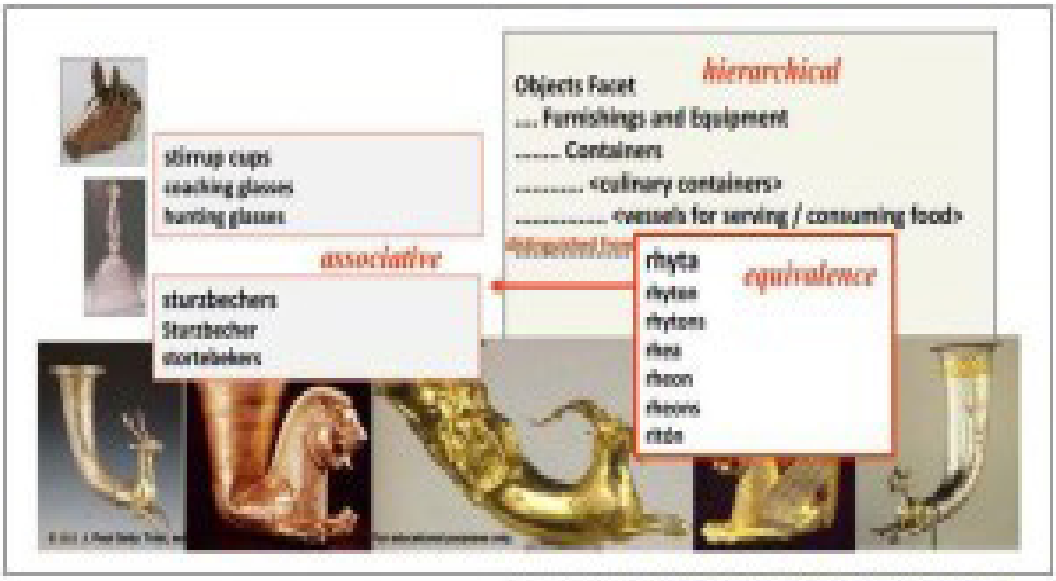
The third relationship is called equivalence relationship (when synonymous or identical terms or names are used for the same concept). Equivalence relationships usually happen when we are dealing with multiple languages, multiple spellings, and modern and historical usage.

Take, for example, the following list of terms that refer to the same concept but have different forms: Harlem Renaissance, Negro Renaissance, New Negro Movement, Renaissance de Harlem, Renaissance-Harlem. These are synonyms or lexical variants. In a termbase, a preferred term is always picked and the others are recorded as synonyms. Sometimes they are represented by synonym ring diagrams:



Source: Harpring, Patricia. Developing authority files for art information: CCO, CDWA, and the CONA model, May 2015

Maybe a good way to wrap up this series of blog posts is to share the image designed by J. Paul Getty that illustrates all the relationships mentioned so far. (NOTE: Rhyta: a type of drinking vessel used in ancient Greece, typically having the form of an animal's head or a horn, with the hole for drinking at the bottom.)



Source: Getty, Paul "Relationships in Controlled Vocabularies"

Sources and further reading:
A. Bean and R. Green "Relationships in the Organization of Knowledge".
C. Bean, A Role for Controlled Vocabularies in Developing Structures for Sharing Medical Knowledge
Getty, Paul "Relationships in Controlled Vocabularies"
GroBjean, Ariane. Corporate Terminology Management. An approach in theory and practice.
Harpring, Patricia Developing authority files for art information: CCO, CDWA, and the CONA model
Lei Zeng, Marcia. Semantic Relationships used in Controlled Vocabularies. Associative Relationships
Nuopponen, Anita. Tangled Web of Concept Relations. Concept relations for ISO 1087-1 and ISO 704
Semantic relationships used in Controlled Vocabularies. Hierarchical Relationships.
EUROVOC. Hierarchical relationships.

Why is it important to understand how concept relationships work?

ISO 704 establishes that "The relations between the concepts shall be used to determine the basic structure of the concept system." Effective terminology work cannot be performed without a clear understanding of how specialized knowledge is organized, and without a good description of concepts that designate terminological units and how they are related to each other.

Right off the bat, the first thing you need to do is gather your documentation and structure it, that is, figure out what concepts belong to what field and map them accordingly. Making your diagrams (itemized list, tree diagram, arrow diagram, etc.) will help you get a better understanding of your material. This terminological analysis is key to what will come ahead, for small and large projects alike.

ISO 704 also enumerates the advantages of developing a concept system, in that it serves to:

- model concepts and relations between them based on specialized knowledge of a subject field,
- clarify the relations between concepts,
- form the basis for a uniform and standardized terminology,
- facilitate the comparative analysis of concepts and designations across languages, and
- facilitate the writing of definitions.

Model concept structures: Allows to better understand and acquire new knowledge, organize concepts within a specialized field, and clearly identify characteristics for concept differentiation, especially when dealing with new study fields.

Clarify the relations between concepts: When we are doing concept analysis in a new field of knowledge, we might encounter organizational chaos. Creating diagrams and conceptual maps will help us write unambiguous definitions for concepts and evaluate and agree upon terms to ensure conceptual clarity.

Form the basis of a uniform and standardized terminology: Allows for harmonized and unified concepts and concept systems. The goal of Terminology is to standardize terms with a view to avoiding inconsistencies and ambiguity and thus to facilitate communication.

Facilitate the comparative analysis of concepts and designations across languages**:** Dealing with multiple languages can be overwhelming and having a clear concept structure for each language allows us to make sure that the term in one language corresponds exactly to another language or languages.

Facilitate the writing of definitions. Concepts are expressed through definitions, and establishing the relationships between the concept and its related concepts not only is a prerequisite but will also help you every time you need to write a definition.

To sum up, effective terminology management requires that we have a clear understanding of how a given specialized field is organized. Once we organize it through concept representation, we will be sure to be starting off our work on the right foot. I hope this introduction to concept relationships will help you in your future Terminology work.

Sources and further reading:
A. Bean and R. Green "Relationships in the Organization of Knowledge".
C. Bean, A Role for Controlled Vocabularies in Developing Structures for Sharing Medical Knowledge
Getty, Paul "Relationships in Controlled Vocabularies"
Harpring, Patricia Developing authority files for art information: CCO, CDWA, and the CONA model

V.

Doing Your Homework with Termbases

Regardless of the computer aided translation (CAT) tool you use, you will need to have at least an overall idea of what it takes to create entries that are effective and efficient. Following are some posts I selected on some general aspects you should know about before you even start experimenting with entries. These posts, of course, do not cover everything you need to know but I think you will get a good idea, from doublettes to validation.

A. My termbase cheat sheet

Learning the do's and don'ts of termbase creation is not always easy, especially because there are so many little details that may escape your attention in your busy daily life. So, what better way to make sure you have a reliable and clean termbase than having a cheat sheet?

What may be included?

- Term usage (preferred, admitted, prohibited [deprecated] –as per ISO 0241-1
- Terms (one term, not two), don't include more information

  (Additional information should be placed in separate field). All validated?
- Phrases
- Verbs
- Synonyms
- Trademarks, product names
- Country ID
- Abbreviations/acronyms
- Different spelling or hyphenated words
- Terms with more than one possible translation or meaning
- Definitions (make them short not encyclopedic; only one definition)
- Additional information that explains the term
- Translated terms in every language (validated)
- Source
- Author

Data categories: There are no strict rules regarding the number of categories; it depends on each specific project.

- Common categories include: subject field, term ID, term, term usage, part of speech, definition, context (example), source, author, and date. NOTE: These data fields are useful for filtering and exporting. They should be designed to have unlimited size so that free text (like

definition and context fields where you can manually enter text) may be easily inserted. Other data fields, like pick lists –used for parts of speech, subject areas, or dates that you choose from a drop-down list– facilitate database updating.

- Minimum categories as per ISO 12616: Term, Source, Date

- ISO 12620 catalogues almost 200 categories

Follow the golden rules:

- There should be one entry per concept and one designator per concept. Homographs are treated as separate entries, while synonyms are all kept together with the concept they share in the same entry (concept orientation principle).

- A concept should always refer to one term only (univocity principle).

- A termbase must contain the same group of fields for each term (term autonomy principle).

- Every information field must contain only one type of information (e.g., the acronym field should only have acronyms; the definition field only should only have definitions)(data elementarity principle).

Keep your termbase clean

- Avoid doublettes: double entries for the same term.

- Check for outdated category information (terms no longer used in the company/field that need to be updated/replaced with new terms and re-validated)

- Check term usage status (Should a term go from accepted to deprecated or from accepted to preferred?)

