

# EFT Terminology Summit 2018

# 3M4

Making, Managing, Measuring Terminology.  
In the pursuit of Quality.



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EAFT Terminology Summit 2018

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## Foreword

The autumn of 2018 meant a number of firsts for me: I appeared on Georgian morning television where I talked about terminology, I taught terminology in Danish at the University of Greenland, and I visited Donostia, in Basque Country, for the first time. I almost got a sense of those old time explorers who went round discovering astonishing things that they did not know existed. I did not know much about Georgian terminology work when I visited Tbilisi or about the Greenlandic terminology problems.

I did know about the work of UZEI, however. UZEI was one of the terminology organizations which signed the Brussels Declaration and which has been active within the EAFT for many years. It is therefore especially fortunate that this EAFT Summit coincides with the 40th anniversary of UZEI. That way, all the work which has been and is being done at this centre can be highlighted: dictionaries and language and terminology consulting of a more traditional kind, but also quite ground-breaking language technology solutions which are used by the whole euskara community, e.g.:

- **HOBELEX:** spell and word checker for euskara
- **ELENA:** a multilingual text database from which translation memories can also be generated
- **IDITE:** the only quality assessment tool for texts in Basque that is available nowadays for automatically checking the correct use of Basque terms.

This is inspiring and shows that “smaller” (or lesser-used or minority languages as some would call them) languages do a lot of terminology work, which is useful for their own language and for others. UZEI also develops tools for Spanish (castellano) since 2009 – but their work also serves as an inspiration for other organizations, e.g. in societies where terminology work might not be considered so important.

Terminology-related challenges are shared between us – e.g. the threat of domain loss in higher education, the (lack of) state financing, and the revitalization of languages – and the EAFT Summit is an opportunity to discuss them, share experiences and present solutions.

One of the recurring challenges is **quality**, and this is why this was chosen as the overall theme of this EAFT Summit. At the Vth EAFT Summit in Budapest, the theme was also quality, but this time we have linked it to three M’s: making, managing, and measuring terminology work:

- **Making:** basic (“traditional”) terminology work which still needs to be discussed and debated when theory and practice continue to develop with technology and new ideas. But do you really “make” terminology? Yes, we do (glossaries etc.), and it’s not only about “neologisms” although that could be one interpretation.
- **Managing:** modern, practical terminology work, but also the overall handling of the terminological issues on national, regional, and local levels, in public and private contexts. Related to this are questions of trust and terminology. Who manages terminology? Who assumes (or should assume) a terminological responsibility? Here is where the terminologist profession comes in – it has been discussed before but with new professions appearing this question is

still worth talking about, especially when other professions (enterprise architects, information modellers, informatic, UX specialists etc.) start doing something which often is, or is at least very close to, terminology work.

- **Measuring:** new, aspiring work. How do we know how what we develop is received and used if we don't measure? Terminometry is not that new, but merits more attention, especially when our tools become more and more powerful.

So, the terminology world is changing: we get new tools, updates, new theory etc. But not all is positive: we also see another side where terminology training programmes are being closed down, fewer conferences are held and organizations change or disappear. One example is the IITF, Internationales Institut für Terminologieforschung, which closed down quite recently. However, the intention is to let it live on through the EAFT. In my own country, Sweden, the national centre for terminology was closed down at the end of 2018, after 77 years. This is tragic. As is the fact that the Danish terminology centre also stopped. The new Nordic model now seems to be to incorporate terminology into a larger language council institution alongside general and plain language work. Hopefully, this model will work, and we certainly hope that other terminology centres survive and new ones can be created. There are also positive signs:

- new associations appear (Vukol Beridze Association for Terminology in Georgia and Terminologifrämjandet in Sweden being two of the newest);
- new training opportunities emerge (Université de Savoie, Universidade Nova de Lisboa and University of Luxembourg have new training in place) and
- more conferences and workshops will be held, in new ways.

I hereby declare the ninth EAFT Summit open and wish you all an interesting Summit!

Henrik Nilsson, EAFT President

## Avant-propos : Rapport du Sommet de l'AET 2018

Pendant l'automne de 2018 j'ai eu plusieurs premières : je j'ai parlé de terminologie à la télévision géorgienne, j'ai enseigné la terminologie en danois à l'Université du Groenland et j'ai visité Donostia, au Pays basque, pour la première fois. J'ai presque eu le sentiment des anciens explorateurs qui allaient découvrir des choses étonnantes dont ils ignoraient jusqu'à l'existence. Je ne connaissais pas vraiment le travail terminologique mené en Géorgie, lors de ma visite à Tbilissi, ou les problèmes de la terminologie groenlandaise.

Cependant, je connaissais le travail de l'UZEI. L'UZEI était l'une des organisations terminologiques signataires de la Déclaration de Bruxelles et une organisation qui a été active au sein de l'AET depuis de nombreuses années. Il est donc particulièrement heureux que ce Sommet de l'AET coïncide avec le 40<sup>ème</sup> anniversaire de l'UZEI. Ainsi sera mis en valeur tout le travail qui a été fait – et qui se fait encore – dans ce centre : des dictionnaires et du conseil linguistique et terminologique de type plutôt « traditionnel », mais aussi des solutions assez innovantes en matière de technologies de la langue, qui sont utilisées par l'ensemble de la communauté euskara, dont :

- **HOBELEX** : correcteur orthographique pour le basque
- **ELENA** : une base de données textuelles multilingues à partir de laquelle peuvent également être générées des mémoires de traduction
- **IDITE** : le seul outil d'évaluation de la qualité des textes en basque disponible aujourd'hui pour vérifier automatiquement l'utilisation correcte des termes basques.

Tout ceci est très encourageant et montre qu'un travail terminologique d'envergure est effectué dans les « petites langues » (ou « moins utilisées » ou encore « minoritaires » comme certains les appellent), travail utile y compris pour d'autres langues. L'UZEI développe également des outils pour l'espagnol (castellano) depuis 2009 – mais leur travail peut également servir d'inspiration pour d'autres organisations, par exemple dans des sociétés où le travail terminologique ne reçoit pas forcément toute l'attention qu'il mérite.

Nous avons tous notre part de problèmes, en terminologie (autant de défis que nous devons soulever) – par exemple, la menace de perte de domaine dans l'enseignement supérieur, le (manque de) financement public et la revitalisation des langues – et le Sommet de l'AET est l'occasion d'en discuter, de partager des expériences et de présenter des solutions.

L'un des défis récurrents est la qualité, et c'est pourquoi cela a été choisi comme thème général de ce Sommet de l'AET. Lors du V<sup>ème</sup> Sommet de l'AET à Budapest, le thème était également la qualité, mais cette fois nous l'avons liée à trois activités : effectuer , gérer et évaluer le travail terminologique :

- **Effectuer du travail terminologique (faire de la terminologie)** : il s'agit d'un travail terminologique de base (« traditionnel ») qui doit encore être discuté et débattu alors que la théorie et la pratique continuent de se développer grâce à la technologie et aux nouvelles idées. Mais faites-vous vraiment de la terminologie ? Oui, nous en faisons (à force de compiler des glossaires, etc.), et il ne s'agit pas seulement de « néologismes » bien que cela puisse être une interprétation.

- **Le gérer (faire de la gestion terminologique)** : il s'agit du travail terminologique moderne et pratique, mais aussi de la prise en charge globale des questions terminologiques aux niveaux national, régional et local, dans des contextes publics et privés. En relèvent les questions de confiance dans le produit terminologique. Qui gère la terminologie ? Qui assume (ou devrait assumer) une responsabilité terminologique ? C'est ici qu'intervient le métier du terminologue – cela a déjà été discuté, mais avec l'apparition de « nouveaux » métiers, cette question vaut toujours la peine d'être abordée, surtout lorsque d'autres professionnels (architectes d'entreprise, modélisateurs d'information, informaticiens, spécialistes UX (expérience utilisateur), etc.) commencent à remplir des tâches qui sont, ou du moins qui sont très proches, du travail terminologique.
- **L'évaluer (mesurer l'implantation des termes)** : est visé maintenant tout nouveau travail en cours. Comment savoir comment ce que nous développons est reçu et utilisé si nous ne mesurons pas l'implantation des termes? La terminométrie n'est pas si nouvelle, mais mérite plus d'attention, surtout lorsque nos outils deviennent de plus en plus puissants.

Ainsi le monde terminologique évolue-t-il : de nouveaux outils, des mises à jour des outils existants, de nouvelles théories, etc. Mais tout n'est pas positif, hélas : nous voyons également la moitié vide du verre – des programmes de formation terminologique sont fermés, on organise moins de conférences et des organisations changent ou disparaissent. Un exemple est l'IITF, *Internationales Institut für Terminologieforschung*, qui a fermé ses portes tout récemment ; cependant, l'intention est de le laisser vivre à travers l'AET. Dans mon propre pays, la Suède, le centre national de terminologie a été fermé fin 2018, après 77 ans de bons et loyaux services. C'est tragique. Tout comme le fait que le centre de terminologie danois ait fermé ses portes. Le nouveau modèle nordique semble maintenant être d'incorporer la terminologie dans une institution de conseil linguistique plus large, parallèlement à un travail sur la langue générale et sur le langage clair. Espérons que ce modèle fonctionnera, en tout cas, nous sommes persuadés que d'autres centres de terminologie survivront et que de nouveaux seront sans doute créés. Il y a aussi des signes positifs à cet égard :

- de nouvelles associations apparaissent (telles que *Vukol Beridze Association for Terminology* en Géorgie et *Terminologiframjandet* en Suède, parmi les plus récemment créées) ;
- de nouvelles opportunités de formation émergent (l'Université de Savoie, l'Universidade Nova de Lisboa et l'Université du Luxembourg ont mis en place de nouvelles formations) et
- davantage de conférences et d'ateliers seront organisés, sous de nouvelles formes.

Je déclare par la présente ouvert le neuvième Sommet de l'AET, et vous souhaite à toutes et à tous un Sommet intéressant !

Henrik Nilsson, président de l'AET

(traduit de l'anglais par Henrik Nilsson, révision Anca-Marina Velicu)





EACT Terminology Summit

# 3M4

Making, Managing, Measuring Terminology,  
In the pursuit of Quality.

Soft  
EACT Summit 2018



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How can criteria for assuring the quality of terminology be established in the normalization process?

The important role that agents involved in the normalization process have in language planning.

The evolution of terminology in language planning: the exemplary practices of pioneers that are by now widespread.

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How can quality be guaranteed when creating terminological dictionaries?

How can quality be assured in terminology creation (appropriate standards, procedures, experts, corpora, tools etc.)?

Can social networks and collaborative terminology be helpful as a starting point in quality assurance?

22 S3

### Session 3: THE ROLE OF THE TERMINOLOGIST

What should the role of the terminologist be? Should terminologists prescribe terminology or should they act as facilitators? What should the collaboration between terminologists and experts be like?

And closely connected with that, how important is the training of:

- agents who develop terminology?
- users of terminology (translators and interpreters, technical writers, journalists etc.)?

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### Session 4: THE METHODOLOGY OF TERMINOLOGY WORK II

There is consensus among terminologists that there is currently no established, effective methodology to facilitate collaboration between terminologists and experts. Tools designed for advanced terminology management could be helpful in this regard, not only for creating and establishing such a methodology, but also for assuring the coherence of the terminology work.

Lessons learnt from creating tools for term extraction in translation memories, machine translation etc should also be taken into account when developing advanced terminology management tools.

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## Le travail terminologique en langue basque

Araceli Diaz de Lezana

Vice-Ministry of Language Policy, Basque Government

### Resumé

Après une petite introduction géographique de la langue basque ou euskera, la présentation montre l'aménagement du travail terminologique mis sur place par le Gouvernement Basque. Cet aménagement a deux axes fondamentaux : la Commission de Terminologie et la Banque publique basque de Terminologie EUSKALTERM. À partir de ces deux entités, on présente la méthodologie et les procédures de travail en terminologie basque.

**Mots clés** : normalisation terminologique, banque publique basque de terminologie, Commission de Terminologie, qualité de la terminologie, recommander l'utilisation de la terminologie approuvée.

### I. Quelques renseignements sur les territoires de la langue basque

Le Pays Basque se situe entre la France et l'Espagne: le Pays Basque nord et le Pays Basque sud. En Pays Basque nord il y a trois provinces basques: le Labourd, la Basse Navarre et la Soule. En Pays Basque sud il y a deux communautés autonomes: la Communauté Autonome Basque avec trois territoires historiques, Araba/Álava, Biscaye et Gipuzkoa, et la Communauté de la Navarre. Donc, il s'agit de trois réalités politiques et administratives différentes. La

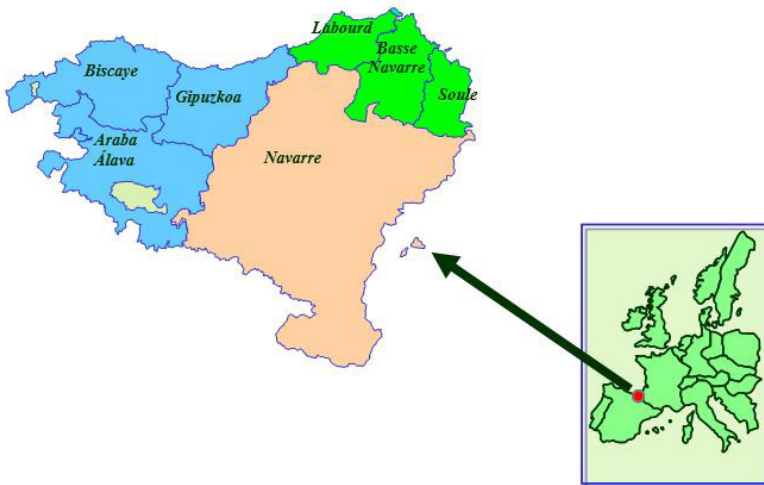


Figure 1: Communauté Autonome Basque, Navarre et Pays Basque nord

Communauté Autonome Basque et la Navarre ont des gouvernements autonomes.

Dans la Communauté Autonome Basque l'euskera et l'espagnol sont des langues co-officielles. En Navarre l'euskera est langue co-officielle avec l'espagnol dans une partie du territoire. En Pays Basque nord le français est la seule langue officielle.

L'euskera est une langue sans famille. Il s'agit d'une langue pré-indoeuropéenne sans origine connue. Donc, pour le travail terminologique, on n'a pas une langue qui puisse être prise comme référence à l'heure d'établir la dénomination en euskera d'un terme à usage international, qui a été créé et divulgué, la plupart des fois, à partir de l'anglais.

Donc, on n'a pas de problème pour définir les concepts spécialisés (on obtient facilement cette information à travers autres langues) mais, par contre, nos difficultés, des fois, se rapportent à pouvoir établir des termes équivalents en euskera pour quelques-uns de ces concepts. Voyons un exemple :

**en** restorative circle  
**fr** cercle restorative  
**es** círculo restaurativo  
**ca** cercle restauratiu  
**eu** ????

Une solution qui ne passe pas par l'emprunt ne serait pas acceptable pour les usagers spécialistes de ce terme juridique (rapporté à «restorative justice »), parce qu'il serait très difficile d'arriver aux concept complexe qui est derrière le terme 'restorative' en anglais à partir d'un équivalent ambigu en basque.

## II. L'aménagement terminologique de l'euskera

### 1. Les différents niveaux de la terminologie :

À l'heure de mettre sur place l'aménagement du travail terminologique en langue basque, on a différencié de différents niveaux de la terminologie :

- La terminologie scientifique et technique : ce sont les termes usés à niveau international, donc chaque langue les adapte selon ses caractéristiques :

**eu** biodiesel  
**es** biodiésel  
**fr** biodiesel  
**en** biodiesel

- La terminologie basque traditionnelle (la pêche, l'agriculture, l'industrie du fer...), très riche en terminologie mais en train de disparaître dans notre société technologique :

**eu** uxatzaile  
**es** ojeador ; batidor  
**fr** batteur ; traqueur ; rabatteur  
**en** beater

- La (pseudo)terminologie de la vie quotidienne (nourriture, vêtements, affaires domestiques...) ; on parle, surtout, du domaine socio-économique où les emprunts entrent et s'installent de façon massive. Effectivement, ce sont des formes linguistiques que nous, tous, employons quotidiennement. Dans notre contexte les emprunts entrent de l'espagnol et en Pays Basque nord du français. On dit qu'il est très important d'intervenir au plus tôt possible afin d'éviter que la langue perde son originalité structurale (cela affecte aussi à la syntaxe). Par exemple :

<b>eu</b> kazadora	<b>eu</b> leotardo	<b>eu</b> gasolina; ezantza
<b>es</b> cazadora	<b>es</b> leotardo	<b>es</b> gasolina
<b>fr</b> blouson	<b>fr</b> collant	<b>fr</b> essence
<b>en</b> hunting jacket	<b>en</b> tights	<b>en</b> petro

- Et, finalement, la terminologie juridique et administrative, tout à fait conditionnée par la terminologie de l'espagnol et du français. En effet ce sont les systèmes juridiques de l'Espagne et de la France qui conditionnent la terminologie de ce domaine. La plupart des fois il est très difficile d'établir des correspondances entre les concepts d'une communauté linguistique et de l'autre.

## 2. Les références pour le travail terminologique en basque :

Nous avons de plus en plus des ressources linguistiques pour mener à bout le travail :

- Les travaux de l'Académie de la Langue Basque ([Euskaltzaindia](#)) pour la standardisation de la langue.
- La [Banque publique basque de Terminologie \(EUSKALTERM\)](#)
- Les différents corpus : généraux, spécialisés (scientifiques, techniques et juridiques).
- Les mémoires de traduction des administrations publiques.
- Des matériaux didactiques (enseignement primaire, secondaire, formation professionnelle, Université) : thèses de doctorat en basque, textes scolaires, manuels (originaux et traductions).
- Publications scientifiques.
- Les médias en basque.
- Dictionnaires (monolingues, bilingues ...)
- Wikipédia.

Et l'outil essentiel à ce moment pour le travail est le moteur de recherche de Google qui nous aide à trouver n'importe quelle information nécessaire pour le travail, toujours qu'elle soit en ligne.

## 3. Le Plan Général de Promotion de l'Usage de la Langue basque (1999)

Ce Plan élaboré par le Conseil Consultatif de la Langue Basque en 1998 et ratifié par le Conseil du Gouvernement Basque en 1999, établit le besoin de mener à bout la planification du travail terminologique pour l'euskera. Ainsi, le Sous-ministère de la Politique Linguistique du



Gouvernement Basque a basé son plan de normalisation de la terminologie basque sur deux axes fondamentaux:

- La création de la Banque publique basque de Terminologie **EUSKALTERM** en 2001, sur la base de la banque terminologique du même nom créée par UZEL en 1987, et

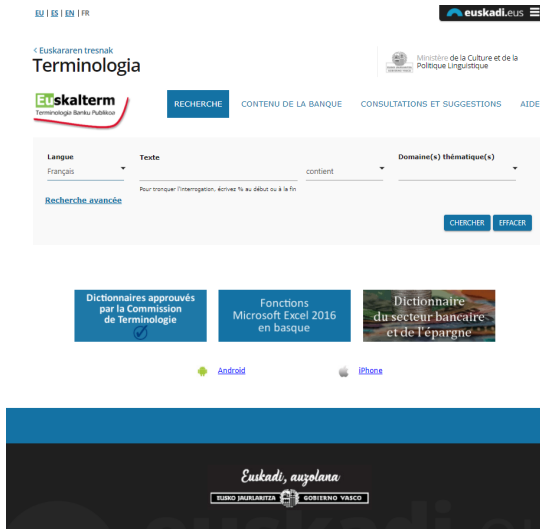


Figure 2: La Banque publique basque de Terminologie


- La création de la Commission de Terminologie en 2002.

La Commission de Terminologie CT a été créée comme sous-commission du Conseil Consultatif de la langue basque, par le Décret 179/2002 (Journal Officiel du Pays Basque JOPB n° 148 ; dernier Décret 176/2007 de 16 octobre 2007, JOPB n° 204). Les fonctions principales de la Commission sont les suivantes: établir les priorités dans le domaine de la terminologie, proposer les travaux à intégrer dans les plans annuels, fournir les critères à appliquer dans les travaux terminologiques, proposer le terme prioritaire entre plusieurs termes concurrents, donner l'approbation aux travaux terminologiques, proposer des voies pour la diffusion de la terminologie et recommander l'utilisation de la terminologie approuvée.

- Les priorités : La Commission a fixé comme domaines prioritaires l'Éducation (la formation professionnelle et l'Université, ayant compte qu'ils ont continuité dans le monde du travail → la médecine, la fabrication mécanique...), l'administration publique (le domaine juridique), les sports, les technologies de l'Information et de la Communication, et le domaine socio-économique.

L'objectif est de fixer et de recommander la terminologie fondamentale d'un nombre de domaines le plus grand possible.