- Watch out for spelling errors in terms.

- Subject matter experts are not language experts. Check their material for errors.

Don't use separate entries for:

- singular and plural forms ("asset" not "assets")

- longer and shorter forms ("full absorption costing" versus "absorption costing")

- hyphenated and non-hyphenated forms ("Euro-bond" versus "Eurobond")

If doing an Excel glossary, before exporting make sure:

- Glossary columns have a title (boldfaced and uppercased for ease of reference and languages in English: ENGLISH, SPANISH, FRENCH, PORTUGUESE).

- Blank rows have been deleted.

- All data related to the same concept have been included in the appropriate cell (syn-

onyms, comments, etc.).

• Each language column has information in that language only (e.g., a definition in Spanish should not be placed in a Portuguese term entry).

Each step in term processing, during the preparation of glossaries or updating of termbases, is important but probably the step that will save you the most time is term validation. How and when it's done is key to achieving cost-effective/efficient validation.

B. Having a déjà vu or are you seeing double? Dealing with doublettes

Doublettes (the technical terms for duplicate entries) are quite common unless you have an elephant's memory. During a recent webinar, terminologist Barbara Inge Karsh mentioned that between 5%-10% of entries need adjusting during maintenance. In order to keep that percentage to a minimum, we should try to do an efficient job in the early stages of term entry creation by following terminological principles.

In terminology work we try to achieve univocity (one term, one concept). However, sometimes it's not as easy as we think. Even if we follow terminology rules (no plurals, checking terms in upper/lower case, verbs in simple form, etc.), we won't be able to remember each and every record that we have created.

So, what can we do? Best to hear the advice from the expert. Barbara provides the following recommendations in one of her blog posts:

• Start out by specifying the subject field in your database. It will help you narrow down the concept for which you are about to create an entry. You might do a search on the subject field and see what concepts you defined at an earlier time. Sometimes that helps trigger your memory.

• As you are narrowing down the subject field and take a quick glance through some of the existing definitions, you might identify and recognize an existing concept as the one you are about to work on.

• Export your database into a spreadsheet program and do a quick QA on your entries. In a spreadsheet, such as Excel, you can sort each column. If there are true doublettes, you might have started the definition with the same superordinate, which, if you sort the entries, get lined up next to each other.

• Maybe you don't have time for QA, then I would simply wait until you notice while you are using your database and take care of it then. The damage in databases with lots of languages attached to a source language entry is bigger, but there are usually also more people working in the system, so errors are identified quickly. For the freelance translator, a doublette here and there is not as costly and it is also eliminated quickly once identified.

Barbara makes another suggestion in one of the comments in her blog post: When dealing with a large amount of entries, discuss possible nuances in definitions and terms with subject-matter experts.

I recommend reading her posts related to this topic:

• Doublettes, such a pretty term, yet such a bad word, which provides more information, particularly when dealing with homonyms and homographs.

- How do I identify a term—confusability. How to deal with homographs
- Avoiding doublettes or a report from the ISO meetings in Korea
- Why doublettes are bad

Also, Rafael Guzman's T-Manager is a tool that allows you to analyze Excel files before importing to a termbase and flags and deletes duplicates in a glossary. But if you are entering your terms directly into your termbase, better follow Barbara's advice.

C. Granularity: Determining the degree of detail in your term entries

To better understand granularity, think of coarse grains and fine grains, each of which has more or less matter depending on how much material it contains. The same applies to data granules. Wikipedia provides a very easy example for understanding granularity: recording your home address in one category would be a coarse granularity: recording it in several categories (street address, city, postal code, country) would be a finer granularity, and recording it under more categories (apartment number, state, postal code add-on) would be even finer.

So, if we transfer that to our term entries, we could decide to add more or less data fields to document our terminological information. Sue Ellen Wright gives the following example applied to term entries:

- /grammar/ m,n,s (masculine noun singular) has **low (coarse) granularity**,

but if we divide information units into finer categories such as

- /part of speech/ = noun
- /grammatical gender/ = masculine
- /number/ = singular

The decision to have low or high granularity in your term entries depends on your needs and also on how much time and effort you are willing to invest to make your information more retrievable and manageable. Do you want to include all grammatical information in a grammar data element or would you rather specify each one separately? It takes more time to make entries with finer granularity so you have to make a decision as to what is an acceptable level of effort to make it work in your favor.

Sources and further reading:
Wright, Sue Ellen. Data modeling and data categories for terminology management
Handbook of Terminology Management, Volume II. Sue Ellen Wright and Gerhard Budin. 2001

D. Preferred, admitted, and deprecated terms (ISO 0241-1)

When we are designing a termbase, we need to identify what ISO calls the "normative status" of terms: preferred, admitted, and deprecated. The following has been adapted or copied from the sources mentioned below.

are more than one preferred terms they should be registered in the entry in order of preference.

If there is a full form and an abbreviated form, one may be preferred and the other one admitted or deprecated, or both may be preferred. If the abbreviated term is preferred, you should put an explanation in the "Note to Entry" section.

Admitted term: It might be a commonly used term but it only partially meets the requirements of a preferred term. If there is more than one admitted term, terms should be registered in the entry in order of preference. (Classification criteria respond to the following questions: How frequently is it used by authorities in the domain? What is the language-specific order?) Full and abbreviated forms may be used as admitted terms.

Deprecated term: This is a term that is used only in some contexts and does not fulfill the requirements of a preferred or admitted term. It may include full and abbreviated forms. If necessary, add an explanation in the "Note to Entry" section. Deprecated terms include obsolete, superseded, and archaic terms.

When registering them in a term entry, you should follow ISO 0241-1 layout criteria**:**

The preferred term(s) (set in bold **type** in the printed publication) or symbol(s) shall be placed on a new line, after the entry number, starting with a lower-case letter except for any capital letters required by the normal written form in running text. For complex terms (e.g., compounds and multiword terms), the natural word order shall be retained.

Admitted term(s) (set in normal type in the printed publication) or symbol(s) shall each be placed on a new line, after the preferred term.

Deprecated term(s) (set in normal type) or symbol(s) shall each be placed on a new line and shall be identified by an appropriate text, e.g., "DEPRECATED:" The definition shall be placed on a new line, starting with a lower-case letter, except for any capital letters required by the normal written form in running text, and shall not be followed by a full-stop.

You should also take grammatical criteria into account when registering information in a term entry, as follows:

Use the basic grammatical form, e.g., nouns in the singular, verbs in the infinitive

– for gender: m (for masculine), f (for feminine), and n (for neutral)

– for number: sg (for singular) and pl (for plural)

– for part of speech: noun, verb, adj (for adjective), and adv (for adverb)

Sources and further reading:
ISO/IEC Rules for the structure and drafting of International Standards.
ISO 10241-1: Terminological entries in standards Part 1. General requirements and examples of presentation.

E. Identifying your terms: A word from the experts

One of the major issues we face is figuring out what terms to include in our glossary or termbase. For that reason, I thought it might be helpful to gather some expert advice.

First up is terminologist Kara Warburton who says that we should "include terms that translators actually need and basically just about anything that can drive quality, consistency, and productivity in the translation process." In her view, the terms that you need to include for use by translators are not strictly scientific or technical terms, they can include words from the general lexicon. "Any piece of text that:

- can embed in longer TM segments
- should not be translated
- has more than one possible translation
- has more than one possible meaning (homographs)
- has a company-specific meaning, usage, importance, or desired translation
- has a risk-associated significance (marketing, legal, safety, etc.)."

Tom Imhof from localix.biz says that the data you may store in a termbase is varied, and can include brand- or industry-specific terms, acronyms and abbreviations, slogans, preferred terms, new term candidates, confirmed terms, frequently-used terms, forbidden or outdated terms, and, as recommended by K. Warburton, terms that should not be translated, such as product or brand names.

Terminologist Barbara Inge Karsch recommends excluding words that do not represent a concept (that is, there is no meaning behind them and might therefore be ambiguous). For example, marketing terms sometimes don't have concepts behind them and you can't define them very well, so if you are dealing with large teams you might create a lot of confusion.

She suggests that technical terminology that belongs to a subject field must be documented. Terms that represent general concepts and names that represent individual concepts (that is, they only exist once in the world) are usually included. Terms may refer, for example, to different types of "windows," and a name may also refer to "Windows," Microsoft's operating system. You may include, for instance, product names, organization names, and company names.