- Les critères pour le travail terminologique en langue basque: la Commission a établi des critères linguistiques, terminologiques et sociolinguistiques/pragmalinguistiques. De même, elle a fixé les critères concernant le traitement de la néologie : l'acceptation et l'intégration des emprunts et les calques linguistiques, la dérivation et la composition. Étant donné que dans la pratique terminologique il y a toujours des problèmes qui demeurent sans résoudre, la Commission a décidé d'élaborer *l'Inventaire des problèmes terminologiques*. À mesure que les problèmes sont résolus, les décisions prises s'intègrent dans les documents relatifs aux critères et à la néologie. Comme cela, le processus reste toujours ouvert, actif et vivant. Il s'agit d'un document à utilisation interne qui n'a pas été publié. Finalement, la Commission a créé un modèle de *dossier de normalisation* afin d'approfondir dans l'analyse autour des termes problématiques.
- Établir des priorités entre termes concurrents, approuver les travaux terminologiques, recommander l'utilisation de la terminologie approuvée: la Commission a fixé des marques de pondération (des côtes d'acceptabilité) des termes :The PLE, has then two roles in relationship with the ZPD:

- 0 Terme rejeté (non accepté par la CT),
- 1 Terme utilisé (non étudié par la CT),
- 2 Terme proposé (par les experts mais non étudié et approuvé par la CT),
- 3 Terme toléré (non préféré parce que la CT a recommandé un autre),
- 4 Terme provisoirement normalisé / recommandé (par la CT), et
- 4 +  Terme normalisé/recommandé (par la CT)

Les marques 1 et 2 sont utilisées seulement par les terminologues.

- La diffusion de la terminologie approuvée par la Commission de Terminologie: le but est de faire arriver la terminologie approuvée aux usagers stratégiques dans chaque domaine. La voie de diffusion la plus importante est EUSKALTERM la Banque publique basque de Terminologie. À part cela, d'autres publications sont utilisées pour la diffusion de la terminologie.

## La diffusion de la terminologie approuvée par la Commission de Terminologie

- EUSKALTERM, la Banque publique basque de terminologie  
[www.euskadi.net/euskalterm](http://www.euskadi.net/euskalterm)
- Publications: 58 dictionnaires (jusqu'à 2018)



Figure 3: Diffusion de la terminologie

Les dictionnaires approuvés par la Commission de Terminologie peuvent être aussi téléchargés en format pdf du [site web du Gouvernement Basque](#).

### III. Procédure d'approbation des travaux terminologiques en langue basque

Le travail terminologique est le fruit de la coopération entre les institutions publiques et des entités privées. Comme cela, on peut assurer la qualité des travaux.

Le Gouvernement Basque engage les travaux d'élaboration des dictionnaires par le biais d'un concours public. Jusqu'à présent, c'est le [Centre de Terminologie et Lexicographie UZEI](#) l'entité qui a réalisé les travaux terminologiques d'actualisation d'EUSKALTERM (selon les priorités établies par la Commission de Terminologie), à travers des contrats signés avec le Sous-ministère de la Politique linguistique du Gouvernement Basque. Ces travaux sont financés par le Sous-ministère de la Politique linguistique et par l'Institut Basque de l'Administration Publique (IVAP) à travers d'accords de collaboration signés à cette fin par les deux institutions.

Une fois les dictionnaires sont finis, le Sous-ministère de la Politique linguistique organise des commissions techniques avec des experts des domaines de spécialité traités et avec des linguistes, pour analyser les dictionnaires.

La dernière démarche est l'analyse et l'approbation des dictionnaires de la part de la Commission de Terminologie qui va recommander l'utilisation des dictionnaires approuvés. Il faut dire que

la Commission de Terminologie analyse et approuve aussi des dictionnaires réalisés et financés par d'autres entités et institutions.

Finalement, les dictionnaires sont intégrés dans la Banque publique basque de Terminologie EUSKALTERM avec les marques de pondération des termes, et ils sont publiés aussi en autres formats (papier, pdf...).

## La terminologie basque: assurer la qualité Coopération: institutions publiques + entités privées

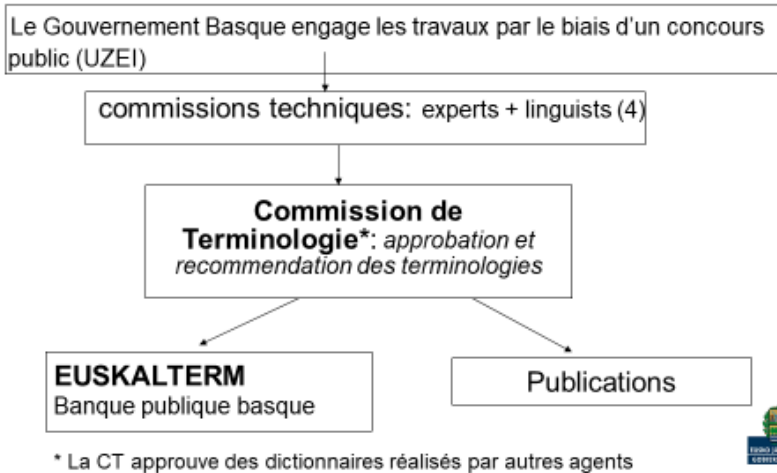


Figure 4: Procédure d'approbation des travaux terminologiques

Grâce à ce procès d'approbation des dictionnaires, on essaie d'assurer :

- La qualité des travaux qui passent par différentes phases : première version du dictionnaire (élaboré par UZEI ou autre entité qui ont compté sur la collaboration d'experts) ; deuxième version du dictionnaire (après l'analyse de la commission technique créée ad hoc par le Sous Ministère de la Politique Linguistique avec des experts et des linguistes) ; et troisième et dernière version (après l'approbation par la Commission de Terminologie).
- Le consensus par rapport aux termes et aux définitions. Quand on arrive à l'approbation d'un dictionnaire, on peut dire qu'il a un grand degré d'acceptation de la part des experts qui représentent la majorité des utilisateurs de la terminologie de ce domaine.

Une fois fini le procès de normalisation d'un travail terminologique, après quelque temps (on dit dix ans), il faut mener à bout l'analyse et l'évaluation du niveau d'implantation des termes recommandés. Ayant compte que la planification du travail terminologique pour l'euskera est relativement assez récente, on n'a pas fait jusqu'à présent ce travail. Donc, on est en train

d'organiser pour 2020 l'évaluation du niveau d'implantation des premiers dictionnaires approuvés et recommandés par la Commission de Terminologie. Cela nous permettra de connaître le succès ou les problèmes réels des termes approuvés.

## CONCLUSIONS

La qualité de la terminologie en langue basque est très importante non seulement en vue des propres objectifs de la terminologie, mais, aussi, parce que la terminologie est un élément important pour l'intégration de l'euskera dans les technologies linguistiques, donc pour le future de notre langue. En effet, si on a une terminologie de qualité, nous aurons des mémoires de traduction de qualité ainsi que des corpus de qualité. Et tout cela, à ce moment-là, est très nécessaire pour le domaine de la traduction automatique, surtout quand ces technologies sont en train d'arriver à un degré de qualité très haut à partir de l'utilisation des réseaux neuronaux artificiels.

## Références

- [1] Information sur la planification du travail terminologique pour l'euskera, sur la Commission de Terminologie, sur le Plan d'action de la Commission, sur les critères de travail et sur la politique concernant les emprunts et les calques (en basque) (en basque et espagnol quelques-uns ; autres seulement en basque)
- [2] Oeuvres de référence pour le travail terminologique en langue basque (en basque)
- [3] EUSKALTERM la Banque de Terminologie Publique Basque : [www.euskadi.eus/euskalterm](http://www.euskadi.eus/euskalterm)
- [4] Information sur la politique linguistique pour l'euskera



### Araceli Díaz de Lezana

#### Institution

Gouvernement Basque

#### CV

Araceli Díaz de Lezana est Responsable de Planification linguistique à la Direction de Promotion de la Langue basque (euskera) au Vice Ministère de la Politique linguistique du Gouvernement Basque. Elle travaille dans le domaine de la normalisation du corpus de la langue incluant la Terminologie, la Toponymie et l'intégration de l'euskera dans les Technologies de l'Information et de la Communication.

Elle est membre de la Commission de Terminologie du Conseil Consultatif de la Langue basque.

## The Irish Terminology Committee and European Terminology

**Donncha Ó Cróinín**

Chief Terminologist, Foras na Gaeilge, Ireland

The Terminology Committee (An Coiste Téarmaíochta) aims to develop, approve and provide authoritative standard Irish terminology to support the Irish language as a means of communication in a modern society. The committee (a voluntary committee of up to 30 members appointed for a three year period) and its staff establish terminology principles, plan and supervise creation of terms, deal with various queries from the public and with translation questions from the Irish offices of the EU, and establish subcommittees of experts as required. The committee includes experts from academia and representatives from various State bodies and EU institutions.

Approved terminology is published on the site [www.tearma.ie](http://www.tearma.ie). This site contains the terminology stock accumulated by the Terminology Committee over the past 90 years or so, and is updated constantly to reflect decisions taken at the committee's monthly meetings.

Work in this area was initiated by the Irish Department of Education in the 1920's to provide technical terminology in Irish for the educational sector, including textbooks, examination papers and educational documentation.

Further domain-specific lists were compiled in collaboration with external organizations. Partners in such collaborations included An Garda Síochána (the Irish police force), RTÉ (the Irish national broadcaster), Óglaigh na hÉireann (the Irish defence forces), Telecom Éireann (the then Irish national telecoms utility), the National Botanical Gardens and a number of multinational corporations.

Presentation (pdf) available [here](#).

Video of the presentation available [here](#).



**Donncha Ó Cróinín**

### **Institution**

Foras na Gaeilge, Ireland

### **CV**

Donncha Ó Cróinín holds degrees in Irish, Linguistics, and Speech and Language Processing. Having started his career in the Irish Civil Service, he moved to Dublin City University in 1991 to work on the EU-funded Eurotra machine translation project and on the establishment of Fiontar, the Irish-language unit at DCU, including management of its first terminology project. He then moved to ILTEC in Portugal. On his return to Ireland, he managed a number of research and development projects for ITÉ (the Linguistics Institute of Ireland). He then spent a decade as co-founder and managing director of his own translation technology company, and as a freelance translator. In January 2017, he was appointed as Chief Terminologist with Foras na Gaeilge, the state body with responsibility for promotion of the Irish language.

## Lithuanian terminology in the beginning of XXI century

**Albina Auxksoriūte**

Lietuvių Kalbos Institutas, Lithuania

### Abstract

A paper provides a short overview of the Lithuanian terminology management in the past until the restoration of the independent state of Lithuania, shortly presents the work of Terminology Commissions and discusses the current state of terminology in Lithuania, terminology management and Lithuanian terminology research, presents Lithuanian terminological resources.

**Keywords:** Lithuanian terminology, Terminology Commission, term bank, terminology management, terminological research

### Terminology management in Lithuania: Past

In 1921 the first Terminology Commission was established at the Ministry of Education, which marked the beginning of the organized management of the Lithuanian terminology. The main task of the Commission was to harmonize the language of state institutions and to review and adjust the terminology in various fields. The Terminology Commission discussed and approved many necessary terms of law, economics, transport and communications, surgery and veterinary science, philosophy and theology, physics, geodesy, mathematics, natural sciences, agriculture and other fields. The majority of terms entered daily use and are still used today. The work of the Terminology Commission ended in the middle of 1926 after the period of five years. This Commission had a significant influence on the development of Lithuanian terminology.

The second Terminology Commission was established at the Presidium of the Academy of Sciences in 1945 and was moved to the Institute of the Lithuanian Language in 1951. The Commission's tasks included setting up the principles of term creation for various fields, coordinating terminology work and popularising terminology in the press and at linguistic conferences. In two decades of its activities the Terminology Commission performed important work in the ordering of terminology, its encouragement and development. It discussed terminological dictionaries of botany, chemistry, criminal law, economics, geography, literature, law, medicine, engineering and other fields which were being compiled, provided terminology related consultations for various institutions, organized conferences and discussions with specialists in regard to Lithuanian terminology creation, development and dissemination.

In 1971, instead of the Terminology Commission, a Terminology Council was established at the Presidium of the Academy of Sciences. Its main objectives were: co-ordinating and organising terminology work in various scientific institutions, publishing houses, various companies and other organisations; appraising compiled terminological dictionaries; issuing recommendations on usage of scientific and technical terms (Keinys 2012, 66). The Terminology Council consisted of 23 authoritative specialists in various fields of science and engineering.

The same year a Terminology group was established in the Department of Dictionaries at the Institute of the Lithuanian Language. This group was responsible for: 1) maintaining the documentation of the Terminology Council and co-ordinating its activities; 2) supervising ter-

minology work in various institutions in Lithuania and informing the Terminology Council about them; 3) keeping in touch with terminology commissions, compilers of dictionaries of terms and other institutions working in the field of terminology, and providing them with the necessary consultations; 4) preparing drafts of documents regulating terminological activities; 5) dealing with various topical issues; 6) writing articles on terminology and critical reviews of dictionaries and lists of terms.

In 1992 the Terminology Council stopped its activity; however, scientific research and practical terminological work were continued in the Institute of the Lithuanian Language. In 1991, the Terminology Department was established there and a Terminology Centre has been operating since 2003.

### Terminology management in Lithuania: the Present

Until 1996 dictionaries of terms were approved by the Terminology Department of the Institute of the Lithuanian language. Later this function was delegated to the State Commission of the Lithuanian Language, which is now responsible for coordination of terminological work in Lithuania.

The State Commission of the Lithuanian Language (further – Language Commission) was established in 1990. In 1993 the law defining the status of the Language Commission was passed. It provides that the Language Commission shall comprise 17 members, appointed and dismissed upon the recommendation of the Committee on Education, Science and Culture of the Parliament of the Republic of Lithuania. Candidates to be appointed to the Language Commission may be proposed to the Committee by universities, research institutions and creative societies. This Commission is in charge of the implementation of the Law on State Language of the Republic of Lithuania (adopted in 1995). The Language Commission establishes the directions of regulating the Lithuanian language, decides the issues of standardization and codification of the Lithuanian language; appraises and approves the most important standardizing language works [dictionaries, reference books, guidebooks and textbooks], etc. The Language Commission continues the work started by the previous Commissions, the main difference being that it is not only a public organization as the previous ones, but has the status of an official body.

There are 7 regular sub-commissions of the Language Commission; one of them is the Terminology Sub-Commission that deliberates on terminological dictionaries, terminology standards, terminology of legal acts, the Language Commission recommendations on terminology, terminological queries of the European Union institutions, and other terms.

The Lithuanian language, especially, its formal styles are strongly influenced by the language of documents drafted by the institutions of the European Union. New, written and complex administrative variations of the official languages of the European Union are emerging. These variations could have a negative impact on the common Lithuanian language because of their spontaneous formation. Since 2010, the most delicate terminology-related questions of the European Union legislation have been solved with the help of a “one-stop-shop” system established by Resolution No. 998 of the Government of the Republic of Lithuania of 7 July 2010 “On Approval of the Description of the Procedure for the Adjustment of the Draft Terms



of the European Union Legislation". The "one-stop-shop" system (VLS) was designed for the harmonization of terminology across the translation units of the Lithuanian language of the European Union institutions and with responsible national bodies of Lithuania. A terminology problem raised by a language unit of an EU institution is discussed at the inter-institutional level and then the query is sent to the Language Commission, which serves as a "one-stop-shop". The Language Commission forwards the query to the ministries concerned, then collects their answers, discusses the issue at the meeting of the Terminology Sub-Commission and finally sends the term agreed at the national level to the EU institutions. If the institutions accept the proposal, the agreed term is used in the Lithuanian version of the draft EU legal act. Such procedures of the harmonization of terminology via this system require considerable efforts and resources but the terms harmonized in this way are of the highest reliability and constitute the terminology of top quality. Despite some different approaches to terminology standardization and some challenges and restrictions of its functioning, this system constitutes a good example of successful cooperation between numerous institutions at both European and national levels (see Zaikauskas 2015, 127–148).

On the 27th June of 2018, the Parliament of the Republic of Lithuania approved the "Guidelines for the State Language Policy 2018-2022", prepared by the Language Commission. The document stresses the importance of increasing the management of the Lithuanian terminology, of promoting terminological activities in state institutions and the institutions of research and higher education. The guidelines have been also supplemented by the draft of the State Language Policy Implementation Plan for 2018-2022, which has not yet been approved. It includes the following measures: 1. to ensure the development of the Term Bank of the Republic of Lithuania; 2. to create glossaries, collections of articles on terminology; 3. to carry out the research on the variability and competitiveness of rapidly expanding field of terms; 4. to analyse the terms of war of other countries, to participate in the creation of military-related terms, to ensure their correct use in publications on military, to submit proposals on complementing the Term Bank of the Republic of Lithuania with cybersecurity terms. If these measures are approved, this will undoubtedly contribute to the development of terminology.

### Terminological resources in Lithuania

In 2003 the Language Commission together with the Office of the Parliament of the Republic of Lithuania initiated the creation of a national term bank. At the end of the same year the Parliament passed the *Law of the Term Bank of the Republic of Lithuania*. It regulates the creation, management, usage and financing of the term bank as well as duties, rights and responsibilities of individuals and institutions providing, managing and using data of this term bank. The structure, information units, rules of creation, ordering and usage, technical data, requirements and functions of information system of the term bank are defined in the *Methodology of the Term Bank of the Republic of Lithuania*, stating as follows: "The purpose of the Term Bank is to ensure consistent usage of the approved terms of the Lithuanian language, particularly those used in legal acts of the Republic of Lithuania, to create a common information system for various public authorities, which could be accessed by and receive data from other individuals and organizations and which could be used freely by specialists in different fields not only in Lithuania, but also in other countries" (LTBM).

The owner and manager of the Term Bank is the Language Commission [the data administrator and manager]. The Chancellery of the Parliament of the Republic of Lithuania was responsible for the information system administration until the end of last year and at the beginning of this the State Commission took over this duty.

The purpose of the Term Bank is to ensure a consistent usage of the approved terms of the Lithuanian language, particularly those used in legal acts of the Republic of Lithuania, to create a common information system for various public authorities, which could be accessed by and receive data from other individuals and organizations and which could be used freely by specialists in different fields not only in Lithuania but also in other countries.

Ministries and their subordinate departments and services, government authorities, the Parliament of the Republic of Lithuania and other state institutions are authorized to store and manage terms of their fields in the Term Bank. Terminology Commissions have been established in different state institutions, initially responsible for making an inventory of terms of legislation in force, editing term entries and presenting them to the Term Bank; subsequently, the focus moved to coordination of draft legislative terms with the Language Commission and entering them in the Term Bank. The terms deliberated by the Terminology Sub-Commission and approved by the Language Commission are added to the Bank with a mark approved. The Law on the Term Bank of the Republic of Lithuania increased the management and dissemination of the terms of laws and other legal acts. However, not all, in particular, the institutions of science and studies, are involved in this work.

In addition to legislative terms, dictionaries that receive positive assessment from the Language Commission are entered in the Term Bank. Data from 45 terminological dictionaries are available in the Term Bank at the moment. There are over 245,000 term entries in the Term Bank, it makes around 20 000 new entries per year, 4-5 percent of them was from legal acts.

The Term Bank is the most reliable and universal source of Lithuanian terminology available on the internet. Currently, the Information System of the Term Bank is being updated – not only the window and interfaces visible to the user, but also the internal Term Bank information system. The main menu of the [Term Bank](#) is only in Lithuanian, and after the upgrade at the end of next year, the user will see the main menu not only in Lithuanian but also in English. The Term Bank of the Republic of Lithuania isn't one and only terminological resource containing Lithuanian terms. I would like to shortly present 4 ones.

#### 1. *The Term Base of the Lithuanian Standards Board*

Since 2000, the Lithuanian Standards Board has been maintaining a database of standardised terms. Currently, it contains around 70 000 term entries from standards. This database is freely available for users at the website of the Lithuanian Standards Board.

2. [Raštija.lt](#) – Integrated Information System of Resources of the Lithuanian Language and Writings. One can find data from 20 terminological dictionaries (informatics, computing, medicine, chemistry, physics etc.) there.

#### 3. *EuroTermBank*

15 resources with Lithuanian terminology are available at the free centralized online terminology database [EuroTermBank](#) [and by the way and I am not counting the external resources].

4. *IATE (Inter-Active Terminology for Europe)* – an interinstitutional European Union term database. This database contained over 57 000 Lithuanian terms.

Very important way of terminology management in Lithuania is a terminography. The number of terminological dictionaries published in Lithuania is quite substantial – over 600; terminological dictionaries of some fields have even been published several times. However, properly prepared good quality explanatory dictionaries are not available across all fields. The Language Commission has attempted to improve this situation by inviting tenders for preparation of specific dictionaries and by funding their preparation. It should be noted that lately the number of dictionaries being compiled has decreased – the average number of terminological dictionaries published yearly in the boom period 2004–2007 was about 20, in 2017 – 11 dictionaries (see Aukšoriūtė 2016, 328–329). One of the reasons of this tendency is that a creation and compilation of terminological dictionaries aren't considered as scientific research work in Lithuania, the specialists of various fields can do this work only on their free time.

### Terminology network in Lithuania

The Lithuanian Terminology Forum (LTF) was launched in June 2011 in Vilnius. It is non-political, voluntary, non-profit network, founded on open cooperation of participants acting on equal footing. The general objectives of the LTF are to enhance the overall quality, consistency and accessibility of the Lithuanian terminology relevant to EU legislation; to facilitate fast and reliable contacts among institutions involved in creation and usage of terminology; to advance terminology projects relevant to EU legislation; to raise awareness of terminology as an independent subject and to share knowledge and skills among experts participating in LTF. To this end, the LTF organises annual conferences, series of workshops for Lithuanian experts, translators and students, publishes articles on EU terminology in scientific journals, etc.