Dr. Inge Karsch explains that freelancers have an advantage because they own their termbases and have some leeway in terms of making decisions regarding what to include. You can even document terms that you have a really hard time typing, for example, the German term "Kraftfahrzeug-Haftpflichtversicherung" (refers to auto insurance). In her translation career, she had to deal with a lot with terms like that and it was very useful when she was working to be able to just copy them from the termbase.

Of course, that doesn't mean you should include all terms that are hard to type, just the ones you decide you need, adding them under a special category. Actually, some terminologists who follow a more purist approach would not include this type of term but, from a practical point of view, you as a freelance translator who manages your own termbase are ultimately who makes the decisions that will enable you to get the most out of your terminology management system (TMS), even if it's just to help with typing.

Dr. Inge Karsch further explains that as long as you follow terminology best practices and ISO standards you should be OK, because you never know what you might want to do with

your database down the road. You might join a team and share your termbase with that team or with a colleague. It's critical in databases that we apply standards and follow them.

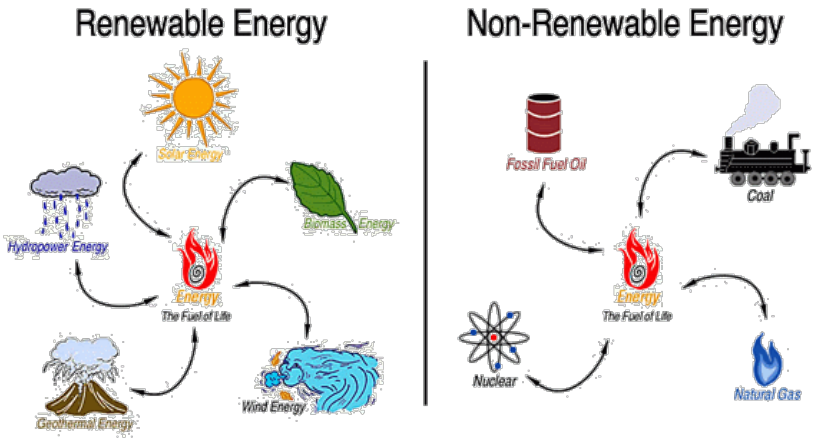
Finally, terminologist Uwe Muegge puts it simply: "I tell my students that terms are the words that clients particularly care about. As a service provider, you want to make sure that you are using the client's preferred terms within and across projects, and you want to do that as efficiently as possible."

Sources and further reading:
Cabré Castellví, M. Teresa. Theories of terminology. Their description, prescription, and explanation. How do we recognize terminological units?
Chereshnovska, Marta Training for technical translators. An interview with Uwe Muegge.
Imhof Tom. Terminology Management and SDL Multiterm.
Marklund, Åsa. Translation of Technical Terms. A study of translation strategies when translating terminology in the field of hydropower generation. 2011
Mihwa Chung, Teresa; Nation, Paul. Identifying technical vocabulary. 2003
Warburton, Kara. "Getting value out of your Excel glossaries"

F. Writing your first terminological definition

Writing your first terminological definition might be a bit overwhelming. So how do you start? Well, many authors seem to agree that the most widely used type of definition is the intensional definition. I recommend you consult the sources below for more information as this is just a brief introduction to the subject, especially if you are going to be writing a lot of definitions for your termbase.

First, let's review the ideas of superordinate, subordinate, and coordinate concepts. Let's say we have three levels: The top level is superordinate and refers to the general topic (e.g., energy); the second level is subordinate and refers to specific concepts under the general topic (e.g., (i) renewable energy or (ii) nonrenewable energy), and the third level is coordinate and refers to same-level concepts (e.g., (i) wind, solar, bio, geothermal energies, etc. or (ii) fossil fuels, coal, petroleum, etc.).



So, when you write an intensional definition you usually start by referring to the superordinate concept and then you describe the characteristics that make that concept unique. It's composed of a "genus" (superordinate) and a "differentia" (delimiting characteristics), where genus is the "class of things to which the term belongs" and differentia "distinguishes it from other things in that class." By the way, it was Aristotle who first introduced the concept of definition and used genus proximum and differentia specifica to define species.

Let's take the above example to explain this. How do we define renewable energy and nonrenewable energy?

Renewable energy

Energy that comes from resources which are naturally replenished on a human timescale such as sunlight, wind, rain, tides, waves, and geothermal heat. (Wikipedia)

Another way of writing a definition is using another comprehensive (superordinate) concept other than "energy".

Nonrenewable energy

A **resource** that does not renew itself at a sufficient rate for sustainable economic extraction in meaningful human time-frames. (Wikipedia)

You might have noticed that the definition of renewable energy also presents a list of renewable energies. This is also very common and is called an extensional definition**.** So, you could also make use of a definition that is extensional, i.e., you list the coordinate concepts. The easiest example to understand it is by looking at the definition of "solar system." Can you define it without enumerating the planets? If the answer is no, then you probably have an extensional definition (or a hybrid: intensional/extensional). In many cases, you can add the extension of your definition to your termbase as a Note field to clarify the concept.

In their article on Intensional Definitions, Löckinger, Kockaert, and Budin give an easy-to-follow list of the rules for writing and assessing intensional definitions. Among other things, the list suggests to:

- be precise: include all the characteristics that make that concept unique
- be concise: make it short, don't go overboard by giving too many unnecessary details
- be objective: make sure your definition is neutral and impartial
- keep your target group in mind: are you writing for experts or laypeople?
- avoid circular and negative definitions; do not repeat the same idea or term, and keep it real (in other words, say what a concept is, not what it is not).

Finally, keep in mind the description given by Encyclopedia Britannica of "intension" and "extension." I think it will help you get a better idea of what I just explained.

"'intension' indicates the internal content of a term or concept that constitutes its formal definition; and 'extension' indicates its range of applicability by naming the particular objects that it denotes. For instance, the intension of 'ship' [...] is 'vehicle for conveyance on water,' whereas its extension

embraces such things as cargo ships, passenger ships, battleships, and sailing ships."

Note: Do not confuse the homonyms "intension" with an "s" and "intention" with a "t" (purpose, goal).

Sources and further reading:
Löckinger, Georg; Kockaert, Hendrik J., and Budin, Gerhard. Intensional Definitions, in Handbook of Terminology, Volume 1, edited by Hendrik J. Kockaert and Frieda Steurs.
Palmer, Amitabha "Critical Thinking: Definitions Pt. 2: Intensional vs Extensional Definitions, Genus and Differentia, Four Rules for Good Definitions". Blog post "Mission to Transition" [consulted on July 13, 2015]
Encyclopedia Britannica, Intension and extension, consulted on July 13, 2015).

G. How to handle definitions in termbase creation

Pavel's tutorial explains "definition" as follows: "A dictionary-style statement that describes the concept designated by a term. A type of textual support on a terminology record that helps establish the textual match between languages by stating the essential and delimiting characteristics of a concept."

We should avoid using deficient definitions (circular, incomplete, and negative): Examples taken from ISO 704:

A circular definition is one that uses the term(s) being defined as a part of the definition or assumes a prior understanding of the term being defined. Either the audience must already know the meaning of the key term(s), or the definition is deficient in including the term(s) to be defined in the definition itself. Such definitions lead to a need for additional information that motivated someone to look at the definition in the first place and, thus, violate the principle of providing new or useful information. If someone wants to know what a cellular phone is, telling them that it is a "phone that is cellular" will not be especially illuminating.

Example: Tree height

– circular definition: tree height measured from the ground surface to the top of a tree

– corrected definition: distance between the ground surface and the top of a tree.

A definition shall describe the content of the concept precisely. It shall be neither too narrow nor too broad. Otherwise, the definition is considered incomplete**.** Non-essential or irrelevant characteristics in the definition may unintentionally include or exclude objects from the extension of the concept. A definition is considered too broad if the characteristics selected to describe the concept allow for objects that should not be part of the extension. A definition is considered too narrow if the characteristics selected exclude objects that should be part of the extension.

Example: mechanical pencil

– too broad: writing instrument composed of a barrel and a refill. (By not specifying precisely the type of refills, this definition broadens the extension to include ball-point, roller-ball and felt-tip pens as well as mechanical pencils.)

– too narrow: writing instrument composed of a barrel, a lead refill and push-button advance mechanism. (By specifying a push-button advance mechanism, this definition narrows the extension to exclude those mechanical pencils using other types of advance mechanisms.)

– corrected definition: writing instrument composed of a barrel, a lead refill and a lead-advance mechanism.

Negative definition: A definition shall describe what a concept is, not what it is not.

Example: deciduous tree

– inappropriate negative definition: tree other than an evergreen tree deciduous tree

– corrected definition: tree that loses its foliage seasonally. (However, when the absence or non-existence of a characteristic is essential to the understanding of a concept, a negative definition may be required.)