The Department of the Lithuanian Language of the Directorate-General for Translation of the European Commission ensures a secretary service for the LTF. About 120 members are registered in LTF, mostly translators, linguists and experts in different special domains from EU and Lithuanian institutions and bodies.

### Terminology research in Lithuania

The main institution in Lithuania where terminology work has been carried out consistently and systematically over a long time is the Institute of the Lithuanian Language. This Institute is a centre for scientific research into the Lithuanian language, financed from the state budget.

At the Institute of the Lithuanian Language, the Centre of Terminology operates with the aim of researching into Lithuanian terminology and terminography and analysing the functioning of Lithuanian terms of different fields in the society. Currently, six scholars and researchers work at the Centre. They analyse theoretic problems of the current Lithuanian terminology and terminography; explore the history of the Lithuanian terminology and study the development of Lithuanian terms of different fields; undertake practical term management work in different subject areas; create, evaluate and standardise new terms.

The researchers of the Centre of Terminology publish a number of research papers every year and a monograph or a collection of papers every second year on theoretical and practical problems of modern terminology and terminology history.

Every year, the Centre of Terminology prepares and publishes the research publication *Terminologija (Terminology)*. The first journal occurred in 1994. The 25st volume will be printed at the end of this year. Starting with the 13th volume, it is an international journal of Lithuanian and general linguistic terminology with an international board of editors, its articles are printed in Lithuanian, English and Russian. *Terminology* is concerned both with the theory and practice of terminology. Our journal *Terminology* is included in the *CEEOL* and *MLA International Bibliography with Full Text* databases.

The Centre of Terminology organises international scientific conferences on terminology, seminars for specialists, where researches of the Centre give presentations. In 2010–2017, 8 events were held.

Researchers of the Centre of Terminology also engage in quite a substantial amount of practical terminological work as they cooperate with the Language Commission as experts, participate in the activity of its Terminology Sub-Commission, provide expertise and deliberate Lithuanian terms included into the Term Bank of the Republic of Lithuania. Most employees of the Centre of Terminology assist teams of terminological dictionary compilers as linguists terminologists and provide consultations.

The Institute of the Lithuanian Language was invited to participate in a new international project called *eTranslation TermBank: Collection and Provision of Terminological Resources in Sector-specific Domains and Languages of Interest to Sector-specific Digital Public Services* (2017–2019).

The key coordinator for this project is Tilde (Latvia); plus, there are eight other partners involved in the project: [the Institute of the Lithuanian Language (Lithuania), the University of Copenhagen (Denmark), the Institute of the Estonian Language (Estonia), the Jožef Stefan Institute (Slovenia), the International Network of Terminology, TermNet (Austria), the Árni Magnússon Institute for Icelandic Studies (Iceland), and the Institute of Language and Folklore and the Swedish Centre for Terminology (Sweden)].

The project aims to improve the quality and coverage of automated translations for the European Commission. The eighteen-month project is geared towards collection and provision of sector-specific terminological resources for all European Union (as well as Norwegian and Icelandic) languages to sector-specific digital public services. The Institute of the Lithuanian Language is responsible for the collection the Lithuanian, Italian and Polish terminological resources. Currently, the European Commission seeks to strengthen the digital public services in several domains that require automated translation, such as health, business legislation and consumer protection.

Lithuanian terminological research is carried out not only at the Institute of the Lithuanian Language but also at universities and other research institutions; however, usually only individual scholars of those institutions engage in terminological research.

## CONCLUSIONS

The organized management of the Lithuanian terminology has a long enough history – the first Terminology Commission was established at the Ministry of Education in 1921. This Commission was the first terminology institution established in Lithuania on the initiative of the state. Two Terminology Commissions and Terminology Council performed important work in the ordering of terminology, its encouragement and development.

The State Commission of the Lithuanian Language is responsible for coordination of terminological work in Lithuania from 1993. It's Terminology Sub-Commission deliberates on terminological dictionaries and standards, terminology of legal acts, terminological queries of the European Union institutions via the “one-stop-shop” system, and other terms.

The main and most important terminology database in Lithuania is the Term Bank of the Republic of Lithuania. This bank is created as a common information system of state institutions administered by the State Commission of the Lithuanian Language.

Most terminological research is carried out at the Centre of Terminology of the Institute of the Lithuanian Language, whereas at Lithuanian universities terminological research is carried out by individual scholars only. Recent terminological research does not cover all areas of terminology, theoretical research on current Lithuanian terminology is scarce.

Lithuanian terminology is managed considerably well, the ways of terminology management, directions of the organization of terminological work and activities have settled; terminological work is carried out in cooperation with specialists and terminologists working at different Lithuanian and European Union institutions. It should be emphasized that successful terminology development and management depends very much on the state language police and on the support of state and state institutions.

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**Albina Auksoriūte**

**Institution**

Institute of the Lithuanian Language

**CV**

Since 2001 I am the Head of the Centre of Terminology at the Institute of the Lithuanian Language. I have an interest in the history of terminology and standardization of contemporary terminology, especially terminology of the life sciences. I have published about 50 scientific articles, participated in about 50 scientific conferences.

Since 2009 I am the editor-in-chief of the scientific journal “Terminologija” (Terminology). I also do practical terminology, write critical reviews and edit dictionaries and standards of terms, consult specialists of other fields on various questions of terminology. Since 2007 I am a member of the State Commission of the Lithuanian Language. In 2005 I was elected as a member of the Executive Board of the International Information Centre for Terminology (Infoterm) and in 2009-2018 I was a President of Infoterm.

## IATE 2 – not just a pretty new face

Violina Stamtcheva

European Parliament, Terminology Coordination Unit

### Abstract

The presentation came just a few days after opening the new IATE database for the public and gives an overview of the main new features. The new, adaptive design, the enhanced search engine with enriched filters allow for more targeted searches and are adapted to be accessible for any type of users. An improved and much faster IATE download function together with a filtering tool allows not only to use the database as it is, but also to create customised data subsets.

The biggest improvements however, appear in the modules for creation and modification, for management and automated importing and exporting of data, which eased the work of thousands of EU internal users and terminologists. Amongst others, there are improved features for creation of references, early duplicate detection, the possibility to export entire hit lists in tabular or TBX formats, the creation of text-related termbases for integration in CAT tools and many more.

Finally, the real-time statistics and an improved user management module make the new IATE a completely new, modern database for EU relevant terminology.

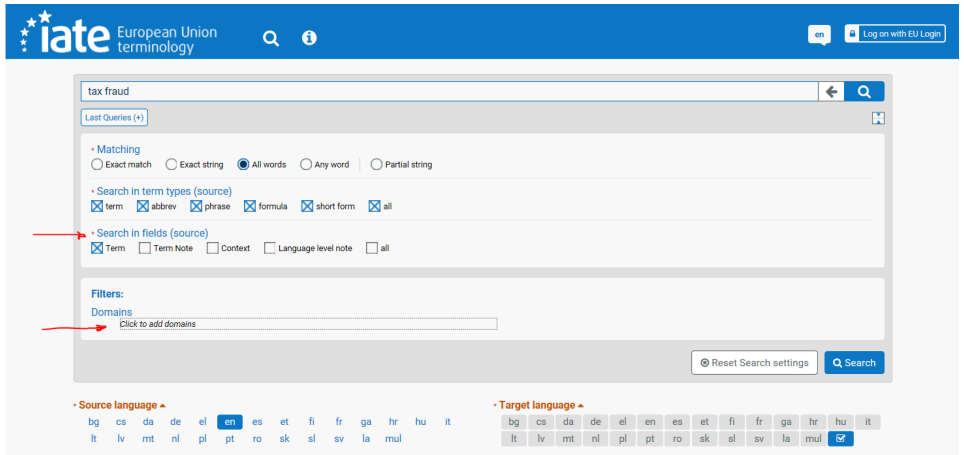
**Keywords:** IATE, Terminology Database, EU Terminology

### Manuscript

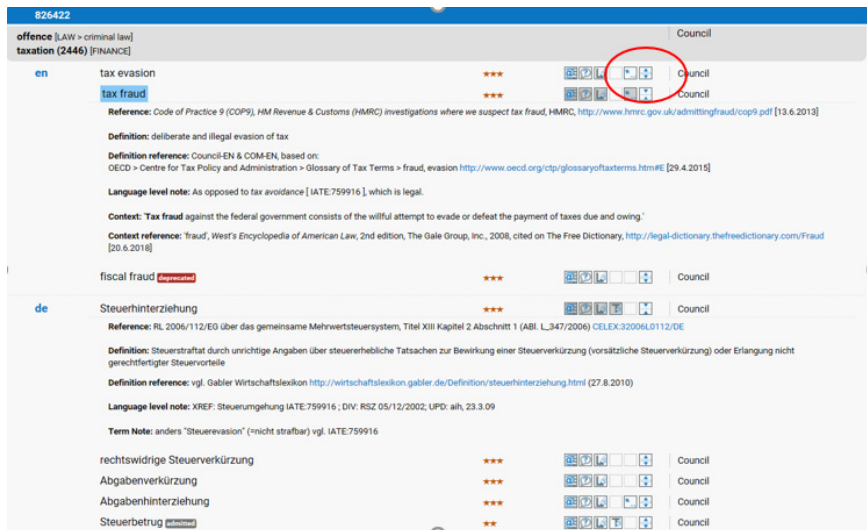
On the database side, the two databases - public and EU internal, that previously were kept apart and synchronised regularly, were merged and exist now as one database with different access options and roles. The public part gives access to various search options with improved filtering and predictive typing, to the IATE Download feature and to settings for the user preference.

The screenshot displays the IATE website interface. At the top left, the logo 'iate European Union Terminology' is visible. A search bar contains the text 'tax fraud'. To the right of the search bar is a 'Log in with EU Login' button. Below the search bar, there are language selection options for source and target languages. On the left, there are statistics: 'Number of entries: 1 185 876' and 'Number of terms: 8 216 152'. On the right, there is an 'About IATE' section with a description of the database and a red box highlighting navigation buttons for 'About IATE', 'FAQ', 'Download IATE', and 'IATE Structure'.

The search function, with improved predictive typing and more accurate suggestions, gives no also the possibility to sear different fields like notes, context etc. The domain selection is easier and goes deeper into the levels of the Eurovoc domains.



The hit list appearance received significant improvements, giving along with the usual information like existing languages, reliability values and icons for definition, term reference, context, or term note, also the possibility to expand/collapse the full information for a specific term.





The information section gives access to the IATE user's manual, a FAQ section, the download page, real-time statistics and the release notes.

The biggest improvements were designed for those users who feed the database and manage terminology datasets, projects and user accounts - users working for the EU institutions - mainly terminologists and translators.

Here we have two modes for the creation of entries - a quick mode, containing only the mandatory data fields, facilitates the creation of entries while doing something else, like translating. For this "on the fly" creation you just have to select your source and target language, fill in the source and target terms together with references for both, and select a relevant domain. Some mandatory data are filled in automatically and can be modified if necessary. The mandatory fields are clearly indicated with asterisks.

In full mode, creation of entries is much more complex as here you have many more fields to populate like context, notes to different fields; you can add more languages, synonyms or abbreviations, evaluations and many other data. From quick mode, you can easily switch to full mode in case you find the time to complete the entry. The inserted data remains in place. However, switching back to quick mode from full mode is not possible, as you might experience a data loss.

Quick mode | **Full mode** | Preview

Source language  
 bg cs de el en es et fi fr ga hr hu it it lv mt nl pl pt ro uk sv ta ml

**Term**

Term reference

Term type  
 term

Reliability  
 \*\*

Evaluation  
 not specified

Part of speech  
 not specified

Gender  
 not specified

Number  
 not specified

Note

Context

Language usage

Regional usage

Management

Collections

Feeling selector

Customer  
 not specified

not on MTE

not protected

**Definition**

Definition reference

Note

**Domain**

not primary | not confidential | not protected

late has always used EuroVoc for its domains system. Now, the filtering by domain in the search feature and the insertion of domains in data entry mode is improved by adding all available EuroVoc levels thus making it possible to narrow down the domain with precision.

**Domain**

SEARCH

ECONOMICS (16)  
 TRADE (20)  
 FINANCE (24)  
     monetary relations (2406)  
     monetary economics (2411)  
     financial institutions and credit (2416)  
     free movement of capital (2421)  
     financing and investment (2426)  
     insurance (2431)  
     public finance and budget policy (2436)  
     budget (2441)  
     taxation (2446)  
     prices (2451)  
 SOCIAL QUESTIONS (28)  
 EDUCATION AND COMMUNICATIONS (32)  
 SCIENCE (36)

Expand all | Collapse all

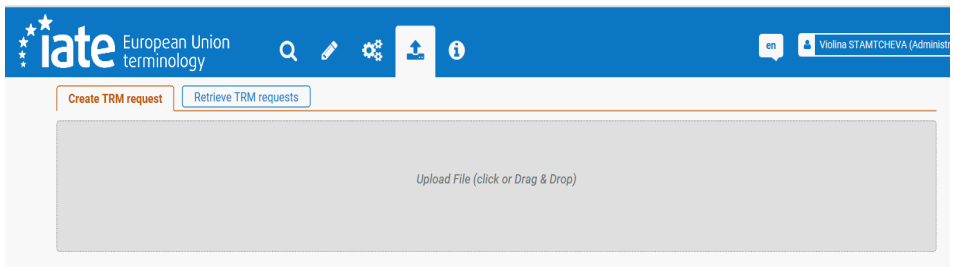
**Selected domains**

RESET | CANCEL | OK

Alerts show empty mandatory fields which still need to be populated, and the “Create” button remains inactive until this is not done.

Significant improvements were added to the possibilities to manage projects and collections. New features like a watch function, commenting on entries, tasks allocation and management, batch operations are in development now.

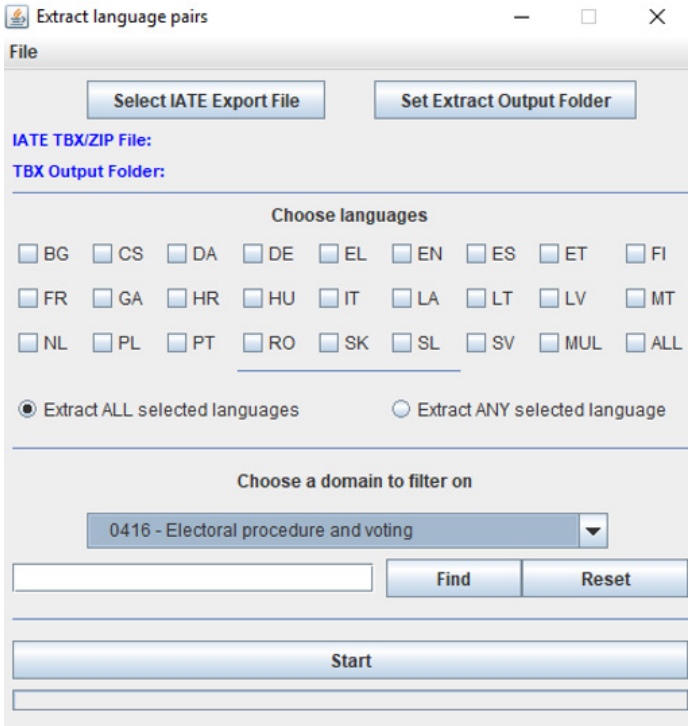
An improved Term Recognition Module (TRM) allows for the easy creation and retrieval of text-related term bases both in TBX or SDLTB format, directly suitable for integration in a CAT tool.



After importing the texts into the feature, additional parameters like one or more target languages, analysis type, output format, data fields and filters can be set before retrieving the term base. From several related texts, the user has the possibility to retrieve one common term base or one per document.

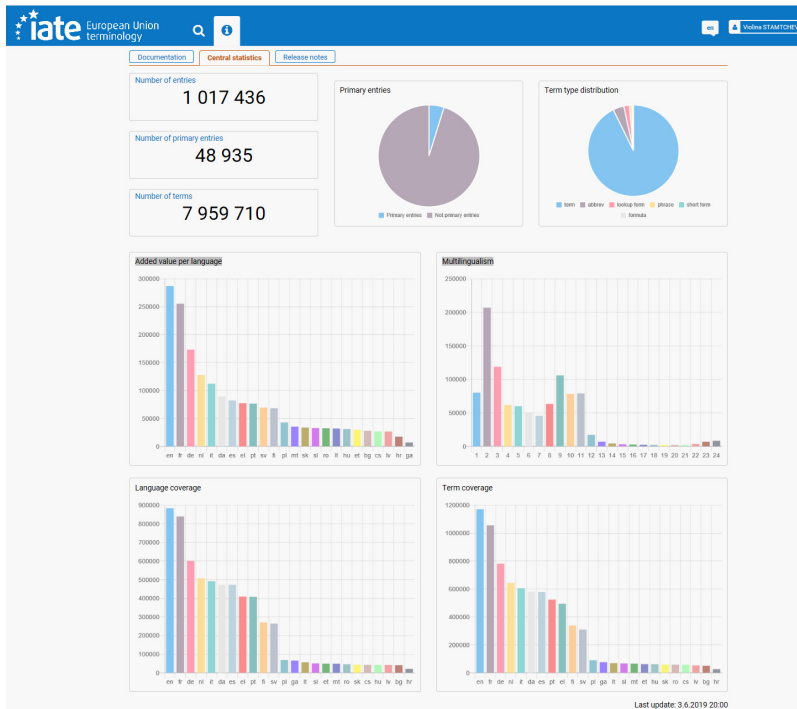
This nice feature is available only for internal users of the EU institutions, as the texts submitted are treated in real time and opening it for public users would bring the servers to a breakdown.

However, the Download IATE feature, which is publically available is much improved and has available a Java app for creating data subsets from the downloaded database.



Last, but not least: the new IATE responds to all requirements for accessibility and ergonomics, it is compatible with screen readers for visually impaired people and uses keyboard shortcuts for users who want to reduce the mouse clicks.

The information section contains general information on the database and its release notes, the IATE Handbook, a brochure and real-time statistics on the main parameters of the database. Public users will, like before, be able to send feedback via an online form, for which the internal retrieval and follow-up mechanism were improved in order to react quicker and more targeted to it.



We hope that all of you will enjoy and appreciate our new IATE.



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**Institution**

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**CV**

**Studies:**

- German language and literature, translation and teaching (major)
- English language, translation and teaching
- Ph.D. in Translation studies and comparative linguistics

**Jobs and activities:**

- Assistant professor at the University of Sofia in German as a LSP – special domain: Law and International relations
- Assistant professor on an honorary basis at New Bulgarian University – course: German for Law studies
- Freelance translator
- Freelance author of dictionaries (PONS and Colibri publishing houses)
- Author of Students' and exercise books in practical German language and grammar
- Translator and terminologist at the Bulgarian translation unit of the European Parliament

## Les lexiques REALITER : un travail terminologique collaboratif pour la promotion des langues romanes

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Réseau panlatin de terminologie REALITER

### Abstract

The Panlatin terminology network REALITER is a cooperating organisation of Romance language countries and communities composed by researchers and institutions operating in the field of terminology, terminography and terminological harmonization. The multilingual lexicons of REALITER include all the terms related to various specialised fields on the basis of the methodological principles established by the network itself. The article aims to propose an analysis of REALITER's lexicons as the result of a collaborative work in Romance language countries.

**Keywords:** Terminology, REALITER, terminology network, lexicon, Romance languages.

Fondé en 1993 sous l'initiative de l'Union Latine et de la Délégation générale à la langue française (DGLF), le Réseau panlatin de terminologie REALITER est un organisme de coopération entre les pays et les communautés de langue néolatine (catalan, espagnol, français, galicien, italien, portugais et roumain) en Europe et dans l'Amérique du Nord et du Sud<sup>1</sup> qui réunit des doctorants, des chercheurs, des professeurs, des centres de recherche, des institutions publiques nationales et supranationales, des universités et des associations qui travaillent dans le domaine de la terminologie sous plusieurs points de vue.

Dès sa fondation, le Réseau veut se constituer à la fois comme un lieu de recherche dans la terminologie multilingue et un acteur dynamique dans les politiques linguistiques encourageant la diversité linguistique à l'aune de la mondialisation, le multilinguisme se plaçant au cœur de REALITER en tant qu'élément qui contribue à la création de rapports richissimes entre terminologies et politiques linguistiques (Zanola, 2014b).

Plusieurs sujets de réflexion mettent en évidence la richesse des thématiques abordées au sein du Réseau grâce à l'apport de chaque langue qui y fait partie : d'une part, la place de la terminologie dans les politiques linguistiques et dans la promotion de la diversité linguistique ; d'autre part, les exigences du multilinguisme par rapport aux méthodes et aux pratiques de la

1 Les pays actifs au sein du Réseau sont l'Argentine, la Belgique, le Brésil, le Chili, la Colombie, Cuba, l'Espagne, la France, la Grèce, l'Italie, le Mexique, le Pérou, le Portugal, le Québec, la Roumanie, l'Uruguay. La mise en correspondance des termes, phrasèmes et autres unités terminologiques entre les langues du Réseau permet de prendre en considération les phénomènes de variation (synonymie, niveaux de langue, variantes géographiques, etc.) dans les langues concernées. Les travaux de REALITER concernent également les variantes diffusées au-delà de l'Océan Atlantique, telles que le français du Québec, le portugais du Brésil et l'espagnol des pays de l'Amérique du Sud.

terminologie, sans oublier les retombées obtenues par la gestion, la diffusion et l'implantation des ressources terminologiques multilingues.