Example: nonconformity

non-fulfillment of a specified requirement

Sources and further reading:
Wikipedia on circular definitions

H. Take note! Language codes versus country codes

When working with termbases it might be confusing at first to remember which code to use. Don't get confused! ISO has two lists of codes (well, actually more than two but let's keep it simple): (i) the language codes called ISO 639-1:1988 "Code for the representation of names of languages" Part 1 Alpha-2 code; and (ii) ISO 3166 "Code for the representation of names of countries."

Both consist of two letters. The language code is written in lowercase while the country code is written in uppercase. However, both ISO classifications may be combined to differentiate regional languages.

Examples:

Language code	Country code	Combination
en: English	US: United States	en US: American English
	GB: Great Britain	en GB: British English
fr: French	FR: France	fr FR: France French
		fr CA: Canadian French

ISO 639-2 "Code for the representation of names of languages. Part 2: Alpha-3 code" consists of 3-letter symbols, which gives more possible combinations in cases where many languages need to be classified. (The system was developed by UNESCO and the U.S. Library of Congress, among others.) They are used to "represent countries, dependent terri-

tories, and special areas of geographical interest."

Check out this comparative table by the U.S. Library of Congress for Alpha 1 and 2 codes.

By the way, the registration authority for ISO 639-1 is Termnet, and for ISO 639-2, the U.S. Library of Congress. According to the Library of Congress webpage, they "receive and review applications for requesting new language codes and for the change of existing ones according to criteria indicated in the standard [....] and maintain an accurate list of information associated with registered language codes, process updates of registered language codes, and distribute them on a regular basis to subscribers and other parties."

Sources and further reading:
Wright, Sue Ellen and Budin, Gerhard. Handbook of Terminology Management. Volume I. Infobox No. 16, "Language identifiers" (page 344).
ISO 639.
Registration Authority ISO 639-2.

One of my favorite things is doing terminological research and I think this practical example and the tips on doing Internet searches will help you start out on the right foot. The

VI.

Terminological Research

terminological databases I present at the end of this chapter are the ones I use most often so, if you are just starting, I think you should include them in your browser favorites.

A. Tackling terminology in a new field: A practical case

This post was originally published as guest post in Memsource's blog.

I was recently asked to do terminology work and translation on a topic that was new to me: SAP (Systems, Applications & Products in Data Processing), the enterprise software that manages business operations and customer relations. I want to share with you the steps I followed to make sure that I got my terminology right.

1. Sign up to expert online forums and groups**:** To start out on the right foot, search for online groups in which experts come together and talk about what they do. To get help on SAP, I signed up for every professional forum I could find and was surprised to see that people were actually willing to help me. One expert sent me a 16,000-word multilingual glossary!

2. Follow expert blogs**:** I found many blogs on SAP, both in English and in Spanish, and in one case one of the experts was also a trainer and was helpful in answering a few questions. She also had a great glossary online that I saved in my Favorites, along with the other online glossaries I found.

3. Use social media**:** We are lucky to live in these times when we can make new contacts and friends by actively using social media. The most valuable offer of help came from an expert in Spain who I contacted via LinkedIn. He helped me revise a 250+ term list that I had made in Excel, based on the definitions for each term. The best part was that he only suggested a few changes, which meant I was indeed doing my homework right.

4. Use Google Custom Search**:** I put all my SAP links in a folder that allowed me to do simultaneous searches in my favorite SAP pages (help.sap, supportsap, etc.) using Google's Custom Search.

5. Gather your resources**:** Use Google's advanced features (such as filetype:pdf or site:mundosap.com) to find reliable information. I found Ph.D. and Master's degree theses, manuals, articles, etc. As always when dealing with the Internet, make sure your documents are written by subject-matter experts.

6. Confirm you terms through corpus analysis**:** Convert your collected documents to .txt to analyze in a corpus analysis tool. I cannot emphasize this enough. Doing corpus analysis is critical in your terminology work. It is a great way to look at concordances and initially confirming your terms before they get validated by the expert. In some cases, when you have the same reference document available in your working languages, you can align them and create a translation memory to use as a corpus.

7. Use your CAT tool to reuse your terms for future translations**:** The purpose of managing your terminology effectively is to be able to reuse it. Regardless of the CAT tool you use, it is key to create a termbase for your terminology. I'm sure you don't want to see those long hours of researching terminology go to waste.

Although I can't say I'm an expert in SAP terminology, I can assure you that following these steps made me feel confident about the final product delivered to the client.

B. Trustworthiness of websites during term search

Termbase creation and updating requires a lot of research. When looking for terms on the Internet, be careful and ask yourself the following questions:

1. What is the document source? Check the URL suffix (edu, com, gov, org are probably trustworthy sites) and write down date you visited the site, and store them. Be aware that there may be copyright issues.
2. Is the information useful and appropriate for your purposes?
3. Who is the owner of the website (URL address may help identify)? Look for the "About" description, google the author.
4. Does it have correct linguistic features (grammar, style, usage)?
5. How is the design quality of the webpage (Does it have a lot of advertising? Does it look amateur?)
6. Is it up to date?
7. For bilingual websites, make sure they have been translated by professionals. Does it look like it has been proofread?
8. Who is your audience? What is their age group? Are they scholars, students, the general public?
9. What is the purpose of the website? Does it sell a product; is it a public service page?
10. Check the website links to other pages. Are those reputable pages?
11. Double check your terms in other sources.

Here is a detailed list published by the Erma Wood Carlston Library (Lee College) with more details and tips.

C. Top terminology databases

You know that feeling. You have so many links to glossaries and dictionaries that you forget what you have actually saved. Your best bet is to first open the terminology bases that will save you a lot of research time.

One thing that you should remember is that there are a lot of experts and linguists behind each termbase. They have done extensive research and validation of terms, so you know that the term you are using is very reliable. And they always welcome your feedback in case you have comments or suggestions.

Termbases that are subject-specific also include other subject fields, so you can't dismiss them. For example, if you search for "bargaining power" in FAOTerm, you will find the term, even if it's not exactly referred to agriculture.

IATE is at the very top of my list, especially since they have an add-on function that you can

download to make quick searches.

UNTERM. Working for an international organization, I must say that we are very strict with terminology so if we don't have a term in our termbase, we always go to UNTERM. And so should you!

TermiumPlus. I know this is mostly limited to English, French and Spanish, but if you use those languages this is a great termbase.

ILOTerm. It requests a login when you visit, but you only need to type "guest" in the username (with no password) and it will let you get in. I think you will thank me for this! Pick your language pair first and go to Advanced Search. Make sure you have picked the option ILO Termbase.

GATT termbase. World Trade Organization termbase in SDL Trados. If you are like me and love playing with termbases, this is a great place to go to. I know, I know, again, this is only English, French, and Spanish, but if you use these languages, this database is a perfect place to see how a termbase works.

UNESCOTERM. Try this to test it: click on "Expert Mode"; choose your language pair, pick "Administrative and Financial Terms" in the drop-down menu. Type "insurance" (or any term you are curious about). You can also choose to show definitions, remarks, and sources.

Others by subject:

Agriculture: FAOTerm

Financial: LinguaFin. More info by clicking here.

Patents: WIPO Pearl. More info by clicking here.

Environment: Eco-Lexicon.

Science: TermSciences. More info by clicking here.

An additional tip: Download a free add-on in your favorite browser to save all the links you will use and open them with just one click, such as "Snap links" for Firefox or "Linky Extension" for Chrome. There are many to choose from! Also, remember that most termbases can be personalized so make sure you go to the settings and pick your language pair. It will save you a lot of time.

Not happy with my list? I know you have specific needs. You can always check TermCoord's list for more terminology database. The ones I provide here are the ones I use most of the time but I am sure you could add more. Want me to add your favorite? Send me a note to inmyownterms@yahoo.com.

There's always something almost romantic when opening a well-structured termbase. It makes me smile and breathe a sigh of relief. Happy searching!

This chapter includes some posts that give you an overview of what you need to know

VII.

Terminology and the Legal Stuff

when creating a termbase to avoid legal issues and to make sure you are doing everything according to general standards.

A. Terminology and product liability

There's no denying that terminology inconsistency could not only undermine customer trust in our products but also have serious legal implications for a business if its documentation –such as user manuals, technical manuals, online help, training, tutorials, etc.– uses different terms for products that are published or marketed internally or externally, nationally or internationally. There could be a high risk of injury or damages if measures are not taken from the beginning of the manufacturing process to make sure that terminology is managed properly. This will avoid having after-sale issues and eliminate the risk of costly remedial measures such as unnecessary customer support service calls or even product recalls.