## 1. La naissance du Réseau REALITER

Depuis les années 1980, le débat sur le statut de la terminologie était très vif et il était provoqué surtout par les spécialistes, par les chercheurs universitaires et par les institutions qui s'occupaient de la normalisation linguistique, telles que l'Office québécois de la langue française, le Bureau de la Traduction canadien, le Commissariat général à la langue française, devenu en 1989 la Délégation générale à la langue française. À ce propos, Zanola (2010) évoque les différentes définitions de « terminologie » proposées par Rondeau (184-187) déjà en 1984 :

1. Office de la Langue Française (1973) : 1- [...] l'ensemble des termes propres à une science, à un art, à une technique, à un chercheur ou à un groupe de chercheurs (ex. terminologie de la médecine); 2- [...] l'ensemble des démarches nécessaires à l'établissement d'une terminologie au sens premier; il prend alors un caractère abstrait et désigne une activité intellectuelle complexe [...];
2. Atelier n° 2 (1976) : activité linguistique de caractère scientifique qui consiste à identifier et délimiter les notions propres à tout domaine de la connaissance, à leur donner une désignation, soit en consignnant les usages, soit par création néologique, et à présenter les désignations en ordre systématique (genre, espère, tout, partie) et alphabétique ;
3. ISO, Recommendation R 1087 (1976) : domaine du savoir consacré à la formation et à la dénomination des notions [...];
4. Rondeau G. (1979) : étude systématique de la dénomination des concepts ou notion des domaines spécialisés du savoir et de la pratique considérés dans leur fonctionnement social [...]; élaboration d'une théorie et d'une méthodologie des systèmes ou ensembles de termes et de leur évolution, d'autre part, la collecte, le traitement, [...], et éventuellement la normalisation du matériel terminologique [...] unilingue et multilingue, et selon des modalités fondées sur les besoins des usagers[...];
5. Wüster E. (1976) : [...] désigne un vocabulaire spécialisé [...] la théorie de tel vocabulaire, une théorie de terminologie [...];
6. Guilbert L. (1977) : l'ensemble ordonné de termes d'une ou plusieurs langues dont la signification a été explicitée ou définie. La collection des termes recouvrant les notions d'un domaine spécial ;
7. Rey A. (1977) : bon exemple de terme ambigu [...]: 1- ensemble pratique (pratico-social) ou théorique (structure conceptuelle) nommé par un ensemble de signes dont le contenu est structuré [...]; 2- a) description systématique d'un tel ensemble [...]; b) [...] observer et décrire systématiquement tout ensemble de « termes », à stocker et à transmettre l'information rassemblée à leur sujet [...];
8. Dubuc R. (1979) : [...] l'art de repérer, d'analyser et, au besoin, de créer le vocabulaire pour une technique donnée, dans une situation concrète de fonctionnement de façon à répondre aux besoins d'expressions de l'utilisateur ;



9. ISO, Document 5127, v. OLF (1979) : ensemble organisé de termes techniques dont la signification a été explicitée ou définie ;
10. Rey A. (1979) : [...] étude, aussi scientifique que son objet, des relations entre systèmes de termes [...] et ensemble fonctionnel de jugements conceptualisés ;
11. Rey A. (1979) : [...] les systèmes terminologiques excluent tout signe linguistique dont la fonction de dénotation classificatrice ou de symbole conceptuel est nulle ou dérivée [...]
12. Rondeau G. (1979a) : ensemble des mots ou expressions propres à une science, une technique, une activité humaine.
13. établir des principes méthodologiques communs applicables à la réalisation des produits élaborés conjointement ;
14. mener des recherches en commun et créer des outils susceptibles de favoriser le développement des langues néolatines ;
15. mener des travaux terminologiques conjoints multilingues dans des domaines d'intérêt commun touchant la société ;
16. mettre en commun les matériaux de référence documentaires ;
17. avoriser la formation réciproque à travers les échanges de formateurs, d'experts, d'étudiants et de matériaux didactiques.

Dans un contexte d'uniformisation linguistique accéléré par les besoins de la communication spécialisée développés grâce au développement et à l'introduction des nouveaux moyens des technologies de l'information et de la communication, les discussions sur la terminologie s'unissaient à l'objectif d'avoir des points de repères précis pour favoriser les langues néolatines dans les domaines spécialisés. De fait, la langue anglaise commençait à dominer de plus en plus dans ces contextes en tant que langue d'expression des connaissances techniques et de vulgarisation des résultats des recherches.

Les 13 et 14 décembre 1993, la réunion préparatoire pour la création d'une commission panlatine de terminologie organisée par la DGLF et l'Union Latine donne naissance au Réseau panlatine de terminologie REALITER, dont la structure de fonctionnement et les moyens de financement des travaux sont à la charge de l'Union Latine, avec l'appui de la DGLF. Les participants expriment leur intention de favoriser un développement harmonisé des langues latines, compte tenu de leur origine commune et du fait qu'elle ont recours à des modes de formation lexicale voisins et qu'elles utilisent des formants semblables.

En matière d'aménagement terminologique et de néologie, les actions prévues au sein de REALITER concernent plusieurs axes : contrôler l'implantation terminologique, relever les attestations terminologiques dans plusieurs supports textuels (notamment les revues et les journaux), participer à la création de réseaux nationaux de terminologie, travailler dans la normalisation technique et la formation de traducteurs et terminologues.

Un support précieux aux travaux du Réseau est notamment offert par l'Office québécois de la langue française, qui met à la disposition du Réseau son expérience dans la réalisation de lexiques et dictionnaires terminologiques.

Le 17 octobre 2013, auprès de l'Institut National du Patrimoine à Paris, le Réseau REALITER a fêté ses 20 ans d'activité (Depecker, Zanola, 2017), avec l'hommage à Bernard Quemada, réalisé par Maria Teresa Cabré, Danielle Candel, John Humbley, Jean Pruvost, Loïc Depecker, Teresa Lino et Louis-Jean Rousseau. La Secrétaire Générale de REALITER, Maria Teresa Zanola, a adressé ses vœux en voulant donner la parole aux pionniers de REALITER, aux premiers témoins de cette aventure, aux chercheurs et aux initiateurs du Réseau qui sous le guide et les suggestions de Quemada ont su mettre en place la réalité de tous les échanges, de toutes les réalisations, de toutes les activités (lexiques, glossaires, journées scientifiques, assemblées, réunions) qui se sont poursuivis au cours de ces 20 années.

Au cours de la XIVE Journée REALITER de 2018 *Convergences et divergences dans la pratique terminologique : de la terminologie spontanée à la terminologie aménagée*, qui a eu lieu à l'Institut national de l'histoire de l'art de Paris, les membres du Réseau ont célébré les 25 ans de REALITER en envisageant de nouveaux objectifs à réaliser tels que, entre autres, une diffusion de plus en plus ample des glossaires réalisés par les membres à travers l'enrichissement des banques de données des institutions et des centres de recherche impliqués dans REALITER, et une mise à jour du site pour valoriser les pistes de travail scientifique fondamentales du Réseau (normalisation linguistique, aide aux politiques linguistiques nationales et réalisation de travaux terminographiques).

## 2. Les principes méthodologiques des travaux de REALITER

En tant qu'outil de création langagière et de communication interlinguistique, qui évolue face à des besoins et à des contextes nouveaux, la terminologie contribue à la diffusion du patrimoine culturel de toute langue. Ce n'est que grâce à la terminologie qu'on reconstitue le parcours historique de tout domaine des connaissances technique et redéfinir son trésor conceptuel et lexical. Les travaux terminologiques permettent d'accéder aux savoirs de spécialité les mettant en commun d'une langue à l'autre et c'est dans cette perspective que le Réseau REALITER, actif depuis vingt-cinq ans, a voulu épanouir ces échanges terminologiques et néologiques au sein des langues latines (Zanola, 2014b).

Pendant ses premières années d'activité, les axes de travail du Réseau REALITER concernent principalement quatre piliers fondamentaux : la création des principes méthodologiques, l'élaboration de lexiques et de glossaires terminologiques, l'établissement de bibliographies de référence, le développement de la formation en terminologie. Dans cette perspective, REALITER a produit de nombreux lexiques plurilingues, toujours dans le respect des principes méthodologiques que le Réseau s'est donnés depuis sa naissance. Les objectifs du Réseau, tels qu'ils sont indiqués dans le Règlement du Réseau, sont les suivants :

Les principes méthodologiques du travail terminologique sont les suivants :

a) la diversité et l'égalité linguistiques :

Les travaux terminologiques menés au sein du Réseau doivent refléter cette diversité linguistique, notamment en donnant aux différentes langues visées et à chacune de leurs variantes un statut d'égalité dans chaque projet.

## b) l'approche variationniste :

Les travaux terminologiques menés au sein du Réseau, tenant compte des principes socioterminologiques qui se dégagent des tendances actuelles de la terminologie, privilégient l'approche variationniste. Cette approche consiste à refléter la variété des usages et des traditions terminologiques des différentes aires géographiques propres à chaque langue qui fait l'objet des travaux.

D'une manière générale, cette démarche doit également contribuer au développement harmonisé des technolectes.

## c) l'approche systématique :

Les travaux terminologiques du Réseau se fondent sur l'approche systémique, c'est-à-dire sur la structuration des notions en fonction des types de relations établies ou observées entre les notions traitées et sur leur définition systémique, laquelle doit refléter le système adopté.

## d) le partenariat :

Les travaux terminologiques menés au sein du Réseau privilégient toute forme de partenariat et, au premier chef, le partenariat entre terminologues de langues et de pays différents, spécialistes des domaines visés par les travaux et usagers de la terminologie.

Ce partenariat, indispensable à la qualité des produits de la terminologie, doit exister à toutes les étapes du travail terminologique.

e) la qualité, dont les principes généraux de qualité peuvent être définis, du point de vue de l'utilisateur, de la façon suivante :

- l'accessibilité : l'utilisateur doit pouvoir trouver rapidement la terminologie appropriée à ses besoins et adaptée au niveau et à la situation de communication.
- l'actualité : quel que soit le domaine ou le champ d'expérience, l'utilisateur doit pouvoir utiliser une terminologie à jour.
- la fiabilité : l'utilisateur doit utiliser une terminologie reconnue par ses pairs et par le milieu professionnel auquel il s'adresse, s'il veut communiquer efficacement.

Le Réseau suit les principes relatifs aux pratiques terminographiques, qui président à la réalisation de tous les travaux terminologiques (Zanola, 2018), à savoir le choix des sources textuelles pour l'extraction des données terminologiques, la construction des rapports ontologiques existant au sein d'un domaine spécialisé, l'extraction des unités terminologiques, la recherche des équivalents dans les langues néolatines du Réseau.

La spécificité des travaux terminographiques de REALITER réside dans la collaboration interculturelle et interlinguistique entre les membres du Réseau qui est à la base de la naissance du Réseau même. Un projet terminographique de REALITER naît sous proposition d'un membre ou de plusieurs membres du Réseau, réunis en équipe, et est approuvé par les Responsables linguistiques des langues néolatines au cours de la réunion annuelle du Comité scientifique qui a lieu chaque année pendant la Journée REALITER. Une fois la proposition de lexique approuvée, les Responsables indiquent les membres du Réseau qui se chargent de la réalisation du lexique, avec l'appui, le cas échéant, d'experts externes. Si des problèmes relatifs à la recherche

des équivalents émergent, le responsable du projet terminographique collabore avec les membres du Réseau impliqués dans la réalisation du glossaire afin de trouver des solutions terminologiques adéquates aux problématiques à résoudre. Les fichiers du projet terminologique dans les différentes langues du Réseau sont rassemblés par le responsable du lexique qui se charge aussi de la publication du travail.

### 3. Les projets terminologiques réalisés

Suivant les principes évoqués, [REALITER](#) a réalisé plusieurs lexiques spécialisés dans les langues néolatines, disponibles à la consultation en ligne. Il s'agit de lexiques plurilingues qui réunissent les termes relatifs à différents domaines, dont la réalisation a été possible grâce à la participation des membres de REALITER, des institutions et des centres de recherche universitaires qui y ont participé. Nous citons, parmi les plus connus, l'Office québécois de la langue française, le Bureau de la Traduction du gouvernement canadien, le Centre de Terminologia de Catalunya ([TERMCAT](#)), [l'Associazione Italiana per la Terminologia](#), [IULATERM](#) de l'Université Pompeu Fabra de Barcelone, l'Osservatorio di Terminologie e Politiche Linguistiche de l'Università Cattolica del Sacro Cuore de Milan.

La lecture des données analysées et des produits terminologiques réalisés met en évidence la richesse des lexiques REALITER :

- *Lexique des termes de base de l'informatique* (1997) : lexique de 130 concepts, choisis en fonction de leur niveau de généralité et représentant les termes de base de l'informatique.
- *Léxico panlatino de terminologia do ambiente* (1999) : lexique de 409 termes du domaine de l'environnement.
- *Lexique panlatin d'Internet* (2001) : lexique de 300 entrées rassemblant les principaux concepts de l'Internet.
- *Lexique panlatin du commerce électronique* (2004) : lexique de 300 entrées concernant la terminologie des sous-domaines des transactions, du marketing, de la sécurité, de la cryptographie, des communications, des produits et services pour les personnes et les entreprises, de la protection du consommateur, ainsi que des technologies de l'information.
- *Léxico panlatino de biotecnologia, genética de plantas e cultura de tecidos* (2005) : lexique de 249 termes concernant le domaine de la culture et de l'amélioration génétique des plantes.
- *Les néologismes économiques en langues latines à travers la presse* (2006) : publication des unités néologiques du domaine de l'économie, tirées de la presse des différentes langues latines.
- *Vocabulaire du génome humain* (2006) : vocabulaire de base de la terminologie du génome humain.
- *Vocabolario di emodinamica* (2006) : vocabulaire comptant 244 termes italiens, traduits en anglais, de l'hémodynamique.

- *Lexique panlatin de bioéthique* (2007) : lexique de plus de 300 termes en français et en anglais relatifs au secteur de la bioéthique.
- *Lexique panlatin de la géomatique* (2007) : lexique de 321 notions relatives au domaine de la géomatique, discipline ayant pour objet la gestion des données géographiques et qui fait appel aux sciences et aux technologies reliées à leur acquisition, leur stockage, leur traitement et leur diffusion.
- *Lexique panlatin des chariots de manutention* (2007) : lexique de 300 notions qui traite principalement de la terminologie des types de chariots de manutention ainsi que de leur environnement.
- *Vocabulaire panlatin de la grippe aviaire* (2009) : vocabulaire de 72 concepts (médecine, biologie, pharmacologie et sécurité) concernant la grippe aviaire et la pandémie.
- *Vocabulaire panlatin de la diffusion et de la distribution du livre* (2010) : lexique de 172 concepts relatifs principalement au domaine de l'édition, de l'imprimerie, du commerce et de la publicité.
- *Lexique panlatin des changements climatiques* (2010) : lexique de quelque 300 notions dans les divers aspects des changements climatiques : mécanismes, agents, conséquences, éléments scientifiques, mesures et analyses ainsi que stratégies de parade.
- *Terminologie de l'intelligence artificielle* (2010) : glossaire d'environ 300 termes relatifs aux principaux sous-domaines de l'intelligence artificielle, dans toutes les langues du Réseau, destiné aux usagers de ce secteur.
- *Lexique panlatin du marketing* (2010) : lexique de 150 termes de marketing considérés en tant que termes représentatifs du domaine.
- *Vocabulaire multilingue du sida* (2010) : lexique de 500 termes relatifs à l'infection par le VIH et le sida, utilisés habituellement dans le domaine de l'assistance. Il comporte des termes reliés en fonction des caractéristiques biologiques du VIH, avec des aspects épidémiologiques et cliniques de l'infection par le VIH et le sida ou avec le traitement de la maladie.
- *Terminologie de management de la qualité* (2011) : dictionnaire de 87 termes qui proviennent de la norme ISO 9000 : 2005, *Systèmes de management de la qualité. Principes essentiels et vocabulaire*.
- *Vocabulaire panlatin des articles de bureau* (2011) : vocabulaire de 47 concepts de base relatifs aux articles de bureau.
- *Lexique panlatin de l'énergie éolienne* (2012) : lexique, coordonné par le Bureau de la traduction du gouvernement du Canada, de quelque 300 notions clés du domaine de l'énergie éolienne.
- *Vocabulaire panlatin du vélo* (2012) : édité par l'Office québécois de la langue française (OQLF), ce vocabulaire présente les parties et les pièces principales du vélo.
- *Vocabulaire panlatin des pneumopathies professionnelles* (2012) : nomenclature de 161 concepts à partir du Vocabulaire des pneumopathies professionnelles, un ouvrage bilingue anglais-français que l'Office québécois de la langue française a publié sur support papier en 1996.

- *Vocabulaire panlatin de la nanotechnologie 1 et 2* (2012 et 2013) : lexique des concepts relatifs au domaine de la nanotechnologie, désignant les techniques, les instruments et les unités de mesure qui sont employés pour étudier et fabriquer des entités de taille nanométrique.
- *Lexique du soccer* (2014) : ce lexique comprend l'ensemble de la terminologie en français, en anglais, en portugais et en espagnol se rapportant à ce sport en progression constante au Canada et qui demeure le plus pratiqué à travers le monde.
- *Vocabulaire panlatin des réseaux sociaux* (2014) : coordonné par le TERMCAT, ce projet comprend 114 termes relatifs aux différents réseaux sociaux, particulièrement Facebook et Twitter et est néanmoins amené à être mis à jour continuellement.
- *Lexique panlatin sur les biocarburants* (2014) : coordonné par le Bureau de la traduction du gouvernement du Canada, ce lexique compte un peu plus de 300 entrées qui servent de tronc commun à l'ouvrage.
- *Lessico panlatino dei sistemi fotovoltaici* (2014) : coordonné par l'Osservatorio di terminologie e politiche linguistiche de l'Università Cattolica del Sacro Cuore, ce projet collecte la terminologie la plus diffusée pour décrire de manière adéquate l'énergie renouvelable photovoltaïque qui a acquis une place centrale dans la communication scientifique et institutionnelle de ces dernières années.
- *Vocabulaire panlatin du développement durable* (2015) : ce projet vise à prendre en compte le caractère indissociable tridimensionnel du développement durable (environnemental, social et économique) lié à la croissance économique mondiale qui s'est largement répandue et touche maintenant, dans la plupart des cultures, toutes les sphères de la vie sur terre.
- *Vocabulaire panlatin des systèmes de transport intelligents* (2016) : coordonné par l'Office québécois de la langue française, ce projet étudie la terminologie liée au développement des systèmes de transport intelligents qui se basent sur l'intégration progressive des technologies de l'information et de la communication dans les infrastructures, les réseaux et les véhicules de transport.

Les deux derniers nés du Réseau REALITER sont le Lessico panlatino dell'energia geotermica et le Lessico panlatino della Smart City, que nous allons décrire brièvement de plus près. Les termes qui renvoient aux deux domaines concernés ne sont plus présents que dans les textes techniques, mais ils se répandent dans les programmes politiques nationaux et locaux, ainsi que dans les différentes formes de la communication des médias. Ces remarques, appuyées par les analyses conduites au sein de l'Osservatorio di terminologie e politiche linguistiche de l'Università Cattolica del Sacro Cuore et du Réseau REALITER, ont conduit à l'élaboration de ces deux lexiques, qui recueillent les termes de base des domaines concernés afin de constituer une base de données plurilingue de référence pour tous ceux qui ont des exigences terminologiques dans ces domaines des connaissances.

Les lexiques réunissent les termes dans huit langues : italien, catalan, espagnol, français, galicien, portugais, roumain et anglais. La langue de départ est l'italien, et les termes sont présentés dans l'ordre alphabétique de cette langue. Pour le français, les variantes canadiennes sont indiquées entre parenthèses [CA] ; pour l'espagnol et le portugais, deux sections signalent

respectivement les équivalents dans l'espagnol d'Espagne, l'espagnol du Mexique, indiqué par le code es [MEX], et l'espagnol d'Argentine, indiqué par le code es [ARG], et dans le portugais du Portugal et du Brésil, indiqué par le code pt [BR]. Les marques morphologiques sont indiquées suivant l'adaptation dans toutes les langues utilisées. Les codes des langues sont ceux de la norme ISO 639-1, Codes pour la représentation des noms des langues : it italien, ca catalan, es espagnol, fr français, gl galicien, pt portugais, ro roumain, en anglais.

Les termes peuvent être suivis d'un synonyme, situé après le mot-vedette. Chaque terme est présenté avec sa définition en italien, indiquée par la marque DEF.

L'exemple suivant illustre la présentation utilisée pour les entrées du lexique:

27.	<i>it</i>	<b>città intelligente (n.f.)</b> <b>Smart City (n.f.)</b>
	DEF	Città caratterizzata dall'integrazione tra saperi, strutture e mezzi tecnologicamente avanzati, propri della società della comunicazione e dell'informazione, finalizzati a una crescita sostenibile e al miglioramento della qualità della vita.
	<i>ca</i>	ciutat intel·ligent (n.f.)
	<i>es</i>	ciudad inteligente (n.f.)
	<i>es (MEX)</i>	smart city (n.m.)
	<i>fr</i>	ville intelligente (n.f.)
	<i>gl</i>	cidade intelixente (n.f.)
	<i>pt</i>	cidade inteligente (n.f.)
	<i>ro</i>	oraş inteligent (n.n.)
	<i>en</i>	smart city

Les deux lexiques sont complétés par un index général plurilingue. Chaque terme relevé dans cet index est suivi du code de la langue d'appartenance et d'un numéro qui renvoie au numéro de l'entrée dans le lexique.