By avoiding errors in technical texts, terminology management will reduce the risk of liability claims, damage compensations (financial loss), safety procedures, product failure, and even human injury or loss of life. It becomes even more critical when you are selling "intelligent products" such as software, medical devices, pharmaceutical products, etc. Mistranslations in medical texts or user's manuals for heavy machinery, for example, could cause serious injuries or even death. Therefore, maintaining consistency and accuracy in terminology is vitally important to the health and safety of patients, and even more so when we are dealing with many languages.

In order to maintain its position in the market, nationally and internationally, a business should comply with terminology requirements to ensure that its product information and documentation is reliable and will not give way to possible legal actions.

In 2007, the FDA had to recall a device due to terminology inconsistency. The manufacturer's reason for the recall was "Mislabeling: Reporting terminology in the Syphilis IgG APF CD is not consistent with the distributed Instructions for Use. (Non-Reactive and Reactive rather than Negative and Positive)." Not only was this costly, it also damaged the image of the manufacturer and possibly caused other major issues.

To avoid these problems, the best way to proceed is to manage terminology from the beginning and comply with quality standards, general standards (such as the widely known ISO 9000 series), industry standards (such as DIN 2345 for contracts between translators and clients, and EN 15038 for translation service providers that ensure the consistent quality of the translation service), and translation quality metrics (such as the SAE J2450 standard for translations of automotive service information).

Sources and further reading:
Muegge, Uwe. Terminology Management. Neglect it at your own peril
Steurs, Frieda. Economic Aspects of Terminology Management
Octopus Translatoins. Technical translations: challenges and possible solutions
Inge Karsch, Barbara and Sauberer, Gabriele. Terminology precision. A key favor in product usability and safety
Smaadahl, Hanne. Are they worthy: What terms belong in a termbase?

B. Code of good practices for copyright in Terminology

After completing the advanced course as Terminology Manager by TermNet, I received with my certification a complimentary copy of the Guide for Terminology Agreements, which is also available online. I have mentioned it before, but I think it's important to highlight its Code of Good Practices.

The Code of Good Practices is Part 2 of the Guide and it is a great quick read (only 3 pages) to increase your awareness of this important subject. I summarize its contents here to pique your interest and encourage you to read it.

First, let's take a quick look at its five **General observations**:

1. The importance of terminologies**:** Short note on how terminology permeates every basic scientific and technical area.

2. The preparation of reliable terminological data – a task worth promoting. Terminological data are prepared by experts to unify terminological usage to achieve clarity and consistency.

3. Cooperation in terminology work**:** Explains why cooperation among institutions is key to avoiding duplication of efforts, especially considering how time consuming and labor intensive terminology work is. Information exchange allows institutions to complement or build on the work carried out by others and leverage knowledge, with the appropriate acknowledgement given to the originators of data.

4. Applicability of intellectual property rights to terminology**:** Any representation of concepts (e.g., a term entry or a collection of terms) created or prepared by you as originator is protected by intellectual property.

5. Call for the provision of terminologies**:** You basically have an ethical duty to share with users any terminological work that you create, "on terms and conditions which reflect the nature of the terminologies in each case."

Then, the Code itself has four sections. Let's take a look:

1. Originators' intellectual property**:** (i) Always indicate the origin of the terminological data; (ii) large volumes of data only require to be referenced once but the user must acknowledge the originator as owner of such data; (iii) for data marketed by the originator, the user must obtain permission before sharing it with third parties; (iv) except for research or teaching purposes and for individual entries or a limited set of individual entries, you cannot share without the previous consent of the originator; (v) abide by agreements made on licenses and royalties; (vi) organizations with many users must make sure that the data is not downloaded or copied without authorization of the originator.

6. Data integrity**:** (i) You cannot make any changes to the data, except for typos and obvious mistakes; (ii) observe data integrity when working with sensitive information for individual items or data collections; (iii) do not share private or confidential data without previous consent of originator.

7. Standardized terminology**:** (i) Standards bodies and specialist organizations may and are urged to share terminological data among themselves to improve quality and volume; (ii)

terminological records must indicate the originator, be it for a single item or a collection of items; (iii) standards bodies should provide language equivalents of data received by its peer organizations and, if possible, free of charge; (iv) active exchange of data among and between standards bodies and other institutions is encouraged; (v) standards bodies must negotiate a license agreement with the originating standards body when sharing information from the originator.

8. Limited quotations of terminological data for scientific, research, teaching, and training purposes**:** You don't need to follow these rules for very limited extracts of individual terminological data or when dealing with limited data in scientific publications as long as you don't violate data integrity rules and you acknowledge the originator.

In addition to the Code, there's a 10-term glossary at the end of the Guide (Part 3) covering associated information, copyright holder, database, data usage, originator, quality of data, quantity of data, subject field, supplier, and terminology database.

Disclaimer: Please note that this blog post is a summary of the Code as interpreted by the writer with the purpose of giving the reader a quick overview of its contents. You must read and abide by the Code to make decisions on the use of your data. Thank you.

Sources and further reading:
Guide to Terminology Agreements, Christian Galinski and Jürgen W. Goebel, InfoTerm, 2006.

C. Mini refresher course on terminology standards (or, Did you know that...?)

Terms are standardized to avoid ambiguity so that experts from the scientific and technological world can effectively communicate with each other and sell or exchange their products or services. Below are some facts to test your knowledge:

1. Technical standards go hand in hand with terminology standards: When a technical standard is created (e.g., a USB drive or a translation quality standard) it is usually accompanied by a terminology standard (an agreement on which technical terms will be used in a technical standard).

9. Individual countries, state-owned entities, semi-private and private organizations send their national/industry delegations to standardization meetings where they approve the documents containing the standards. They select and agree on the terminology to be used in the technical standard to promote preferred usage and avoid the use of deprecated (forbidden) terms.

10. Delegations return to their countries but the standards are not binding until a government (organization or company) decides to make it official. However, if a translation company says that they are applying an ISO standard and in practice they fail to do so, then it is binding because it is included in the contract signed with the client. Likewise, at the governmental level, if it becomes part of the law, then it is binding.

11. Standards are approved using a bottom-up approach, that is, national experts or private companies propose the terminology that can go international or remain at the regional or national levels. For example, Microsoft standards have been used as the basis for ISO standards.

12. Each standard is revised every 3 years. If consensus is not reached, then it is no longer valid.

13. Besides terminology standards, delegations also agree on classification of materials, manufacture and supply of products, testing and analysis, and provision of services.

14. The idea is that suppliers and customers use a common language to facilitate trade and the transfer of technology to ensure the interoperability of a product (i.e., it can be sold and used in any country).

15. Technical documentation, such as user manuals for products and services, always contains a lot of terminology and successful communication won't occur without agreement on what terminology will be used across the board.

16. Terms under discussion by the committees are chosen taking into account three factors: (i) economic reasons (term is less cumbersome than another and the message is transmitted effortlessly); (ii) precision (term has greater transparency or clarity than another; term clearly refers to one concept and the user spontaneously can connect the term to the concept, e.g., computer mouse); (iii) appropriateness (term has no negative/political connotation, e.g., does not refer to negative historical events).

17. ISO standards are written/translated into English, French, German, Russian, and Spanish, and many are also translated into Chinese. National standards are usually monolingual but it depends on the number of official languages spoken in the country (e.g., French and English in Canada).

18. Some standards have been actually "translated" from ISO English into American English. European Spanish standards are also often "retranslated" into Latin American Spanish.

19. Terminology standards are important because they help technical experts express themselves and communicate even if they are not linguists. The standard document contains terms and definitions that help them do their job efficiently.

20. The three stages of terminology standard writing are: (i) planning the approach: needs analysis, define target group, identify subject field and subfields, analyze source materials, etc.; (ii) composing the terminology standard: collect data, select terms, structure concepts, write definitions, etc.; (iii) presenting the terminology: figure out how the terminology will be accessed, specify number of data entries, graphic representation, etc.

21. Regional standard organizations include the African Organisation for Standardisation (**ARSO**), the European Committee for Standardization (**CEN**), and the South Asian Regional Standards Organization (**SARSO**). National standard organizations include the American National Standards Institute (**ANSI**), Asociación Española de Normalización y Certificación (**AENOR**), and Association Française de Normalisation (**AFNOR**). International standard organizations include the International Electrotechnical Commission (**IEC**), the International Organization for Standardization (**ISO**), and the International Telecommunication Union (**ITU**).

22. TermBase eXchange (TBX) is a free terminology standard used to represent structured concept-oriented terminological data.

23. Technical standards also include methodology standards to ensure consistency in work procedures used by standardizers and to foster technical and semantic interoperability between different systems used in different organizations, projects and environments.

24. ISO/TC 37 "Terminology and other languages and content resources" is the technical committee responsible for standardization related to terminology work principles and methods, among other important duties. It comprises five subcommittees, as follows:

    - ISO/TC 37/SC 1 "Principles and methods"
    - ISO/TC 37/SC 2 "Terminographical and lexicographical working methods"
    - ISO/TC 37/SC 3 "Systems to manage terminology, knowledge and content"
    - ISO/TC 37/SC 4 "Language resource management"
    - ISO/TC 37/SC 5 "Translation, interpreting and related technology"

25. ISO 704 "Terminology work–principles and methods" is based on science and scientific development in terminology use and it is the most important standard in terminology.

    Check here to see a complete list of ISO Terminology standards.

26. Terminology standards are generally de jure standards, that is, produced by a standardization/official body and developed largely by consensus of the participating members. De facto standards are market-driven. Once a technology becomes dominant, it becomes the de facto standard (including its terminology).

27. The ISO Online Browsing Platform (OBP) allows you to look for terms and definitions, standards, collections, graphic symbols, and country codes. Click here to make searches in English, French, German, Russian, and Spanish.

28. Some standards are not free, but there are a few documents on the web that you can consult (see Sources below). Also, there are freely-available standards that you can access by clicking here (look for "Vocabulary" or "Terminology" in the titles). Other standardizing bodies provide standards for free, for example, the European Telecommunications Standards Institute (ETSI).

Sources and further reading:
InfoTerm. 10 Good Reasons for Standardization
Bononno, Robert. Terminology for Translators – an Implementation of ISO 12620 (Downloadable file)
Costa, Rute and Roche, Christophe. Rethinking terminology standards: 704 & 1087.
Drame, Anja, International Terminology Standardization (Reasons, Institutions, Results, Implementation), TermNet.
Galinski, Christian Terminology standards – enhancing language.
ISO/TC 37
ISO 704. Second edition.
rmnet Standardization and Terminology Standardization
Warburton, Kara. Terminology standardization, terminology management and best practices. Or… what's going on with terminology?
Wright, Sue Ellen and Gerhard Budin. Handbook of Terminology Management. Volume I. p.197-202

VIII.

From the Terminologist Toolbox

So many tools, so much to learn! I am not going to give you an exhaustive list as that would take a whole new eBook. But I think it's enough for now that you become familiar with some of the resources that can help you with your searches and the tools that might come in handy at one point or another. For details on more tools, check out my ToolBox list in this link.

A. Conversion tools and difference checkers for language lovers

Here is a collection of useful tools. I have not included the usual PDF to Word or Word to PDF converters because you can easily find them online.

Conversion tools:

TBX convert: On this page, you can convert between several glossary filetypes: UTX-Simple, GlossML, TBX-Glossary, OLIF. TBX (TermBase eXchange) is a family of XML-based languages for the interchange of terminological information (called TMLs, for Terminological Markup Language; also informally called "dialects" of TBX). All of TBX shares a core structure in which information is represented on one of three structural levels: concept, language, and term.

UTF-16 to UTF-8 Converter

Glossary converter allows conversion between MultiTerm Termbases and other terminology formats by simple drag and drop, with minimal user interaction. It supports xls, xlsx, csv, txt, tbx, utx, multiterm export files, and tmx.

TBX Utilities: This is a collection of tools to be used when working with Term Base eXchange (TBX), an open, XML-based standard for exchanging structured terminological data submitted for adoption under ISO 30042 Technical Committee 37.

TBX Resources: TBX Resources is dedicated to helping you use the industry-standard TBX format with your terminological data. Here you'll find tutorials and tools for using and converting to and from TBX.

Other TBX downloads and tools

TXT

AntFile Converter: A freeware tool to convert PDF and Word (DOCX) files into plain text for use in corpus tools like AntConc.

EncodeAnt is a freeware character encoding detection and conversion tool. EncodeAnt takes an input list of text files (e.g., .txt) and attempts to auto-detect the character encoding that the files use. The character encoding can also be set manually. EncodeAnt also has an option to auto-convert the character encoding of the files to UTF-8, which is a standard used in most corpus research. The converted files are saved in a separate folder leaving the original files untouched.

Difference checkers:

WinMerge is an open source differencing and merging tool for Windows that can compare both folders and files, presenting differences in a visual text format that is easy to understand and handle.

DiffEngineX is a fast and scalable compare utility that finds the differences between the formulae, constants, defined names, cell comments, and Visual Basic VBA code contained in either two whole Excel workbooks or selected worksheets on Windows. It can align similar rows and columns across two different Excel spreadsheets. It works with xls, xlsx, xlsm and xlsb files. xla and xlam add-ins first need to be converted into xls and xlsm files before DiffEngineX can compare them. Excel 2003, 2007, 2010, or 2013 are required for this spreadsheet comparison tool to work.

ExcelDiff analyzes multiple Microsoft Excel (.csv, .xls, .xlsx, .xlsm, .xlsb) files and shows their differences graphically, even clarifying cell-level.

B. Readings, tools, and useful links for corpus analysis

The following list is a result of collaboration among participants in Lancaster's recent Massive Open Online Course (MOOC) on Corpus Linguistics. It is a selection of the links that I considered most relevant for those who might want to start exploring this field. If you want to share other links, feel free to add a comment or send me a message and I will add it here. I will keep you posted on the next CL course by Lancaster University. This post complements previous posts on corpora lists, GraphColl, and AntConc.

1. **Readings**

An Introduction of Corpus Linguistics – G. Bennet

Corpus Linguistics: What It Is and How It Can Be Applied to Teaching – D. Krieger

Corpus Linguistics 2015. Abstract book – F. Formato and A. Hardie (Lancaster:UCREL)

Corpus annotation – R. Garside, G. Leech, T. McEnery

A critical look at software tools in corpus linguistics – L. Anthony

Corpora and Language Teaching: Just a fling or wedding bells? – C. Gabrielatos

2. **Books**

Using Corpora in Discourse Analysis

Google book: Corpus-based Translation Studies – S. Laviosa

Google book: Corpus-based translation studies: Research and Applications – A. Kruger, K. Wallmach, J. Munday

3. **Tools**

Antconc

Concordance Software

Intellitext

Monoconc

SketchEngine

SkELL is a free online, stripped down version of the Sketch Engine corpus query software. It allows very simple searches for words that will produce a word sketch to show the grammatical and collocational behavior of the word. It also produces a list of similar words and the regular concordance lines. One of the tutors in Lancaster's MOOC, Keith Barrs, wrote an article on how to use this tool (from page 6).

WebCorp. Concordance the web in real-time

Wmatrix is a software tool for corpus analysis and comparison.

4. **Corpora**

The SILS Learner Corpus of English is a collection of essays by students at SILS, the School of International Liberal Studies at Waseda University.

Translational English Corpus (TEC) is a corpus of contemporary translational English: it consists of written texts translated into English from a variety of source languages, European and non-European

The Collins Corpus is an analytical database of English with over 4.5 billion words. It contains written material from websites, newspapers, magazines and books published around the world, and spoken material from radio, TV and everyday conversations.

CORPUS. The Open Parallel Corpus is a growing collection of translated texts from the web.

Natural Language Toolkit is a leading platform for building Python programs to work with human language data. It provides easy-to-use interfaces to over 50 corpora and lexical resources such as WordNet, along with a suite of text processing libraries for classification, tokenization, stemming, tagging, parsing, and semantic reasoning, wrappers for industrial-strength NLP libraries, and an active discussion forum.

WordBanks Online is an online corpus service offering you the chance to tap into the unique resources of the Collins Word Web, on which the highly successful range of Collins dictionaries is based.

Lancaster Corpus of Children's Project Writing is a digitized collection of project work produced by children aged between 9 and 11.

5. For corpora in other languages visit Corpus Linguistics and Morphology of Humbolt-Universität zu Berlin, and lemmatization lists in several languages at lexiconista.com

6. **Other useful and interesting links**

Corpus linguistics community in Google

Software related to Text/Corpus Linguistics

Tools and websites by Corpora4Learning

ICAME Journal. This is published once a year (in the spring) with articles, conference reports,

reviews, and notices related to corpus linguistics. Each issue is about 150 pages and there have been 36 issues published.