Une dernière remarque concerne le fait que tout lexique de REALITER comporte l'illustration de la méthode de recherche suivie et la présentation des données du vocabulaire panlatin. Voilà cette introduction à propos du *Vocabulaire panlatin du vélo* (2012 : en ligne) :

#### *Méthode de recherche*

Pour les besoins de ce projet panlatin portant sur le vélo, une nomenclature de 198 concepts a été établie à l'Office québécois de la langue française (OQLF). Ces concepts correspondent pour

la plupart à ceux qui ont été choisis et étudiés lors de la préparation d'un vocabulaire bilingue anglais-français intitulé *À vos vélos*, qui a été publié en 2006 dans le site Web de l'[OQLF](#). Une affiche terminologique unilingue française illustrant les différentes parties d'un modèle courant de vélo a également été créée à partir de ce vocabulaire. Celle-ci a été publiée sur support papier ainsi que dans ce même [site Web](#). Les termes que contient le vocabulaire bilingue ou qui figurent sur l'affiche apparaissent également dans [Le grand dictionnaire terminologique](#), qui est consultable en ligne et qui comporte également de nombreuses autres illustrations.

Cette nomenclature a servi à l'élaboration d'un ensemble terminologique comportant des termes français, des termes anglais et des définitions en français. C'est à partir de cet ensemble français-anglais que les autres participants du projet panlatin ont effectué la recherche terminologique nécessaire afin de fournir les équivalents appropriés dans leur langue respective, en l'occurrence le catalan, l'espagnol, le galicien, l'italien, le portugais et le roumain. Ils sont ainsi responsables du choix de ces équivalents.

Enfin, au moment de la préparation du manuscrit panlatin, les nomenclatures de chacune des langues traitées ont été fusionnées. C'est le personnel de l'Office qui s'est chargé, avec la collaboration des auteurs, d'assurer la cohérence de leur présentation.

#### *Présentation des données du vocabulaire panlatin*

Le *Vocabulaire panlatin du vélo* compte 198 concepts. Il présente, pour chacun de ces concepts, des dénominations dans huit langues différentes : le français, le catalan, l'espagnol, le galicien, l'italien, le portugais, le roumain et, enfin, l'anglais. Chaque concept fait l'objet d'un article qui porte un numéro. Comme le français est la langue de départ de la recherche terminologique, le terme français est présenté en premier, en caractères gras et précédé de son code de langue. Le concept de chaque article est défini en français. Ensuite, sous la définition, précédés de leur code de langue respectif, figurent les équivalents proposés dans les autres langues. Les termes anglais apparaissent, à titre indicatif, à la fin de l'article.

Les exemples évoqués démontrent la richesse des travaux réalisés au sein du Réseau REALITER, où la collaboration entre institutions, chercheurs et linguistes, terminologues et traducteurs représente un point clé pour la création de ressources terminologiques plurilingues adressées au grand public aussi bien qu'aux spécialistes des domaines traités. Les destinataires s'avèrent donc tous ceux qui pratiquent ces terminologies et s'en servent couramment : traducteurs, experts de la discipline, consultants, normalisateurs, documentalistes, enseignants et professeurs, etc. Cette documentation est à disposition de tous les besoins des politiques linguistiques, de l'enseignement/apprentissage des langues, de la communication institutionnelle et professionnelle, en vue de la diffusion et de la promotion du plurilinguisme et des connaissances des domaines techniques.

Chacun de ces lexiques est le témoignage du résultat d'un travail collaboratif et de partage de réflexions naissant dans un lieu de travail multilingue dont l'intention est de donner l'importance adéquate à des langues qui ne paraissaient pas souvent dans les lexiques interna-



tionaux, réalisant des types de produits différents, de plus grande et de moins grande visibilité. De nos jours, la préoccupation socioculturelle ayant augmenté, le Réseau REALITER acquiert un rôle de plus en plus important, contribuant à la diffusion d'une terminologie qui va des spécialistes aux citoyens, à tous les usagers de la langue.

C'est en suivant ses principes fondateurs que REALITER continue à souligner la nécessité de maintenir l'étude et la création de terminologies dans toutes les langues, seuls garants et seuls témoins des différentes conceptualisations et de la richesse des différentes approches des objets scientifiques et techniques, en encourageant la promotion de la diversité linguistique dans tous les domaines, c'est-à-dire dans l'enseignement, les rapports avec la société, la recherche et la publication de ses résultats dans les langues néolatines.

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Claudio Grimaldi a obtenu un doctorat européen (Doctor Europaeus) en Linguistique française en 2016 auprès de l'Université de Naples « Parthenope ». Sa thèse de doctorat a reçu le Prix 2016 de l'EAFT pour les résultats de ses recherches dans le domaine de la terminologie. Actuellement, il est chargé d'enseignement à l'Université de Naples « Parthenope » et à l'Université de Naples « L'Orientale ». Il est allocataire de recherche à l'Université Cattolica del Sacro Cuore, Milan. Membre de plusieurs associations scientifiques italiennes et européennes – il est membre du Secrétariat de l'Association italienne de terminologie et du Réseau panlatin de terminologie –, ses intérêts de recherche portent sur la terminologie et la terminographie, étudiées notamment selon une approche diachronique, ainsi que sur la lexicographie bilingue français-italien, italien-français. Il s'intéresse aussi à l'évolution des genres de la communication scientifique et aux dynamiques linguistiques et textuelles liées à la vulgarisation des savoirs.

## The wisdom of crowds in terminology creation: Is it working

**Eduards Cauna**

Finnish Termbank Commission of Terminology of the Latvian Academy of Sciences

Commission of Terminology of the Latvian Academy of Sciences has a mandate to develop the systemic official (Latvian) terminology, to define the use of terms in the formal communication, educational materials and the technical and record-keeping documentation, and to approve new terms and their definitions. In matters of general public interest or beyond the scope of a specific domain, the Commission shall inquire the opinion of the public regarding the proposed terms (Regulation, 2000).

Requirement “to inquire the opinion of the public” is not clearly defined regarding the methods to be used or the range of terms. In the last 50 years main method was to publish a project of termlist and wait for response from domain experts (usually one month). Then Commission analysed objections and made final decisions. In the last 10–15 years online forum-type discussions were possible (mostly regarding IT terminology).

However most interesting were attempts to gather opinions about specific terms using different polls involving hundreds and in some cases thousands of respondents. If we agree to the notion that “language is a result of cultural selection, a kind of evolutionary process capable of “design” (Changizi, 2011) then it is reasonable to explore “the wisdom of crowds” (Surowiecki, 2005) on different scale ranging from group of experts who are in charge to create a certain domain-specific termlist to reasonable sample of people representing “public interest”. In this presentation will be shown results of those “experiments” and provided initial analysis as well as suggestions for future exploration.

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Presentation (pdf) available [here](#)

Video of the presentation available [here](#).



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## Terminological dictionary and terminological counselling: Two sides of the same coin

Mojca Žagar Karer, ZRC SAZU

Fran Ramovš Institute of the Slovenian Language

### Abstract

Terminological work is always a challenge as one has to navigate between the needs of different users of terminology, e.g. experts, terminologists, interpreters, translators and many others. The most important activity of the Terminological Section at the Fran Ramovš Institute of the Slovenian Language ZRC SAZU is compiling different terminological dictionaries, which are published in printed form as well as in freely available electronic form on the website Terminologiče and on the language portal Fran. The second important activity is a terminological-counselling service, which is conducted by terminologists that work at the Terminological Section. The terminological-counselling service operates within the website Terminologiče.

**Keywords:** terminology work, terminological dictionary, terminological counselling

### Introduction

Despite having only approximately 2 million speakers, the Slovenian language has to deal with the same issues as any other language when it comes to terminology. It is important that new concepts get their Slovenian names (terms) as quickly as possible. Furthermore, it is also essential that most of the relevant terminological resources are freely available on the Internet.

The Terminological Section at the Fran Ramovš Institute of the Slovenian Language ZRC SAZU has published 16 terminological dictionaries treating various subject fields since 2000. The 3 most recent ones are the 2nd edition of Pharmaceutical Terminological Dictionary (2019), Terminological Dictionary of Legal Terminology (2018) and the 2nd edition of Terminological Dictionary of Automatic Control, Systems and Robotics (2018). Other subject fields include botany, urbanism, beekeeping, theatre, skiing, geography etc.

### Terminologiče

The work of the Terminological Section is presented on the website [Terminologiče](#) (see Figure 1), which was launched in 2013 (Žagar Karer 2015).

Inštitut za slovenski jezik Frana Ramoviša

# Terminologišče

PREDSTAVITEV    TERMINOLOŠKI SLOVARJI    TERMINOLOŠKA SVETOVALNICA

Terminologišče je spletno mesto Terminološke sekcije Inštituta za slovenski jezik Frana Ramoviša ZRC SAZU, ki nadaljuje delo Terminološke komisije SAZU.

Sodelavci Terminološke sekcije danes.

Najpomembnejša naloga Terminološke sekcije je skrb za sodobno slovensko terminologijo različnih področij, kar se uresničuje predvsem z izdelovanjem terminoloških slovarjev in raziskovanjem terminološke vede, v zadnjih letih pa vse bolj tudi s terminološkim svetovanjem. Pri svojem delu tesno sodelujemo s področnimi strokovnjaki.

Pri slovarskem delu uporabljamo sodobna slovaropisna orodja za obdelavo strokovnih besedil in slovaropisni program SlovarRed 2.1, ki sta ga razvila Tomaž Seliškar in nekdanja sodelavka Sekcije Borislava Košmrija-Levačič ob sodelovanju drugih članov Terminološke sekcije.

Slovarsko delo od prve do zadnje faze vodi terminograf, ki ves čas intenzivno sodeluje s področnimi strokovnjaki. Delo se začne z izdelavo geslovnika, ki vedno nastane na podlagi strokovnih besedil. Ko je geslovník izoblikovan, se začne redakcija, kar pomeni celostno oblikovanje slovarskih sestavkov. Definicijo termina prispevajo področni strokovnjaki, kar zagotavlja strokovno neoporečnost terminološkega slovarja. Prav tako področni strokovnjaki prispevajo tujejezične ustreznike, ki jih nikoli ne prevajajo dobesedno iz slovenščine v tuj jezik, ampak poiščejo uveljavljene tujejezične termine za pojme posameznih področij. Terminograf skrbi za jezikovnosistemsko ustreznost termina ter opozarja na pojmovne nedoslednosti definicij in tako skrbi za koherentnost terminološkega sistema, ki se kaže v slovarju. Pred izidom slovarja se sodelovanje terminografa in področnega strokovnjaka še okrepi pri natančnem usklajevalnem pregledu. Delo se zaključí s tiskano oz. elektronsko izdajo, pri čemer se skrb za kontinuiran razvoj terminologije posameznega področja s samo izdajo ne konča, ampak se sproti beležijo popravki, dopolnila itd., ki so upoštevani v naslednjih objavah slovarjev.

## TERMINOLOŠKA TEORIJA – IZBOR

Figure 1: Terminologišče

Terminologišče provides free electronic access to 14 terminological dictionaries. Figure 2 shows the 2nd edition of Terminological Dictionary of Automatic Control, Systems and Robotics. On the right-hand side, there is a search-engine interface. It is possible to search by an entry, by a word in a definition, as well as by a foreign-language equivalent. Although terminological dictionaries on Terminologišče are always based on the Slovenian concept system, it is quite common for experts to start searching using the English term, because they are often familiar with it or they cannot remember the Slovenian term.

Inštitut za slovenski jezik Frana Ramovša

# Terminologišče

PREDSTAVITEV    TERMINOLOŠKI SLOVARJI    TERMINOLOŠKA SVETOVALNICA

Slovarji

**TERMINOLOŠKI SLOVAR AVTOMATIKE (2., dopolnjena in pregledana izdaja)**



PREDGOVOR K 2. IZDAJI

AVTORJI

KOLOFON

UVOD

ZASNOVA IN ZGRADBA SLOVARJA

Iskalnik

Iztočnica

Razlega

Ustreznik (termin v tujem jeziku)

Jezik ustreznika  
Angleščina ▼

išči

Ponastavi

Figure 2: 2nd edition of Terminological Dictionary of Automatic Control, Systems and Robotics

## Fran


All terminological dictionaries are also part of the dictionary portal [Fran](#) (see Figure 3), which brings together all dictionaries that were made or are currently under development at the Fran Ramovš Institute of the Slovenian Language (Ahačič et al. 2015). Portal Fran is a collection of general dictionaries, such as Dictionary of the Slovenian Standard Language or Slovenian Normative Guide, etymological, historical, dialectal dictionaries as well as answers to questions provided by both language-counselling service and terminological-counselling service. At the moment, Fran comprises 36 dictionaries and almost 700,000 dictionary entries.

# Fran


Dictionaries of the Fran Ramovš Institute of the Slovenian Language ZRC SAZU

Q


General
Etymological
Historical
Terminological
Dialectal
Counselling
Collections




Dictionary of the Slovenian Standard Language, 2nd Edition




Dictionary of the Slovenian Standard Language, 3rd Edition (eSSKJ)




Synonym Dictionary of Slovenian Language





Slovenian Normative Guide (SP)




ePravopis – Slovenian Normative Guide (2016)












Figure 3: Fran

For example, let's say that we are interested in the word *klorofil* (chlorophyll in English). Fran returns hits from various dictionaries – from Dictionary of the Slovenian Standard Language, Synonym Dictionary of Slovenian Language, Slovenian Normative Guide, Etymological dictionary and of course from terminological dictionaries, in this case from Botanical Terminological Dictionary and Pharmaceutical Terminological Dictionary (Figure 4).



Fran

klorofil

Advanced search About Fran

Sort by headwords Print

### Search results

**klorofil** -a m (1)

bot. *zeleno barvilo, ki omogoča v rastlinski celici nastajanje ogljikovih hidratov, listno zelenilo*: molekule klorofila; tvorba klorofila; vsebnost, količina klorofila v listih / barvilo klorofil

**klorofil** -a m

bot. *zeleno barvilo, ki omogoča v rastlinski celici nastajanje ogljikovih hidratov*

SINONIMI: bot. *listno zelenilo*

**klorofil** -a m, snov (1) rastl. (*listno zelenilo*)

**klorofil** -a m

**klorofil** -a m

**klorofil** -a m

**klorofil a** -a – m

**klorofil b** -a – m

**klorofil c** -a – m

**klorofil d** -a – m

Total results: 10

SSKJ<sup>F</sup> Etymological Botany Pharmacy Botany Botany Botany Botany

Everything on Fran	11	39
SSKJ <sup>F</sup>	1	6
eSSKJ	0	0
Sinonimi	1	2
SP	1	3
ePravopis	0	0
Sprotni	0	0
Phrasemes	0	1
Verb binding	0	0
Etymological	1	1
Historical	0	0
Terminological	6	22
Dialectal	0	0
Archive	1	4

### Dictionary

### Counselling

Language 0 0

Post a question

Terminological 0 0

Post a question

Corpora and collections

Figure 4: Searching for klorofil on Fran

If we click on the entry klorofil, which has a tag botany, we are redirected to Botanical Terminological Dictionary on Terminologiče as shown in Figure 5. Here we can find the definition, English and German equivalents and information on 4 subordinate concepts. There are 4 types of klorofil, namely klorofil a, klorofil b, klorofil c and klorofil d. By clicking on the selected term, the whole term entry opens.

Slovarji &gt; Botanični terminološki slovar

## Iskalnik

Iztočnica

klorofil

Razlaga

Ustreznik (termin v tujem jeziku)

Jezik ustreznika

Angleščina

IŠČI

Ponastavi

Najdenih: 5

klorofil  
 klorofil á  
 klorofil b  
 klorofil c  
 klorofil d

**klorofil** -a m

biokem., fiziol. fotosintezno barvilo zelene barve v cianobakterijah (Cyanobacteriota), evkariontskih algah in višjih rastlinah, ki absorbira svetlobno energijo, jo pretvarja v kemično, z absorpcijskim vrhom v modrem in rdečem delu spektra, zgrajeno iz porfirinskega obroča z magnezijem v sredini in iz alifatskega alkohola fitola, pri čemer ima pri posameznih zvrsteh tudi različne stranske skupine

GL.: klorofil b, klorofil c, klorofil d, klorofil á

ang.: chlorophyll n  
 nem.: Chlorophyll n

Figure 5: Klorofil in Botanical Terminological Dictionary on Terminologičče

## Terminological Dictionaries

The intended primary users of terminological dictionaries compiled at the Terminological Section at the Fran Ramovš Institute of the Slovenian Language ZRC SAZU are experts in a particular subject field, such as botanists, urban planners or geographers. Naturally, there are also other users of our dictionaries, especially translators, interpreters, language editors, journalists. But it is important that they are aware of the fact that they are using a specific type of dictionary, one which requires at least some prior knowledge of the field in question.

When compiling a terminological dictionary, terminologists always cooperate with a group of experts, mostly university professors and researchers. The task of a terminologist is to organise the terminological work, take care of coherence of the concept system, and deal with potential inconsistencies. The educational background of terminologists at the Institute of the Slovenian language is mostly linguistics. On the other hand, experts have knowledge about concepts and concept systems of their own subject fields and are therefore responsible for writing reliable definitions and also for providing foreign-language equivalents. It is important that terminological dictionaries include verified foreign-language equivalents, rather than mere word-for-word translations of terms.

The basic approach is conceptual, but usage is considered as well. For each dictionary, terminologists build a specialised corpus. Then they extract term candidates, check them with experts, and finally make a wordlist in order to start terminological work. When a list of terms which frequently occur in specialised texts is ready, the work continues by building a terminological system based on the conceptual system. The related terms are thus treated together.

The normative choices are based on the terminological agreement among experts, i.e. the authors of a certain terminological dictionary.

Our main concern is the quality of terminological dictionaries. But how can it be guaranteed? Here are some possible answers:

- Terminological dictionaries should contain experts' knowledge and terminologists' know-how.
- They should be accurate and linguistically correct.
- Ideally, they should be up-to-date and revised regularly.
- They should be publicly available.

### Terminological-counselling Service on Terminologišče

Naturally, terminological dictionaries will never cover all subject fields. Even when a terminological dictionary for a specific subject field exists, there is a chance that it does not contain the most up-to-date concepts and terms. In this case, experts cannot find the information they need in a dictionary. This is the reason that another terminological activity was launched in 2013 – the terminological-counselling service. It is a web-based service and it is free of charge. There are around 60 terminological questions per year and the number of questions is still growing.

Terminological-counselling service is an important part of [Terminologišče](#) (see Figure 6). On the right-hand side of the page, there is a form to fill. After clicking, the required fields open: name and surname of the person who asks a question, their e-mail (for two reasons: the answer is sent personally via e-mail; sometimes terminologists need additional information from the person asking the question) and description of the terminological problem. The optional fields comprise a list of existing terms for a particular concept and examples of use (preferably with links).

Inštitut za slovenski jezik Frana Ramovša

# Terminologišče

PREDSTAVITEV

TERMINOLOŠKI SLOVARJI

TERMINOLOŠKA SVETOVALNICA

## Terminološka svetovalnica

Terminološka svetovalnica je namenjena širši strokovni javnosti, ki se sooča s konkretnimi poimenovalnimi problemi, pa naj gre za popolnoma nove pojme, ki jih je v slovenščini še le treba poimenovati, ali že znane pojme, za katere obstaja več poimenovanj, pa strokovnjaki čutijo potrebo po sistemskem poenotenju oz. izbiri najprimernejše rešitve.

Pri terminoloških odgovorih upoštevamo osnovna terminološka načela, kar pomeni, da na podlagi posredovanih podatkov o terminološkem problemu svetujemo, katera rešitev bi bila najbolj ustrežna z vidika terminološke vede. Zato je zelo pomembno, da dobimo čim več podatkov o terminu, predvsem kaj ta pomeni, zelo koristni pa so tudi podatki o besedah, v katerih se pojavlja, morebitne že obstoječe poimenovalne rešitve (ko več terminov označuje isti pojem), tujejezični ustrezniki itd.

Da bi lahko na Terminološki sekciji pripravili odgovor, ki vam bo zares v pomoč, vas prosimo, da čim bolj natančno izpolnite polja v obrazcu. Z zvezdico označena polja so obvezna. Imena in priimka pošiljatelja v nobenem primeru ne bomo objavili, odgovor pa bomo v nekaj dneh poslali na vpisani e-naslov. Vprašanja in odgovore, ki bodo zanimivi za širšo javnost, bomo objavili na spletni strani. Odgovore na splošna jezikovna vprašanja pa lahko poiščete v [Jezikovni svetovalnici](#).

Išči

Q

[Zastavi novo terminološko vprašanje](#)

## Odgovori na vprašanja

### Pozne posledice

Opis terminološkega problema: Prosim za pojasnilo, ali je pravilnejše poimenovanje pozne posledice ali kasne posledice? Gre za težavo, ki se pojavijo več let po tem, ko so bili bolniki zdravljeni zaradi raka, npr. večje tveganje srčnega infarkta pri tistih, ki so prejeli kemoterapijo ali pa pojav drugega raka zaradi [več...](#)

Figure 6: Terminological-counselling service

Anonymised questions and answers are then published on Terminologišče. As a result, a collection of existent terminological problems has been created. It can be useful for other users with the same problem. Feedback from users is generally very positive and our advice is often accepted and applied even in situations which are not related to the exact same question.