The British Sign Language Corpus Project by the Economic & Social Research Council

A (brief) History of Computarized Corpus Tools by Mura Nava using TimeMapper

C. Terminology extraction tools

Making a comprehensive inventory of all the tools available is challenging, especially because technology moves at lightning speed and it's hard to keep up with it. I have prepared a list of some of the tools, both free and fee-based, which you can read by clicking here.

Also, terminologist Uwe Muegge wrote a great article for LinguaGreca about the "10 things you should know about automatic terminology extraction" which illustrates in detail some important aspects that you should know before you start playing with these tools.

IX.

General Considerations

A. The benefits of Terminology

1. The business case

So, you have read and prepared yourself to start a terminology project. The problem is that you have to convince your client that properly managing terminology is an excellent idea. Here are some pointers, facts collected from several sources, which you can use when presenting your business case. (You can find general information and links on the business case here).

Now that you have acquired some knowledge of terminology, or you have obtained a certification or taken courses, you probably need some tips on how to sell your terminology services to a potential client, whether you already work in an organization and need to sell the idea to your boss, or you have to present a terminology plan to a client.

The truth is that resources are scarce and people outside the terminology sphere will tend to think that the investment is too large. It is also true, however, that by managing terminology properly the investment is worth the time and resources spent in this effort, and more and more companies are becoming aware that they need to adopt a different strategy. That is why you have to present the before and after scenarios. Show stakeholders what will happen if terminology is properly managed, and equally important, show them what could happen if it is not managed at all.

Here are the facts that are on your side:

In the automotive industry, General Motors carried out a study that showed that 47% of translation errors are "wrong terms" and that investing in terminology "provides the most effective 'bang for the buck.'"

The modification of a term after translation can consume up to one person day of work and cost 480 euros or more (Terminologie – (k)eine Kostenfrage? (German only), by Dieter Gust.

95% of translators notice inconsistent terminology in source content and that inconsistencies in terminology have an impact on the quality of translation. (Terminology Survey by Sophie Hurst, Center for Information-Development Management –CIDM–).

1. 40% of time required for text production is terminology work (Source: Hans-Jürgen Stellbrink. Selling Terminology at a Price; The Wrong Approach. Terminology and Knowledge Engineering Conference). Document not available online.

2. Between 30% and 70% of errors in technical documentation are terminology errors:

"This shows that errors made at early stages in the documentation workflow are extremely expensive to repair. If such error occurred infrequently, then the contribution to the overall documentation cost would not be significant. However, terminology errors are indeed a large class of errors typically found in complex technical documentation. These errors could be between 30% and 70% of the errors discovered in technical documentation." (Evaluating Language Technologies: The MULTIDOC Approach to Taming the Knowledge Soup by Jörg Schütz and Rita Nübel)

3. Extract from the document "The economic value of terminology. An exploratory study" (Guy Champagne, Inc., A study submitted to The Translation Bureau of Canada). (This document is a must-read as it provides more details about the business case that might be useful to you.)

"It is hard for a focus group to assess terminology's impact on productivity. In general, however, the focus groups validated fairly well what the surveys and case studies reported:

- In the current environment, with the Internet and other data bases, it takes about 15 minutes to create a record. In dollars and cents, this means about $20. It was noted that, several (20) years ago, the Translation Bureau estimated the cost at $10 to $15.
- Terminology research is required for 4% to 6% of all words in a text.
- Experienced translators spend about 20% to 25% of their work on terminology activities. For a new translator, this percentage might be as high as 40% to 60%.
- Lack of a database, such as TERMIUM®, reduces productivity by 10% to 30%.
- This is fairly close to the 15% to 20% range already determined. Some said productivity could be reduced by 100%. The work would take twice as long."
- In the same document:
- "Managers of the terminology function estimate that it offers a 10% return on investment. In other words, a $100 investment yields a $110 return.
- Terminology accounts for 15% to 30% of translation/writing work. Terminology increases productivity in translation and revision by about 20%.
- Terminologists and their tools thus each generate $35 of every $100 in increased productivity."
- Work volumes, the pressure of deadlines and cost management concerns make it necessary to invest in and use terminology tools and banks.

"It costs 10 times more to fix a term at the end of a production cycle than at the beginning." The original source, or at least the exact or similar quote, was not found on the Internet but this fact has been mentioned in several sources consulted online, especially by Kara Warburton in her presentation Language Resources and their Commercial Applications. By the way, she wrote the following document for Lisa Terminology Special Interest Group: A comparative study of costs, data categories, tools, and organizational structure. She mentioned the source of the quote as "Xerox Corporation, J.D.Edwards," which is mentioned in the footer of the document. According to Wiki, J.D. Edwards is a software company in Colorado, United States. If you have more information on this, please let me know. Klaus-Dirk Schmitz also mentions the fact in his presentation Terminology Management in Technical Communication.

4. "Outsourced translations may be 50% more expensive if source terminology is inconsistent." The source seems to be Kjeldgaard (no full name provided nor found).

5. About 20% of the terms in one glossary can be found in at least one other glossary (sometimes defined differently).

It costs $2,000 to change a term in a translation memory for one language (Martin and Karsch) Source: Perspectives on Localization in google books.

6. Kara Warburton (TermoLogic) wrote a document called "Developing a business case for

managing terminology" that you can find here. It covers the following topics; Terminology's introduction into commercial settings; some business case assumptions; direct, indirect, and strategic benefits; the costs of NOT managing terminology; conditions that favor the return on investment (ROI); and maintaining a realistic perspective.

7. The following document is not available online, but you can read an abstract here. "The Case for Terminology Management: Why Organizing Meaning Makes Good Business Sense," by Kelly, Nataly and Donald DePalma (Common Sense Advisory, 2009).

8. A tekom study entitled Cost and effectiveness of terminology work presents valuable figures and talks about the cost-benefit aspects of terminology management.

9. SDL explains in a few words what the cost of inconsistency amounts to in this useful infographic.

10. Sarah Evans wrote this article called The importance of effective terminology management.

11. Terminology matters everywhere. TermCoord's Rodolfo Maslias post in their blog.

12. Developing a business case for managing terminology, by Termologic's Kara Warburton.

13. An article of the ISTC (Institute of Scientific and Technical Communicators) Communicator newsletter, by Sophie Hurst, Wake up to Terminology Management (page 14) discusses the findings of SDL's two surveys of translators and organizations on terminology effects and issues, trends, concerns and developments.

14. "The case for terminology management. Why organizing meaning makes good business sense" (Common Sense Advisory, 2009) by Nataly Kelly and Donald DePalma. (Used to be available online but I leave it for reference).

15. Project Management Fact Sheet: Developing a Business Case

7. ROI and the benefits of terminology

ROI stands for "return on investment" and refers to the profit or cost savings that a company makes for the money it invests in any given endeavor (e.g., terminology project).

In simple terms, the ROI is a formula that measures the profitability of an investment by which we divide the benefit (also called return or net gain) by the cost of the investment. It gives an estimate of the potential benefits of the investment. If the result of the ROI is positive, then the investment can be made; if it's negative, then the company should not invest. Read a detailed explanation here and, for additional information, don't forget to also check out my section on the business case.

Some people advise that the simplicity of this measurement can be manipulated and therefore you should be careful and make sure that you understand all the elements involved so that you obtain an accurate result that does not leave room for doubt or come back later to bite you! There is a book by Robin Lombard called Perspectives on Localization and on page 163 (Return on Investment) he mentions this risk in more detail. The book is partially available in google books where you can read that section.

In any case, knowing your ROI is important in Terminology, as this short note from TermStar explains. Understanding this concept is key when defending your business case and it is

therefore mentioned in most training courses. You should analyze questions related to the benefits that managing terminology will provide to the company to justify the investment. Some of these benefits (or returns) are, for example, savings in production and translation costs, higher customer satisfaction (i.e., less customer complaints), reuse of information (from glossaries, for example), improved content quality, increased productivity, duplicate work is reduced, fewer errors and inconsistencies, and less time spent fixing those errors.

JR Language sums up some of the benefits of managing terminology, as follows:

> • "Reduces time to market. It reduces translation time. All terms, even internal terminology of the company, forbidden terms, acronyms and accepted translation are approved and ready to be used in the term base and in the translation glossary.
>
> • Facilitates edition and revision of documents.
>
> • Translation will become more and more consistent with time even if multiple translators are involved.
>
> • By eliminating ambiguity in the terminology your message will always be clear for your reader.
>
> • Share knowledge of your business domain with the staff of your company and with outside organizations among them, your translation agency.
>
> • Use of the same terms consistently across the different content and communication process that support your product or services."

EVS Translations also gives its own list:

> • "Better internal and external communication, less misunderstandings, less complaints
>
> • Better customer experience
>
> • Easier adaptation of products and services to global markets
>
> • Time-to-market delivery of global content
>
> • Legal and standards compliance
>
> • Brand consistency
>
> • Enhanced content quality
>
> • Decrease of the cost for translation and localisation services
>
> • Increase in efficiency and error reduction
>
> • Increase of the value of the brand"

The Terminology Starter's Guide by TerminOrgs, also mentioned in my Resources section, explains major important benefits: (i) reducing costs and time to market; (ii) improving quality; (iii) strengthening brands and protecting intellectual property; and (iv) preserving

know-how. You will probably find more lists of benefits if you google it, but this is basically to give you an idea that you have a lot of reasons to present your plan.

B. Pricing for terminology work

There has been some discussion on social media about how much we should charge for terminology work. This topic has been also previously discussed by Barbara Inge Karsch in her 2010 blog post What do we do with terms?

It is important to make a differentiation between terminology work done during the translation process and terminology work done by a terminologist. In this post, I refer to general terminology work done in translation, since doing terminology work for a company or organization is dependent on many factors that are usually out of our control (mainly budget restrictions).

A translator usually charges either by word, by hour, or by project. During the translation process s/he will research technical terms as necessary. At the end, s/he has a glossary or several terms entered in his/her termbase, for his or her own use. But if the client requests that the translator prepare a glossary or any other type of terminology product, then a decision needs to be made on how much to charge for that specific request.

Your best bet is to charge by the hour. Some terms will require more or less research work (or documentation) than others, or you might already know a term well due to previous jobs, so no research will be necessary. The level of complexity for each term will always be different. Also, if you need to provide a definition for each term (a rare request), you would have to make more or less research and take the time to write a definition yourself if a definition is not available (this assuming that you have deep understanding of the subject or that you have consulted an expert(s)).

Also, because terminology work is costly, you should be assertive when choosing the terms that will be added to your glossary or termbase. It is always hard to pick the most useful and appropriate terms. You might also want to add preferred terms and deprecated (forbidden) terms, leaving out terms that you can easily find in a dictionary. In other words, make sure the terms are real terms (project-specific) to keep them relevant.

C. The ins and outs of term validation

What is term validation?

During the preparation of glossaries or the updating of termbases, each step in term processing is important but probably the one that will save you the most time is term validation. How and when it's done is key to achieving cost-effective/efficient validation.

Validation (conceptual/linguistic) is the verification and quality control process used to make sure a term or list of terms is accurate according to preferred usage or the requirements established by the terminologist or the team involved in the process. It includes a series of steps such as evaluating the quality of the resources available (e.g., corpora) and consolidating terminological data (e.g., into glossaries). It involves choosing between several term candidates to pick a preferred term or even creating your own terms (neologisms). In some cases, validation also includes writing new or updated definitions.

Who does term validation?

Domain expert(s) and terminologists(s)/translator(s) are usually the main players, but it can also be done by a translator with specialized knowledge of the subject field (or in consultation with a domain expert). For larger projects, stakeholders also may include legal experts, technical writers, product managers, engineers, and consultants, among others.

Rute Costa, et. al., in a presentation in 2011, gave a general description of the expertise of their team members: (i) translators: huge domain knowledge; (ii) experts: validate the designation, validate the relation between designation and concept, validate the micro-conceptual system, definition in the natural language; (iii) terminologists: responsible for methodological design, mediators between the experts and the translators.

How are terms validated?

For organizations or companies, an internal process is usually established (a guide/criteria is usually drawn up at the beginning of the process). In some cases, a Word or Excel file is shared by validators and, in other cases, a page is created in the intranet to facilitate communication. In more informal settings, exchanging emails or some other type of communication is also employed. Also, using web-tools like TermWiki, for collaborative terminology management, is a good option to automate large parts of the terminology validation process (see image below).

Validity decisions are based on usage and the up-to-datedness of the available terms. Corpus analysis takes place and a list of candidates is drawn up, by language. Contents and definitions are extracted and/or researched, or consulted with domain experts.

When should terms be validated?

Ideally, terms should be validated before a project starts. It would be vital to have the client or the team come to an agreement on the terms that will be used before starting the translation. Changing terminology at the end of the process will delay delivery of products/services, cost you and your client extra money, and probably cause loss of confidence and end up in useless arguing and finger-pointing.

Why is it important?

Feeding your termbase with terms that are not validated will produce a low-quality termbase. Once you make sure that your terms have been validated by a domain expert and you keep it up-to-date, you are sure to have a clean working tool. In addition, even if you validated your terms from the outset, there is the risk of receiving changes to the source document in the process, new terms might come up, or decisions might be made that lead to changes in already existing terms. If you are dealing with multiple translators, there is an important need for close coordination. Keeping term consistency will be a challenge but keeping track of terms from the outset and adjusting them when necessary will produce quality translations.

The Interval Project underlines the following benefits of validating terminology:

- "lowering the cost of initial terminology creation
- improvement of the quality and consistency of terminology
- facilitation of terminology maintenance and reusability

• insuring maximum compatibility between different sources of terminology

• a starting point for international standardised methods"

Examples of validation

Uwe Muegge made a short but enlightening presentation in 2011 (See source 2 below), in which he provides useful illustrations of validation tools such as TermWiki (visit the link for more examples):

Validation in TermWiki

Sources and further reading:
1. The Interval Project: European terminological resource validation project, co-financed by the EC (DG XIII) within the framework of the Language Engineering programme.
2. Muegge, Uwe. "Terminology Validation". A downloadable presentation dated June 2011.
3. Costa, Rute; Silva, Raquel, Soares de Almeida, Sara. Terminology in the Portuguese Parliament: collaboration between terminologists and domain experts in the validation process of terminological content

D. Where do I get training?

Maria Teresa Cabré makes a differentiation between training in Terminology and the training of terminologists: "Translators, interpreters, and technical writers need training in terminology to deal with the specific terminological problems that derive from working with more than one language or from special subject writing, or to work on multilingual terminological research."

"A programme of training terminologists should include elements from linguistics, particularly lexicology and lexical semantics, logic and classification theory, special subject fields, documentation, sociolinguistics, pragmatics, and computing in addition to all the knowledge a specific social situation may require."

Based on her remarks, this eBook is aimed at giving you a first taste of Terminology. The extent to which you want to pursue your studies in Terminology will depend on your career goals.

There are a few places where you can go to check out the training offers available; whether a formal course or webinar, there is always something going on. For university studies see TermCoord's Terminology at Universities throughout Europe.

1. The Pavel tutorial (free), offered by the Government of Canada's Translation Bureau (TERMIUMPlus), is well organized, easy to understand, and is offered in English, French, and Spanish. I believe this is a great start and a must-read. It is divided into six sections: Introduction, Terminology Research Principles, Methodology for Creating Terminology Records, Tools, Standardization, and Supporting Documentation. It has useful exercises so can test yourself as you learn. While you are there, make sure you check out the Linguistic Papers by Silvia Pavel, which include useful resources such as the "Handbook of Terminology" (more advanced stuff), made up of three chapters: Principles of Terminology Research, Terminology Work Methodology, and Terminology Work Tools, as well as appendixes such as List of Principal Standardization Organizations.

29. SDL Language Solution (Trados) offers a series of webinars on terminology, such as "Creating a termbase: The data model, data categories, and what to include." So, you might want to check their page occasionally.

30. TermNet (International Network for Terminology, in Vienna, Austria) offers the ECQA (European Certification and Qualification Association) basic and advanced certifications for terminology managers. You can take them online (2 months each) or attend their summer school (one week).

31. AulaSIC in Spain offers courses in Spanish for translators and some related to terminology.

32. Proz.com offers on occasion webinars on terminology.

33. ATA offers a wide range of training opportunities in translation, and you should check it frequently to find terminology-specific events.

34. Pompeu Fabra's Online Master Program in Terminology.

35. Introduction to CAT and Terminology Management by New York University

36. Read the other four terminology blogs to stay updated:

    • TermCoord's blog is updated daily with the latest events and activities.

    • WordLo by Maria Pia Montoro offers great insights into Terminology and a comprehensive list of terminology tools and systems.

    • Terminologia etc by Licia Corbolante is in Italian and although I don't know much Italian, I find her posts brilliantly written with short and sweet practical cases of terminology.

    • Besharat Fathi's Terminosophy: The Road to Terminology is the newest kid in the terminology blogging town. A great place to learn a lot about terminology theory.