Terminology-counselling service is intended primarily for experts with existent, sometimes even urgent terminological problems. That said, quite a few terminological questions come from translators and language editors. This is not surprising because translators and language editors encounter various terminological problems on a daily basis. Since we can't expect translators to be experts in all subject fields they deal with, and terminologists are not field experts either, it is sometimes hard to properly understand certain concepts. In this case, terminologists usually ask an expert for help.

All terminologists of the Terminological Section are involved in counselling – each terminological problem is discussed in a group and it is usually possible to find the solution which is acceptable for all terminologists.

There are two main types of questions:

- The English term X is defined as ... I need to find an adequate Slovenian term. Please help.
- For the concept defined as ..., there are 3 different Slovenian terms. Which of these do you think is the most appropriate?

Since decisions are based on terminological arguments, use of some basic terminology principles is always recommendable. These are the most important ones:

- The preferred term should be well-established – this means it is often used in specialised texts. In the case of several coexisting synonyms: the preferred term is the term that is the most commonly used in specialised texts. Some typical examples of use are often added.
- The second principle states that a term should be economical, e.g. relatively short. In the case of more synonyms: the preferred term is the term that is shorter.
- The term should also be linguistically adequate, which means that the term must be in accordance with the linguistic system of the language as a whole.
- Sometimes the principle of linguistic culture is also applied. In this case, priority is given to terms of domestic origin (Fajfar 2017).

That said, it should be stressed, that terminology principles should not be used mechanically. It is always necessary to consider which terminological principle has priority in a particular case.

Our experience shows that the following factors are essential for the quality of terminological-counselling service:

- The answers should be given relatively quickly.
- The answers should be supported by arguments that are based on terminological principles and some examples of use.
- Questions and answers should be publicly available so that other users with the same problem can find it.

### **Comparison between Compiling a Terminological Dictionary and Answering Terminological Questions**

These two terminological activities are very different, but at the same time they share a lot of similarities. Both primarily try to fulfil terminological needs of subject-field experts, but also the needs of other users of terminology, e.g. translators.

When compiling a terminological dictionary of a special field, terminologists and experts typically treat concepts as parts of a whole concept system. They try to get a broader view of the terminology of a chosen subject field. When more terms designate the same concept, they also choose the preferred term. The most important attribute of a terminological dictionary is its reliability. When answering terminological questions, a group of terminologists deal with one existent terminological problem, e.g. trying to find a Slovenian term for a new concept.

In compiling terminological dictionary, the work is focused on a particular subject field. On the other hand, questions for the counselling service originate from different subject fields.

Dictionary work is teamwork – terminologist and a group of experts work together. In counselling service, on the other hand, an expert asks a group of terminologists a terminological question.

Last but not least – it usually takes more than 3 years from the beginning to the end of a dictionary project, so it can be considered as a long-term project. On the other hand, it usually takes less than 3 days to prepare a coordinated answer for the counselling service.

## CONCLUSION

It seems that organised terminology work is still relevant today and although it is probably impossible to collect and organize terminology of all existing subject fields, it is important to work on as many reliable terminological resources as possible. On the other hand, experts sometimes need help with finding the right term for a new concept quickly. Existing terminological resources are not useful in this case, but the help of terminologists might be just what they need.

Compiling a terminological dictionary and answering terminological questions are two very different terminological activities from the methodological point of view, but their goal is actually the same – finding the most suitable term for a concept or more concepts using all accessible information and combining knowledge of experts and terminologists.

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### CV

Dr. Mojca Žagar Karer is a Research Fellow at the Fran Ramovš Institute of the Slovenian Language of the Research Centre of the Slovenian Academy of Sciences and Arts. She has been Head of the Terminological Section since 2012. Her research focuses on theoretical and applied aspects of terminology. She is the coauthor of the Dictionary of Theatre Terminology, the Terminological Dictionary of Automatic Control, Systems and Robotics and Dictionary of Legal Terminology. She is currently working on the Terminological Dictionary of Reinforced Concrete Structures, the Terminological Dictionary of Stonemasonry and the Terminological Dictionary of Criminal Investigation. She also takes an active part in the web-based terminological-counselling service, which operates within the website Terminologišče.

## Professional profiles in and around terminology management

**Petra Drewer**

Hochschule Karlsruhe – University of Applied Sciences Karlsruhe, Germany

**Donatella Pulitano**

State Chancellery of the Canton of Berne, Switzerland

**Tom Winter**

Deutsche Bahn, Germany

### Abstract

In recent years, the professional profile of terminologists has changed considerably. The latest descriptions of the professional profile in German-speaking countries are from 2004 (RaDT) and 2011/2014 (DTT/DIT Best Practices) and therefore need to be adapted. The creators of the previous professional profiles are the three institutions RaDT (Rat für Deutschsprachige Terminologie / Council for German-Language Terminology), DTT (Deutscher Terminologie-Tag e. V. / German Association for Terminology) and DIT (Deutsches Institut für Terminologie e. V. / German Institute for Terminology), which are therefore also involved in updating them.

One of the most important developments is that we are moving away from purely translation-related terminology work towards technology-supported knowledge management; including preparation of ontologies for areas of application such as SEO and SEA, among other things with the aim of optimizing AI applications.

Some of the new tasks are e.g.:

- Traditional database entries must be transformed or prepared for other knowledge systems and other technologies.
- The focus shifts even more than before from terms to concepts and their systematics and/or to the creation of concept networks for knowledge modelling.
- The type of users of terminological content has changed - terminologists are now perceived as the interface between knowledge and language.

**Keywords:** Professional profile, terminologist, concept system, knowledge management, corporate language.

### 1. German-speaking terminology associations and their activities

With respect to the German language, three institutions have been involved with terminology, terminology methods and terminological activities ever since the late 1980s and beginning of the 1990s.

### **1.1 DTT (Deutscher Terminologie-Tag e. V. / German Association for Terminology)**

Founded in 1987, the DTT is the world's largest professional association for terminology. It ensures the exchange between theorists, practitioners and tool manufacturers through conferences, further education and publications.

Main activities:

- forum for terminological questions and for cooperation between terminologists
- consulting and coordination
- cooperation with other organizations
- continuing training courses such as workshops, seminars and symposia
- production of expert literature such as conference proceedings, journals and other publications

### **1.2 DIT (Deutsches Institut für Terminologie e. V. / German Institute for Terminology)**

The DIT is a group of DTT advisors. It was founded in 1993 as a scientific and academic basis with the central task of observing new developments in the terminology sector and contributing them to the work of the DTT. The DIT is now the advisory board of DTT and acts as a think tank for the DTT's activities. One of the main activities is the organization of a symposium every two years during which current issues in terminology science and terminology work are being discussed.

### **1.3 RaDT (Rat für Deutschsprachige Terminologie / Council for German-Language Terminology):**

The RaDT is an expert committee set up in 1994 on the initiative of the German, Austrian and Swiss UNESCO Commissions to promote terminology in German-speaking countries and develop terminology policy and strategic guidelines. It consists of a panel of experts who represent organizations, associations, administrative bodies, business and industry, and educational institutions in the field of terminology from Germany, Austria, Luxemburg, Belgium, Switzerland, and South Tyrol. Its goals are:

- raising awareness of the importance of terminology in German-speaking countries and promoting cooperation in this field
- coordinating and supporting terminological activities
- developing and disseminating terminology policy and strategic guidelines and contributing to their implementation.

### **1.4 Cooperation**

The DTT, the DIT, and the RaDT have always been working closely together since many of their members belong to two or three of the institutions.



There is a lot of interaction and synergy. The three institutions have been working on professional profiles ever since their creation:

- In 2004, the RaDT has published in 2004 the [description of the professional profile of terminologists](#) in German, English and various other languages. The RaDT is currently working on a new version of the professional profile taking into account the developments that have taken place within the last decades<sup>1</sup>.
- The DTT and the DIT have published a module on the professional profile, competences, formation, and teaching within their “Best practices” publication (Deutscher Terminologie-Tag 2011 and 2014).

The tasks of terminologists have changed considerably in recent years. The focus is even more on the processing of concepts and concept systems.

## 2. The relevance of concept and term

In multilingual and/or prescriptive terminology work, the concept and thus the concept orientation play a central role. The elaboration of terminology can take place both semasiologically (from the terms to the concepts) and onomasiologically (from the concepts to the terms), but the structure and administration of the terminological databases put the concept as a systematizing element at the focus of attention, so that onomasiological database structures arise: A database entry contains exactly one concept. All concept-relevant information is thus bundled in a data set. From a linguistic perspective, it must be taken into account that all existing terms for the concept are listed in this one entry and are administered as independent sub-units (cf. Drewer/Schmitz 2017:128ff.).

For companies managing terminology, the terms are, of course, the key element insofar as its use is to be standardized. The central goal of companies is to standardize terminology across all areas of their corporate communications, so that a wide variety of text types and thus different groups of terminology users are affected (e.g. in areas such as R&D, technical editing, marketing, translation/language services). Terminological consistency is intended to establish a corporate language and improve the comprehensibility of internal and external communication. In addition, terminological standardization reduces text production and translation costs and increases the reusability of texts and text modules.

In these projects the term (apparently) gains the upper hand, because the only question seems to be which terms are allowed in texts and which are not. In addition, terms are visible and easily recognizable as components of texts, while concepts a units of thought are not directly accessible and must be made visible through definitions. In practice, this means that for many terminologists and terminology users the collection and administration of terms seem to be synonymous. The concepts and their relations to each other are pushed into the background in favor of term analyses. However, terms can only be managed and used appropriately if they are

<sup>1</sup> It will be published on [www.radt.org](http://www.radt.org) as soon as it is completed.

assigned to concepts and synonyms or partial synonyms (also equivalents and partial equivalents) are clearly recognizable.

In terminology work, usually two valuable resources arise:

1. multilingual terminological database entries, including metadata
2. concept systems for the representation of relations and knowledge structures in the fields of science

While the terminological data are mainly linguistically relevant, since they embody an important part of technical language and are used in texts, the concept systems provide access to the linguistically represented special knowledge.

### 3. Concept systems

#### 3.1 Concept relations

Concepts do not occur individually and in isolation, but are associated with other concepts from which they can be distinguished by means of distinctive characteristics. Concept relations can primarily be divided into hierarchical and non-hierarchical relations.

Non-hierarchical concept relations include sequential (e.g. temporal or causal), oppositional, pragmatic relations, etc. The types of relations that are relevant and necessary for representing concept relations depend on the subject area being examined.

Hierarchical concept relations (further subdivisible into partitive and generic relations) are of central importance for terminology work, regardless of the subject area. Depending on the direction you are looking at the relation, a concept is divided step by step into subordinate concepts or concepts are combined step by step to form a superordinate concept. This process can be single-level or multi-level, so that single-level or multi-level hierarchies are represented (see Fig. 1, Drewer/Schmitz 2017:8ff).

The purpose of concept systems is to classify concepts that are thematically related and to make the relations between them clear. Concept systems are first of all imaginary structures with which concepts are interrelated. In order to have a simple access to the represented knowledge, the systems are visualized and graphically processed – usually in the form of line diagrams, in which each node represents a concept and the connecting lines represent the relations between the concepts (see Fig. 1).

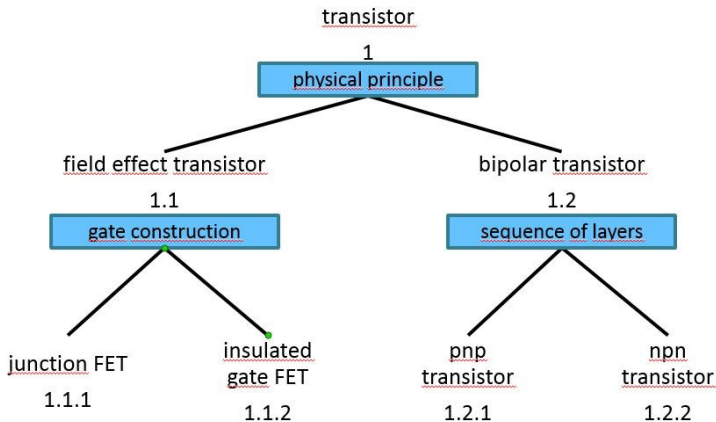


Fig. 1: Generic concept system (with notations)

The systematic classification of concepts and terms of a subject area is not only important for terminology work. Every discipline must work systematically on its concepts and terms. Otherwise, a deeper understanding of a subject is not possible.

## 3.2 Applications of concept systems

### 3.2.1 Introduction

The expert knowledge represented in concept systems can be used in a variety of ways: Both humans and machines can use concept systems to perform intelligent searches, fine-tune search queries, improve search results or answer inferential questions (especially in the field of assistance systems and applications of artificial intelligence). Assuming that concept relations are identified and managed in professional terminology management processes, there is an enormous potential for future applications as well as for future fields of work and job profiles in the terminology field.

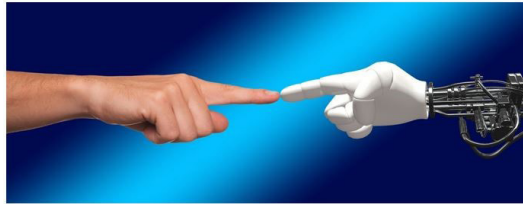
If one deals with the application possibilities of concept systems, then close connections between concept-oriented, systematic terminology work and areas such as Semantic Web or Ontology Engineering become apparent. All these activities deal with structuring and processing knowledge. While terminologists prepare the data in such a way that it can be processed by human users, ontology engineers prepare it for machines, i.e. primarily for software applications. In the context of machine use, it is rarely referred to the systems as concept systems, but rather as knowledge representations, semantic networks, taxonomies or ontologies. However, despite these terminological variants, very similar formats are meant (for the interconnection of the different worlds, see Fig. 2 and Drewer/Massion/Pulitano 2017a and 2017b).

## Concept System

- Specifies relationships between concepts
- Structures knowledge
- User: **Humans**

## Ontology

- Specifies relationships between concepts
- Structures knowledge
- User: **Machines**



<https://pixabay.com/illustrations/hand-robot-human-divine-spark-1571852/>

Fig. 2: Parallels between Concept Systems and Ontologies

### 3.2.2 Target group “human”

**Terminology users** benefit primarily from the clear presentation of the relevant concepts in a systematic context. Regardless of their use in terminologically oriented contexts, concept systems are structured representations of expert knowledge. Even if the designation of a concept is unknown, the corresponding concept can be identified and found via its position in the system.

The **terminologists** themselves also have various advantages by working with concept systems. As already explained, the development of concepts and concept relations is the best way to build up sound expert knowledge. Terminologists thus expand their professional competence and simultaneously increase the quality of their own working results. When only specific terminological questions are answered, no (far-reaching) expert knowledge is created. In addition, they can use the concept systems to optimize their daily terminological work: Superordinate and subordinate concepts as well as neighboring concepts can be easily and consistently distinguished from each other by working and thinking in the system. The concept systems show which characteristics are relevant for defining and distinguishing concepts.

If a suitable superordinate concept is known, the definitions of the subordinate concepts can be formulated clearly and uniformly and with less effort. When creating concept systems, it is also apparent whether research gaps still exist, i.e. whether concepts exist whose terms/designations have not yet been identified as terminologically relevant or which have not yet been named. Within the context of multilingual terminology work, it must also be checked whether (partial) equivalents exist. This equivalence check is based on the definitions and positions of the concepts in the system.

### 3.2.3 Target group “machine”

When the concepts and their relations are machine-readable, links emerge to Semantic Web, Ontology Engineering, Artificial Intelligence (AI), or Linked Open Data. The closer the concept system modeling in terminology management is to data models such as RDF (Resource Description Framework) or ontology languages such as OWL (Web Ontology Language), the more promising is the further use of the data. Although many interfaces and conversion routines still have to be refined or completely new developed, the exchange of data between the systems is only a matter of time. A particular strength of terminological databases is their concept-oriented structure and their multilingualism, which enables multilingual access (also via all synonymous terms of a concept in all stored languages).

If the concept relations are represented by directional arrows (to indicate directional concept relations) and with arrow labels (to indicate the respective type of relation), these systems are particularly suitable for the formation of “subject-predicate-object”-triples, as they are implemented by RDF and similar models or programming languages, due to the explicit identification of the types of relation. The starting point of the arrow usually becomes the subject of the statement, the target becomes the object, and the arrow label can be used to form the predicate. For hierarchical superordinate and subordinate concepts, which have an abstraction relation to each other, statements like {X is\_a Y} result; for hierarchical comprehensive and partitive concepts, which have a partitive relation to each other, statements like {X is\_part\_of Y} result.

Information from concept systems can therefore be used excellently to make a wide variety of systems “intelligent” and to supply them with “knowledge”. The transition from terminology to knowledge management is fluid. Assistance systems, intelligent searches and links, ontologies, AI applications, methods for search engine optimization (SEO) - they all require concepts and relations as a basis.

## 3.3 Creating and editing concept systems

Ideally, terminology management already offers very well-prepared knowledge (usually even with additional multilingual information and access options). Terminologists prepare concept systems or at least bilateral relations between concepts that can be combined to form systems. Whereas in the past almost exclusively hierarchical types of relations were searched for, created and managed, it has now been recognized how important non-hierarchical relations are in order to map the connections completely and accurately (e.g. cause/effect, purpose, chronology).

If concept systems have already been created during the terminology analysis, then the further use is relatively simple, since pure formatting or conversion questions have to be solved, i.e. the question “How do we get the information out of the terminology management system and into other systems?”

Often, concept relations are expressed by internal database references. Other possibilities are referring data categories between related concepts or the assignment and administration of notations (as a separate data category). More recent terminology management systems also offer various options for modelling graphical concept systems, linking the visualization directly to the terminological entries and exporting the content for other applications.

If pure graphics are created to visualize concept systems and conceptual dependencies, then a very valuable product of terminology work is already available, which should be used in any case. However, a way must be found to read out the illustrated concepts and their interrelations and to make them machine-readable.

Unfortunately, the creation of concept systems is often neglected in practice, which is partly due to the fact that many terminologists do not have sufficient expert knowledge, even though the development of high-quality terminology requires a double qualification of terminological-linguistic and content-related knowledge. A thorough understanding of the subject area in question is therefore both the basis for professional terminological practice and the result of this work.

If the terminologists are not able to grasp and present the concepts and their relations, no systematic work is possible. In the context of punctual terminology work, it is therefore often the case that only individual concepts or small conceptual fields are dealt with without building up or using solid expert knowledge.

## 4. The “new terminologist”

### 4.1 Changes and challenges

As mentioned earlier on, the RaDT is currently working on an updated version of the terminologists’ professional profile, since their tasks and the required competences have changed considerably within the past decades (cf. Pulitano 2018).

Whereas in earlier days the terminologist was strictly working on “pure terminology”, therefore focusing mainly on the “record-writing” part, nowadays terminologists are definitely acting as an interface between knowledge and language, being both language workers and knowledge workers. Terminologists verbalize knowledge, adding value by making knowledge explicit through language. They also formalize language, adding value by making explicit the various relationships between concepts they represent through concept systems or ontologies.

Terminologists can play a key role for the interaction of ontologies (knowledge) and terminological databases (language). On the one hand, they can benefit from ontologies thus improving and enriching terminological data and adding value to the terminology work. On the other hand, they can improve ontologies since they know how to deal with conceptual relations and concept systems, synonyms and partial synonyms, equivalents and partial equivalents, and multilingual or multicultural realities.

Today, terminologists have to deal with different situations that require a diversified treatment of the terminological content. Even if terminological records are still very important, constituting the core of terminology databases and representing the outcome of the terminology work, the job has evolved into a far more complex activity, with numerous tasks related to tools and workflows of all kind not necessarily limited to translation, since there are numerous possible applications for terminological results.

The amount of new terms is rapidly growing in almost every subject field and in parallel the life cycle of terms and concepts is constantly accelerating, thus creating new and growing terminology needs.

Furthermore, the “customers” for terminology services have changed: in earlier days, the terminologists’ primary customers were **translators**, who were often not familiar with terminology work, the available resources and the search strategies. Modern translators are usually trained in terminology, meaning that they do not need terminologists for the actual terminology search, but for support on the tool side and for the dissemination of terminological information. In addition to this changed target group, terminologists face new target groups, each with specific requirements and needs:

- The **non-specialized public**, who does not know what terminology is and expects fast answers to resolve a linguistic problem at hand (especially in the public sector).
- **Technical writers** who need a standardized terminology to convey the messages in a non-ambiguous way in their source language.
- **Marketing copywriters** and many other professionals within companies who need a precise language throughout the whole product life cycle.
- **Ontology engineers and other knowledge workers** who can use and adopt the existing concept systems and relations from terminology management. This requires suitable conversion routines. Moreover, they should add the linguistic (multilingual) dimension to the machine-readable systems they construct.
- **Programmers** who want to use consistent terminology on the graphical user interface of software products that also matches the terminology in the accompanying documentation (e.g. online help, user manual).

Despite these new target groups, one-off terminology work for rapid problem solving is still quite common, even though the results are often faulty and incomplete, whereas thematic terminology work is by far of higher quality, more meaningful and in the long run even more economical<sup>2</sup>. Terminology work should always be carried out as thematic work, since quality is at stake, and it is getting even more important, especially for the many computer-assisted applications.

These new challenges bring with them new demands on the skills that terminologists must have<sup>3</sup>, like e.g.

- *marketing*: to promote linguistic data within a company and to motivate colleagues to work with the appropriate linguistic data
- *sound knowledge of IT*: to interact with the IT-specialists for the development of tools and to check the plausibility of new developments
- *consulting*: to give advice to other departments or projects on how linguistic data could be beneficial and to train users in order for them to know what terminology is about and how it can be used

<sup>2</sup> See chapter 3 on the fundamental importance of concept systems for the thematic terminology work.

<sup>3</sup> In addition to these general skills and requirements, there are company-specific tasks. Some of them are described in chapter 5 using the example of Deutsche Bahn.

- *language technology*: to make the necessary adjustments to linguistic tools without being dependent on other specialists
- *knowledge management and knowledge architecture*: to prepare and enhance the terminological data both for human users and for machine applications in the AI environment

#### 4.2 International research and teaching activities

Regrettably, the research carried out in the field of terminology is not always shared and widely spread due to the variable language skills of the people involved. Spanish- and French-speaking terminologists are sometimes not aware of German-speaking researchers and their publications, and vice-versa. Therefore, they often do not know whether any of the current problems and new tendencies have already been addressed within certain research communities.

It is therefore crucial to enhance and promote the exchange on theories, methods, and practices between researchers and practitioners in as many contexts as possible. This is the only way to ensure that terminological activities, their implications and their benefits are widely known and applied.

### 5. A practical example: terminology management at Deutsche Bahn AG

Deutsche Bahn AG owns a terminology database of about 25.000 concepts from a wide range of subjects. The terminology is maintained by translators and/or interpreters of the language department in cooperation with experts of the specific fields.

#### 5.1 Translation-based usage

The usage so far is totally translation-based: combined with a translation memory system the terminology is a fixed component of the translator's workplace to ensure consistency throughout all translations. Moreover, as a central source of corporate language, [the terminology database](#) is freely accessible on the internet.

#### 5.2 Non-translational usage

In recent years, digitization has brought up several completely new scenarios for the use of terminology that are not primarily translation-based.

- Authoring support

Terminology should be used prior to translation: ideally already in the editorial department, when a new text is created. Authoring assistance applications help editors to always select the right word, which leads to consistent texts and lower translation costs.

- SEO

Synonyms are an easy way to improve the search results of a search engine. No matter if you search for "train preheater", "train preheating unit" or "train preheating system"



– due to the terminology implemented into the internal DB search engine, you will find the correct information for “electric train preheating unit”, which is the preferred term and therefore the only word to be found in all databases checked by the search engine.

- Text-based dialogue systems (Chatbots)

Terminology can support text recognition by synonym recognition and by the resolution of acronyms, abbreviations and different spellings. DB Reisebuddy is a current example of the use of terminology in chatbots.

DB Reisebuddy is a travel service for DB customers. Customers can request information, book trips, reserve restaurant tables, etc. via SMS. The incoming SMS are processed by colleagues, who are supported by an automatic text recognition system that analyses the content of the SMS and

- suggests the right database to the employee, in which the answers are likely to be found.

*Incoming question: “Why has my train to Munich been standing for half an hour? When will it continue?” As a reaction, the system will open the database for the employee in which the real-time information is processed.*

- suggests possible answers to the colleague or indicates missing information.

*Incoming question: “Please reserve a table for me tonight in an Italian restaurant in Hamburg”. Note to the employee: “Missing information: Number of persons, district, time”.*

- automatically replies to the customer if the question has already been asked and a standard answer is already stored in the system or if the SMS is clearly and completely formulated.

*Incoming question: “When is the last train from Hamburg to Munich tonight? Automatic system answer: “18:01, ICE 885, Hamburg Hbf - Munich Hbf, 23:43”.*

- Voice recognition

Synonyms also help to optimize speech recognition, for example at ticket vending machines. Next to annoying background noises, e.g. loudspeaker announcements on the platform, or individual speech characteristics, e.g. dialects, common parlance is also a possible source of errors in speech recognition. Some passengers would order a “happy weekend ticket”, while others would ask for a “nice weekend ticket”. The machine should recognize both tickets as the same wish.

All the above examples are based on a rather rudimentary function – the synonym linking resolves abbreviations and alternative spellings and/or refers to the preferred term. Thus, the focus is on the relation between all terms of a concept.

For future AI applications, however, other aspects will become increasingly important – namely the relations between the concepts.

What is the relation between “tracks” and “switches”? Are “drag shoes” only to use for wagons, or for locomotives, or for both? In order to make this function available, the concepts need to be related to each other and these relations must be stored in the database. Creating and storing concept systems will turn a terminology database into a knowledge network. If the concept systems are then converted into ontologies, we have even machine-readable knowledge networks.

### 5.3 The importance of spreading terminology

But why should the language department take on the task of transforming corporate terminology into an ontology?

Chapter 3.2.2 has shown which professional groups benefit from concept systems and what advantages they have. Chapter 3.2.3 has also demonstrated which machine applications result from this. The “why” has therefore already been answered. Company-specific factors will be presented in the following.

For Deutsche Bahn, for example, the question arose as to whether create concept systems themselves or to fall back on existing offerings. Ontologies can already be purchased today and are therefore quickly available.

Well, the answer is relatively simple: terminology is the basis of corporate language. If other linguistic data were used to feed AI applications, the corporate language would be in danger.

In the context of the ongoing digitization, language data are of ever-increasing value and highly demanded. To spread and protect the corporate language, company terminology must be integrated in as many applications and processes as possible! Therefore, it is necessary to convert the concept systems and thus the existing terminology into ontologies, to be easily implemented into further AI applications.

### 5.4 New tasks for terminology databases and the terminology structures

This leads to new requirements for the terminology database. To convert a terminology database into an ontology

- relations between concepts need to be stored  
In the past, for human users, mostly graphic representations were created; for machine users, new formats have to be realized
- new exchange formats (e.g. OWL, SKOS) are necessary
- The linguistic data needs to be maintained in one centralized system for all usage scenarios to avoid shifts in content

### 5.5 New tasks for terminologists

Chapter 4 has already explained how the qualification profile has changed. From the perspective of DB, the following additional requirements, tasks and special features arise.

- *Marketing*: The existence of the linguistic data and all the possibilities of usage must be known within the company.
- *Interface between language and IT*: Keeping in touch with the IT department to be informed about ongoing projects ensures that the linguistic data is used whenever possible.
- *Consulting*: Projects or applications need to be identified, where linguistic data could be beneficial. Then IT colleagues need consulting in possibilities of how to implement the right data. And the other way around: translators and interpreters need advice in how to maintain the linguistic data to meet the needs of the new usage scenarios.
- *IT knowledge*: The terminologist needs to know about all the ways of implementing linguistic data into other applications: interfaces, exchange formats, etc.
- *Language technology knowledge*: Necessary adjustments must be made to the terminological structure (visualization and export of concept relations) so that it can be used in all scenarios.
- *Motivation and didactics*: Creating and editing concept systems means a lot of work. The terminologist must explain the need for these knowledge systems and convince translators and interpreters of the advantages.

## CONCLUSION

Taking into account the above mentioned changes and challenges, it stands to reason that the terminologists' status has evolved drastically. Consequently, teaching and training have to move along in order to provide terminologists with the necessary knowledge, skills and competences (see Drewer/Schmitz 2013 for opportunities and approaches in higher education).

The development in terminology management comprises the following steps, each of which has led to different priorities with regard to considerations and practical terminology work (see also chapter 3):

1. creating database entries with special regard to linguistic and multilingual aspects.
2. creating concept systems in order to systematize and present specialist knowledge.
3. conversion of concept systems into machine-readable formats (e.g. ontologies).

Step 1 refers to classical terminology work and used to be central to almost all projects.

Step 2 has already been recognized as important in some companies a long time ago. These companies therefore already create complex concept systems and manage this information in different forms (usually in graphic forms). This is what we call "case 2a". Some other companies (case 2b) are only now beginning to realize how important it is to systematize specialist knowledge (not just for terminology work) and are just beginning to develop and manage concept systems. They must now catch up with the others who are ahead in knowledge and work.

Step 3 is currently a new challenge for almost all companies. In case 2a, it is a purely technical conversion that does not pose any major problems. As soon as it is clear which machines are to use the data, the corresponding conversion routine can be developed. Case 2b companies are

still further away from this goal because they lack the necessary preparatory work and often also the necessary know-how for knowledge management.

With the raising awareness of the importance of the combination of knowledge and language, the treatment of conceptual aspects must gain in importance. Concept systems are not an unnecessary gimmick, but - on the contrary - an important part of daily terminology work and an important perspective for future applications and developments – both of the terminological data itself and of the terminologist's professional profile.

It is therefore of great importance that terminologists are not only well trained in linguistics and terminology science as well as in process and project management, but also have sufficient technical knowledge in the terminologically processed field. In addition, they should have basic knowledge of computer science in order to support the preparation of their terminological data for machine applications and to organize the transfer in an interdisciplinary manner.

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- Advisory Board member of the **DTT** (Deutscher Terminologie-Tag = German Association for Terminology)
- **DIN** (Deutsches Institut für Normung / German Institute for Standardization)
  - Member of the Steering Committee of DIN Standards Committee “Terminology”
  - Chairwoman of the DIN working committee “Principles and methods of terminology work”
- Member of the Council for German Language Terminology (RaDT = Rat für Deutschsprachige Terminologie)

Her teaching and research activities focus on terminology science and terminology management as well as on multilingual documentation development and translation management. In these fields she is also active as a consultant for companies and institutions.. In these fields she is also active as a consultant for companies and institutions.



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## Hungarian legal terminology in education and practice

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### Abstract

The article aims to introduce the latest trends in the field of Hungarian legal terminology through the presentation of the terminology work accomplished at the company OFFI Ltd, together with the common projects undertaken with universities, including a textbook on legal terminology, published in e-book format, catering to the needs of education and real life practice. The article concludes with examining the features of the role of terminologists in this specific Hungarian context.

### Key words

Hungarian legal terminology and law translation, standardisation, textbook on legal terminology, collaboration and cooperation with legal experts, the role of terminologists.

### 1. Introduction

This paper presents the latest trends and achievements in Hungary in the field of terminology mainly through the activities realised at the Hungarian Office for Translation and Attestation Ltd (in abbreviated form: OFFI Ltd), at Eötvös Loránd University (in abbreviated form: ELTE) and also by having a glimpse into the activities of the research group Termik led by Ágota Fóris, seated at the Károli Gáspár University of the Reformed Church in Hungary. In particular, it offers an overview by summarising the conclusions of the terminology work done recently in Hungary by presenting OFFI Ltd, by describing the common terminology projects undertaken with Hungarian institutions and universities, by mentioning concrete publications, conferences and finally, by discussing the role of the terminologists in this special Hungarian environment.

The state translation services in Hungary have a long, 150 year old tradition which looks back to the establishment in 1869 of the Central Translation Bureau inside the Prime Minister's Office, including the foundation of the still today fully state-owned company OFFI Ltd in 1948 (Szoatak 2019). The company operates nowadays with the owner's rights exercised by the Ministry of Justice. OFFI Ltd is headquartered in Budapest and with a national network of 27 provincial offices at its disposal, covering all the territory of the Hungarian State in order to fulfill its service obligations established by law. It holds the relevant ISO certifications (ISO 9001:2015, 17100:2015). The translation services are offered in a large number of language pairs (approx. 46 languages), it handles on average 300 orders a day. It has about 150 employees, including 12 internal revisers, 4 terminologists, in addition some 500 freelancers (translators, revisers and interpreters). The main activities of the company are providing certified (attested) translations, specialised translations, court interpreting and the special projects including terminology work and the translation of laws. The types of documents translated, for instance in the case of certified translations are: certificates of civil registration services, degrees and diplomas, company documents, judicial decisions, and in the official translations by way of example laws.

The workflow of the translation process at OFFI Ltd consists of three areas: translation, revision and proofreading. This workflow has recently become more complex by incorporating two elements: the Database of documents and the termbase IUSterm, which serve to enhance the effectiveness of the process. Accordingly, the key areas covered at the office have become dynamic translation services, a central termbase and a database of documents as a means of knowledge transfer. The company is also functioning as a training centre called OFFI Akadémia (OFFI Academy), which besides organising trainings, conferences and editing volumes, also provides students the opportunity to gain experience within the framework of the Erasmus+ Programme by receiving feedback, advice and guidance from revisers and terminologists.

## 2. About the terminological database: IUSterm

The Termbase IUSterm contains mainly terms of law and public administration. It started as a project in 2014, but today it has evolved into the form of process management. The software used to hold data is SDL Trados Multiterm.

The characteristics of IUSterm are: it is an internal, concept-oriented termbase with emphasis on equivalence data category, indicating the term status as term, functional equivalent and term candidate, thus emphasis is put on the data category of equivalence. For instance the relevant information in the entry of the term Fundamental Law is of the following type: a term created as a term candidate, because Basic Law is used in English for the German Grundgesetz and in order not to confuse it with the German version, Fundamental Law is preferred, although Grundgesetz is used as the functional equivalent in German.

At the company all types of terminology work are performed: ad hoc, text and domain oriented terminology work, together with terminology training courses basically offered to our inhouse experts. Our aims with IUSterm are to compile a reliable database of terms and to contribute to the harmonisation of national legal terms.

The domains elaborated within the framework of the IUSterm Plus project, which started in January 2017 and ran until June 2018, were as follows: the journey started with the terms of titles used in public administration (500 terms in 5 languages), continued with terms extracted from official law-translations (6,300 terms in 2 languages) and terms of registry services (5,000 terms in 10 languages) and ended with the terms of the Fundamental Law (1,200 terms in 4 languages), in total 13,000 validated terms.

## 3. Why is standardisation so important for us?

To get to the answer we need to first analyse the characteristics of legal terms, being aware of the differences in concepts of various legal systems. By analysing the general characteristics of legal terms, we can encounter some specific ones (Tamás 2017):

- up-to-dateness: the necessity of up-to-dateness is in connection with the changes and latest trends in society and economy which continuously need new regulations;
- verballity: legal terms consist firstly as a verbal phenomenon, representing mostly abstract concepts (compared for instance to technical terms);

- clarity but adaptability: this duality consists of the tendency to be as precise as possible and at the same time try to cover as many as possible real-life situations which are not always foreseeable;
- system attachment to families of law, juridical systems, branches of law and even to single laws because of specificity;
- country-specific concepts: also similar national legal concepts can show different characteristics, despite using the same language, because they are bonded to different states and not to languages;
- neutrality: as an opposite to country-specificity in the case of the EU law terms describing terms of 28 legal systems and of terms of international legal concepts contained, for example, by international treaties or used by organisations such as the United Nations it is the neutrality, the expression of the common features that needs to be put in focus.

In the case of conveying Hungarian legal terms in English we have to face increased difficulties: of course the differences between Roman civil law and Common Law, unsure reference points (the many language users of English, official language status of English in many countries) and polycentrism (the lack of unified British or American law). These lead to the following consequences: numerous variants, different preferences at organisations and a time-consuming search of legal terms. These difficulties can be shown by the examples of the different variations used in the case of the terms of Hungarian national courts in English and German (see table 1 and 2).

<i>Hungarian-term</i>	<i>UK/USA-as-reference</i>	<i>Courts-(birosag.hu)</i>	<i>e-justice</i>	<i>Law-translations-(njt.hu)</i>	<i>Textbook:-Terminology-of-Civil-Law-(Petz-2014)</i>
<b>Kúria</b>	Supreme Court	Curia of Hungary	Curia	Curia	Supreme Court
<b>Ítéltábla</b>	Court of Appeal/Court of Appeals	Regional Court of Appeal	Regional Court of Appeal	Regional Court of Appeal	Court of Appeals
<b>Törvényszék</b>	High Court; Crown Court/-	Regional Court	General Court	Regional Court	Superior Court
<b>Járásbíróság</b>	County Court; Magistrates Court/District Court	District Court	District Court	District Court	Local Court

Table 1: The variations used in the case of the Hungarian national courts in English.



<i>Hungarian-term</i> ☐	<i>Deutschland-ordentliche-Gerichtsbarkeit</i> ☐	<i>Österreich</i> ☐	<i>Schweiz</i> ☐	<i>Ministry-of-Justice (2011)</i> ☐	<i>Internal-reviser-(OFFI-Ltd)</i> ☐	<i>E-justice</i> ☐
<b>Kúria</b> ☐	Bundesgerichtshof☐	Oberster-Gerichtshof☐	Bundesgericht-(Bundesebene)☐	Kurie von-Ungarn (term-candidate)☐	Kurie (term-candidate)☐	Kuria (term-candidate)☐
<b>Ítéletábla</b> ☐	Oberlandes-gericht☐	Oberlandes-gericht☐	☐	Berufungsgericht-(außerordentliche-Gerichtbarkeit, D) (functional-equivalent)☐	Oberlandesgericht-(D) (functional-equivalent)☐	Tafelgericht-(archaic, Austro-Hungarian-Empire) (functional-equivalent)☐
<b>Törvény-szék</b> ☐	Landgericht☐	Landes-gericht☐	Obergericht-(Kantonebene)☐	Regionalgericht-(term-candidate)☐	Landgericht-(D) (functional-equivalent)☐	Landgericht-(D) (functional-equivalent)☐
<b>Járás-bíróság</b> ☐	Amtsgericht☐	Bezirks-gericht☐	Bezirksgericht-(Kantonebene)☐ (+Friedens-richter)☐	Bezirksgericht-(A) (functional-equivalent)☐	Amtsgericht-(D) (functional-equivalent)☐	Amtsgericht-(D) (functional-equivalent)☐

Table 2: The variations used in the case of the Hungarian national courts in German. Table 2: The variations used in the case of the Hungarian national courts in German.

These two tables illustrate that in both cases the terms of the Hungarian national ordinary courts in English and German have numerous acceptable variants, a situation which requires standardisation. For instance: in the case of the official Hungarian term *Kuria* we can use the variant Supreme Court as functional equivalent or the variant *Curia* as a new variant, a term candidate to introduce into professional use. The solution could be the standardisation of terms based on the discussion in a terminology working group involving the participation and cooperation of all relevant stakeholders and the publication of the official variants in a national termbase for legal concepts.

#### 4. Common projects with universities and organisations, latest trends and achievements in Hungary

The National Office for Translation and Attestation Ltd has built up relationships with different universities and organisations. One of the longest of them was established with the the Department of Translation and Interpreting of the Faculty of Humanities, Eötvös Loránd University (ELTE) of Budapest, founded in 1973. The collaboration between the two organisations started in the seventies, which at the beginng meant joint participation at conferences and the involvement of the experts of OFFI Ltd in teaching and examinations at ELTE.

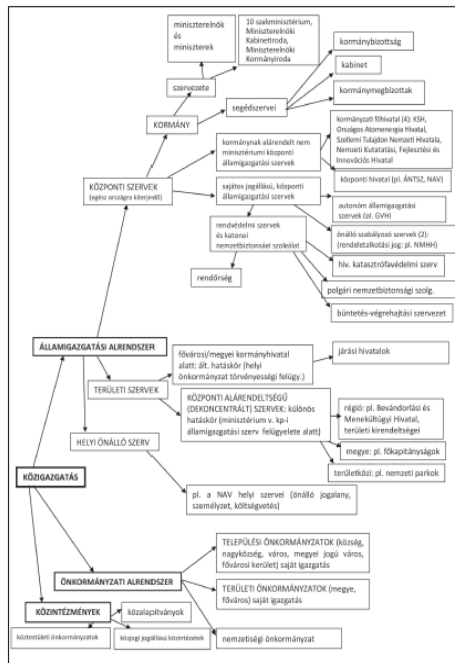
By mentioning the main milestones of the terminology activities of the Department it is worth noting the introduction of the terminology seminars specialised in the fields of economics and law in 2009 in the Translation and Interpreting Master Courses and of the introductory courses for Terminology as Theory in 2012, worked out by the undersigned. In 2015 the Department launched a course for translators and terminologists under my supervision, which one year later was transformed into a distance e-learning course, and it was the main reason to create in 2017 an e-book as textbook for terminology (Tamás 2017, 2019).

The collaboration between OFFI Ltd and the Eötvös Loránd University has borne fruit in various ways:

- annual spring conferences (this year was the 21st occasion of a common conference, started in 1998);
- student traineeships and professional mentoring programmes offered to graduates by OFFI Ltd;
- advisory and counselling services related to quality from universities (also ELTE);
- publications in Hungarian and English of free-downloadable e-books.

One of the free-downloadable volumes edited by the University is entitled the *Modern Translator and Interpreter* containing an introductory article about terminology targeting the world of translators and interpreters, first published in Hungarian (Horváth 2015, Tamás 2015) and then translated into English (Horváth 2016, Tamás–Papp–Petz 2016). Another volume published in Hungarian is the *Interpreting at the Court* edited from the theses of the students on the course of court interpreters (Horváth 2017) and published with the support of OFFI Ltd.

The book entitled *Introduction to the Terminology of Law through the lens of a Terminologist* (Tamás 2017, 2019) is both experimental and practical, featuring an article about terminology, glossary of national legal terms, concept map (see picture 1), explanatory tables (see picture 2), original texts.



Picture 1: The concept map of the Hungarian public administration system in the form of tree diagram (Tamás 2019: 61).

TERMINUS: LOPÁS		TÁRSAY: BÜNTETŐDÍJ (ANYAI JOG)	
<p><b>Definíció:</b> A lopás vagyoni elleni bűncselekmény. Lopás Btk. „370. § (1) Aki idegen dolgot mástól azért vesz el, hogy azt jogtalanul eluttalajozza, lopást követ el.” A lopás: „Értektől és az elkövetés módjától függően szabályozás, vétség vagy bűntett” (Sírő 2011: 149).</p> <p>Hasonló fogalom a rablás, amely azonban vagyoni elleni erőszakos bűncselekménynek minősül. Rablás Btk. „365. § (1) Aki idegen dolgot jogtalan eluttalajozás végett úgy vesz el mástól, hogy elvágja a) valaki ellen erőszakot, illetve az élet vagy a testi épség elleni közvetlen fenyegetést alkalmaz, vagy b) öntudatlan vagy védekezésre képtelen állapotba helyezi, büntetett miatt két évtől nyolc évig terjedő szabadságvesztéssel büntetendő.”</p>		<p>Ferdőtől gyekortet (vágynak). Gyekori a lopás és a rablás terminus által jelölt fogalmak összekeverése; a kettő között az egyik kiemelendő megkülönböztető fogalmi jegy a az erőszak, illetve élet vagy testi épség elleni közvetlen fenyegetés. Öntudatlan vagy védekezésre képtelen állapotba helyezés; a lenti táblázat jól szemlélteti a fogalmak közti különbséget és eltéréseket, amelyek alapján megállapíthatóak a fogalmak közti különbségek.</p>	
NEMZETKÖZI KITEKINTÉS:			
EN	DE	FR	IT
<p>lopás – theft (USA), larceny, theft (England, Wales: 1968 óta larceny helyett theft – Theft Act 1968), stealing rablás – robbery</p>	<p>lopás – der Diebstahl rablás – der Raub</p>	<p>lopás – vol rablás – vol avec violence (ez nem önálló kategória a francia jogban, hanem a lopás egyik minősített esete), vol aggravé</p>	<p>lopás – furto (art. 634. c.p.) rablás – rapina (art. 638. c.p.) [de]r alapvetően a lopás az orosz jogrendszerben nem foglalt a magyar erőszak alkalmazását, mégis tágabb értelmezés, egyes esetek est nem zárják ki) (furto con scasso – betöréses lopás)</p>
Lásd még:			
<p>Kontextus: A XVI. Kerület Rendőrtáphivatal Bűnügyi Osztálya nyomozást rendelt el rablás büntett és lopás vétség elkövetésének megapozott gyanúja miatt egy 24 éves férfi, továbbá lopás vétség elkövetésének megapozott gyanúja miatt egy 40 éves nő ellen.</p>			
Dokumentumtípus: bírósági írtok, sajtószöveg			
<p>Források: Sírő E. 2011. Zárójele a joghoz. Budapest: Jogjermelt Alapítvány. Dobos Cs. 2008. A jogi terminusok jelentésének sajtószövegi. In: Gecsó T. – Sírő Cs. (szerk.) Jel és jelentés. Budapest: Tinta Könyvkiadó. <a href="http://njt.hu/hjt/phi/transzudat">http://njt.hu/hjt/phi/transzudat</a>.</p>			
FOGALMI JELENY:		LOPÁS	RABLÁS
idegen dolog		+	+
jogtalan eluttalajozás		+	+
személy elleni erőszak		–	+
élet vagy testi épség elleni közvetlen fenyegetés		–	+
öntudatlan, védekezésre képtelen állapot		–	+

Picture 2: The record of theft with an explanatory table indicating the main conceptual differences between theft and robbery (Tamás 2019: 84).

This book was edited by Eötvös Loránd University Publishing House primarily as a free online edition, the managing editor is OFFI Ltd in close collaboration with the University. Outstanding language and legal experts from both the University and OFFI Ltd contributed to the creation of the textbook. The updated and revised version was published this year containing English variants harmonised with the subsequently disclosed law-translations provided in collaboration with the Ministry of Justice and OFFI Ltd (Tamás 2019).

The book is mainly structured in records, the compilation of which is similar but not identical to that of the entries of a termbase, because of didactical reasons. The core categories are considered (see picture 3):

- the definition as the description of the concept of the Hungarian legal term;
- the data category equivalence named as Note for translators, describing general and specific problems and strategies related to the concepts (corresponding in a termbase to the data category of equivalence);
- the international overview in four foreign languages with equivalents (mostly indicating functional equivalents and term candidates).

Term:		Domain:	
Definition:		Notes-for-translators-(Please-note!):	
International-overview:			
EN	DE	FR	IT
See-also:			
Context:			
Document-type:			
Sources:			

Picture 3: Data categories of a record of the e-book.

Although the e-book is written in Hungarian, the volume of *Latest Trends in Hungarian Translation Studies* (Horváth 2018) contains an article in English about the background to the editing this textbook with the title *Challenges of teaching legal terminology in translation training courses* (Tamás 2018). The article describes didactical dilemmas related to the editing of this e-book such as types and sources of the definitions used, questions of up-to-dateness, usefulness and the importance of the practical approach and raising awareness as a goal in order to help students and language mediators handling legal terms. All the above mentioned volumes are available as free downloadable e-books.

There are also other novelties beyond publications. It is worth mentioning the recently published law-translations in English, which were prepared by the translators OFFI Ltd and revised by the Ministry of Justice and published in the National Legislation Database. This is an ongoing project aimed revealing the 30 most relevant Hungarian laws in English in order to improve the competitiveness of Hungary.

Another important milestone is the *Conference about Terminology Strategy* with the following participating organisations: [MATT](#) (Council of Hungarian Terminology cofounded by UNESCO), OFFI Ltd, Institute of Hungarian Language Strategy (Manysi), Károli Gáspár University of the Reformed Church in Hungary and the Hungarian Research Group TERMIK (led by Ágota Fóris). The conference was supervised by Ágota Fóris (Head of Department at Károli Gáspár University, chairperson of MATT and senior researcher of Termik), also editor with Andrea Bölcskei of a strategical manual from the lectures held at the conference (Fóris–Bölcskei 2019).

Other good news is the restarting of terminology courses led by Ágota Fóris at Károli University of the Reformed Church in Hungary. During this period of crises, with cancelling the masters course in terminology after years of successful operation (2011–2016), fortunately a new postgraduate course started in 2015 for translation-oriented terminologists at Eötvös Loránd University.

In 2017 a new journal was also born: the [Hungarian Legal Language \(Magyar Jogí Nyelv\)](#) with the participation of terminologists and embracing topics of the terminology of law.

## 5. Conclusions: The role of the terminologist

The aim of this article was to offer an overview of the latest trends in legal terminology in education and practice in Hungary, by describing the activities of the Hungarian Office for Translation and Attestation Ltd, its involvement in terminology projects with other institutions and by mentioning the newest publications and events of relevance in this specific field.

To conclude it is worth analysing the role of the terminologist in this special Hungarian context. Drawing on experience gained in the field of legal terminology and bearing in mind legal certainty we can reach the conclusion that this field requires both approaches: describing and prescribing terminology for the developing of tools for translators (see IUSterm termbase, National Legislation Database). It is also important to take into account the experience acquired from the collaboration with legal experts in various forms directly and indirectly on the basis of studies like LISE (Chiocchetti–Ralli 2014, Chiocchetti–Wissik 2018).

The beginning of this journey at OFFI Ltd was characterised by the establishing of a legal framework of collaboration, holding of trainings for legal experts, editing of guidelines, organising of regular terminology workgroup meetings, adaptation of working methods of text-oriented and domain-oriented elaboration, involvement of legal experts in the form of counselling in the case of term extraction and by the working out of definitions. During this collaboration the differences in the approach of legal experts and terminologists became clearer: the more or less flexible interpreting of legal terms (legal concepts can be described as having an inner seed and an outer circle of the concept), the understanding of similar methods of legal comparativists and the problems by abstraction (the describing of functions of concrete legal procedures by dismissing the genus proximum). Some other typical behaviours of experts are, for instance, the attachment to functional equivalents or term candidates as tendencies.

To summarise the aforementioned, we see the role of the terminologist in the special Hungarian Context as a coordinator and an organiser, having as tasks the describing or prescribing of terms if necessary, but more a facilitator and disseminator of terminology, by ensuring knowledge transfer between generations of language mediators.

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## Les terminologues du dispositif d'enrichissement de la langue française : passeurs de savoir-faire terminologique

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### Abstract / Résumé

Le dispositif d'enrichissement de la langue française a pour mission « de favoriser l'enrichissement de la langue française, de développer son utilisation, notamment dans la vie économique, les travaux scientifiques et les activités techniques et juridiques ». Il repose sur une répartition des tâches, concernant la forme et le fond, entre des terminologues et des experts qui, au sein d'une vingtaine de groupes thématiques, étudient et proposent des termes nouveaux.

Dans ce dispositif, les experts qui maîtrisent parfaitement le vocabulaire, les techniques et les procédés de leur secteur d'activité n'ont qu'une connaissance réduite de la terminologie. Les terminologues de la Délégation générale à la langue française et aux langues de France jouent donc un rôle déterminant pour encadrer et accompagner ces experts dans leurs missions d'identification des notions nouvelles, de rédaction des définitions et de choix des termes en français.

Les terminologues doivent guider les spécialistes, sans formation linguistique, et leur transmettre suffisamment de savoir-faire terminologique pour qu'ils puissent établir des vocabulaires de spécialité appelés à faire référence.

### Keywords / mots clés

Terminologie, normalisation linguistique, savoir-faire, groupes d'experts, FranceTerme

Il y a une vision fautive du travail du terminologue qui effectue ses tâches dans le calme, à l'écart, en étant totalement maître des délais, disposant de tout le temps nécessaire pour effectuer des recherches exhaustives et apporter une réponse solidement étayée et incontestable. Beaucoup de terminologues apprécieraient de travailler dans un tel contexte propice, à la rigueur et à la concentration, car la réalité est loin de présenter des conditions idéales.

Dans le cadre du dispositif d'enrichissement de la langue française, le terminologue n'est ni le rédacteur de la définition, ni celui qui choisit la désignation de la notion. Sur le terrain, il lui revient en revanche d'apporter à des spécialistes du domaine étudié tout le savoir-faire terminologique indispensable pour que ces spécialistes puissent eux-mêmes définir et nommer la notion. Ce terminologue, toujours exposé, parfois malmené et insuffisamment écouté, doit, au fil de débats souvent animés, mettre sur la voie d'une définition et d'une désignation faisant consensus des spécialistes qui ne partagent pas toujours le même point de vue ni les mêmes expériences et connaissances.

## Le dispositif d'enrichissement de la langue française (DELFF)

Afin que l'on puisse exprimer **en français** les innovations techniques et scientifiques, l'État français a mis en place en 1972 le **Dispositif d'enrichissement de la langue française (DELFF)** auquel il a confié la mission « de favoriser l'enrichissement de la langue française, de développer son utilisation, notamment dans la vie économique, les travaux scientifiques et les activités techniques et juridiques »<sup>1</sup>.

L'État a choisi, pour produire des termes nouveaux, de qualité, destinés aux spécialistes et au grand public, de rester en retrait et de faire appel aux plus compétents pour chacun des volets : le fond aux experts du domaine, la forme aux linguistes, la norme technique aux normalisateurs, le banc d'essai aux représentants de la société civile... Pour une plus grande efficacité, la production terminologique a été décentralisée et placée sous la responsabilité des administrations les plus directement concernées par le domaine, l'État se contentant de coordonner et d'harmoniser la production terminologique dont il est le destinataire.

Le DELF repose principalement sur un réseau de **dix-neuf groupes d'experts** qui, dans leurs domaines de compétence, étudient et proposent des termes nouveaux pouvant servir de référence, ainsi que sur une commission à vocation transversale, la **Commission d'enrichissement de la langue française (CELFF)**, qui fait office de banc d'essai des termes avant leur diffusion. La CELF n'existe que le temps de deux séances par mois : une séance préparatoire confiée à un groupe de travail et une séance plénière. Le réseau s'appuie sur une multitude de partenaires (Académie française, Académie des sciences, Association française de normalisation, institutions canadiennes et québécoise, académies et autorités du domaine concerné, syndicats professionnels...).

Les définitions et les termes proposés par les groupes d'experts, qui sont recommandés par voie de publication au Journal officiel et s'imposent à l'administration, sont d'abord étudiés au cours d'une procédure associant plusieurs institutions – techniques, scientifiques et linguistiques – garantes tant de la précision technique que de la qualité du français. Les propositions des groupes sont transmises à la CELF qui est chargée de l'harmonisation de l'ensemble des travaux du dispositif et veille à ce que définitions et termes soient à la fois précis et satisfaisants pour les spécialistes et compréhensibles pour le grand public, en premier lieu les agents de l'État. Les propositions sont également soumises à l'Académie française. Elles peuvent donc faire l'objet d'ajustements ou de modifications lorsqu'elles sont examinées par la CELF, en présence des experts, puis communiquées à la Commission du Dictionnaire de l'Académie française.

## Les effectifs du dispositif d'enrichissement de la langue française

Le DELF fonctionne avec une équipe permanente de 3 terminologues, appartenant à la Délégation générale à la langue française et aux langues de France, qui assistent et animent un réseau d'environ 450 personnes.

<sup>1</sup> Décret n°96-602 du 3 juillet 1996 relatif à l'enrichissement de la langue française, article 1 – Modifié par décret n°2015-341 du 25 mars 2015, art. 3.



Ce réseau est constitué majoritairement des spécialistes (environ 330) répartis dans les 19 groupes d'experts (chacun comptant de 10 à 40 membres selon le domaine, dont un président et, dans le meilleur des cas, un secrétaire de séance, presque toujours bénévole) qui sont encadrés par 10 hauts fonctionnaires chargés de la terminologie et de la langue française dans 14 ministères. Enfin, la CELF est composée de 19 personnalités qualifiées et membres de droit.

Environ 10 personnes représentent d'une part le Service du dictionnaire de l'Académie française (3 professeures agrégées) et d'autre part les deux équipes universitaires qui sont chargées de fournir une assistance documentaire aux groupes d'experts en consultant les dictionnaires et les bases de données spécialisées ou en sélectionnant, principalement sur la toile, les contextes et les attestations les plus éclairants.

Enfin, 80 personnes ne peuvent être classées ni parmi les spécialistes, ni parmi les linguistes. Il s'agit aussi bien de traducteurs, de rédacteurs, de représentants des médias qui se sont spécialisés dans un domaine particulier, que de terminologues et de traducteurs auto-proclamés, de lexicographes, de citoyens de bonne volonté attachés à la langue française, voire de quelques personnes qui ont la manie des néologismes et des mots-valises ou considèrent la langue française comme un patrimoine intouchable.

### La mission des terminologues du DELF

Les terminologues du DELF effectuent un certain nombre de tâches qui sont analogues aux missions exercées par un grand nombre de terminologues et qui consistent :

- à documenter les termes étudiés par les groupes d'experts ; ces recherches étant faites essentiellement en amont et en aval des réunions des groupes (qui se réunissent en moyenne 5 fois par an),
- à assurer tant la circulation que la progression des termes entre les différents acteurs du réseau,
- à assurer le secrétariat de la CELF : réception et mise en forme des termes proposés par les groupes d'experts, report des modifications apportées, constitution des documents de synthèse, transmission des termes aux autres acteurs (ministères, Académie française, partenaires francophones, techniques et universitaires, *Journal officiel...*),
- à alimenter et à administrer la base de données *FranceTerme*,
- et enfin à faire l'interface avec le public qui attend une réponse instantanée alors que la normalisation linguistique prend du temps !

Les terminologues sont également chargés de tâches spécifiques au DELF, essentielles au bon fonctionnement du réseau, qui les conduisent :

- à animer et à coordonner le réseau des groupes experts, en assurant aussi bien la liaison entre les groupes qui peuvent être amenés à étudier conjointement des notions communes à plusieurs domaines, que la circulation des informations et les échanges entre les groupes et la CELF,
- à veiller à l'efficacité des échanges avec les partenaires francophones, techniques et universitaires, ce qui permet notamment de disposer de la documentation la plus complète

tout en limitant, entre les institutions, des travaux inutilement concurrents sur les mêmes notions,

- à apporter une expertise terminologique aux experts des différents domaines – qui, il faut le rappeler, n’ont pas, dans une large majorité, de compétences terminologiques ni même linguistiques –, car il leur revient d’identifier les notions nouvelles, de les définir et de choisir les désignations en français les plus transparentes.

Ces tâches sont essentiellement exercées lors des séances de travail des groupes d’experts, même si des conseils, des informations ou des réponses sont diffusés par le biais du courrier électronique.

### Outils et consignes à destination des experts

Le DELF s’est efforcé, au fil du temps, de mettre en œuvre une procédure efficace permettant d’apporter une expertise terminologique aux très nombreux experts amenés à contribuer aux travaux alors que rien ne les prédispose à rédiger des définitions et à forger des termes nouveaux.

Sur la manière d’accompagner les groupes d’experts, on peut identifier trois phases successives de 1996 à nos jours que l’on peut qualifier de « renaissance du DELF et de réinvention de la terminologie officielle », d’« équipement terminologique de base », et, enfin, de « maturité terminologique ».

La phase de « renaissance du DELF et de réinvention de la terminologie officielle » est intervenue après la refonte en 1996 du dispositif, assortie de la révision des termes définis et publiés au Journal officiel depuis la mise en place en 1972. Le dispositif a donc été relancé en 1997, avec le renouvellement de la « très petite » équipe chargée de l’encadrement : il n’y avait donc plus de témoin en mesure de transmettre le savoir-faire accumulé au cours des 25 années de fonctionnement. Les experts ont été donc invités, pour ne pas dire contraints, de s’inspirer des travaux menés depuis 1972. Il n’y avait donc **pas de consignes**, la production terminologique reposant sur la **formation par les pairs** puisque, heureusement, de nombreux experts avaient déjà œuvré dans le dispositif avant 1996 et avaient accepté de continuer dans la nouvelle organisation. La révision des termes publiés au *Journal officiel* entre 1972 et 1995, menée par la nouvelle Commission générale de terminologie et de néologie (qui s’est vue confiée en 1996 la mission de coordonner et d’harmoniser l’ensemble des travaux terminologiques), l’Académie française et les groupes d’experts (vivant parfois difficilement la remise en cause d’un certain nombre de définitions ou de termes de leur cru), permit néanmoins de **dégager un certain nombre de principes d’organisation du travail et de méthode**, en particulier, pour la rédaction de la définition et le choix des termes. On peut regretter que cette révision ait été néanmoins effectuée sans l’appui de compétences terminologiques et fortement inspirée, semble-t-il, par l’approche lexicographique de l’Académie française (par exemple, la révision a été effectuée dans l’ordre alphabétique plutôt que dans l’ordre conceptuel !).

Après la rupture, assez brutale, de 1996, l’« équipement terminologique de base » des groupes d’experts a été néanmoins rapidement mis en place. Dès 1998, avec le premier rapport portant sur l’activité de l’année 1997, les experts disposèrent d’un document exposant les principes

identifiés lors de la révision des termes publiés avant 1995. Ce rapport annuel a été ensuite étoffé au fil des ans. Une consigne minimale a été très vite dégagée : « définition en une phrase, qui puisse se substituer au terme dans un texte ». Les experts trouvèrent également avec la publication d'une plaquette « L'enrichissement de la langue française »<sup>2</sup>, régulièrement actualisée par la suite, une vue d'ensemble du dispositif et des informations utiles. Vers 2001-2002, une « fiche type » a été élaborée pour présenter en une page toutes les rubriques de la fiche terminologique définie pour le DELF, en les assortissant de brèves indications de rédaction ou de présentation.

Enfin, l'encadrement des experts a été confié à des débutants issus de la filière traduction et embauchés par le ministère de la culture pour une durée déterminée non reconductible. Les experts n'étaient plus livrés à eux-mêmes, mais l'absence d'un encadrement pérenne ne permit ni de constituer une mémoire des travaux, ni de capitaliser un savoir-faire susceptibles d'être pris en compte pour améliorer et rendre plus efficace l'accompagnement des experts.

Le DELF a atteint sa « maturité **terminologique** » lorsque l'encadrement a été confié à des terminologues recrutés de façon permanente (3 terminologues embauchés entre 2003 et 2007). La « fiche type » a été constamment perfectionnée tout en gardant toujours à l'esprit que des experts non terminologues doivent, à la vue d'une page, pouvoir embrasser tout ce qui est indispensable pour produire un terme et sa définition. La base **FranceTerme** a été lancée en 2007 en incluant une partie administration où les groupes d'experts peuvent principalement stocker et gérer les termes étudiés, mais aussi recevoir des demandes de termes à étudier envoyées par des internautes.

Enfin, les conseils prodigués et les bonnes pratiques relevées par les terminologues au fil des travaux ont été rassemblés en 2008 dans le document **Conseils pratiques pour les nouveaux membres, puis en 2015 dans le Guide des bonnes pratiques à l'usage des experts de la Commission d'enrichissement de la langue française** (ouvrage réédité fin 2018)<sup>3</sup>. On ne peut imposer à un expert appelé à participer au DELF, qu'il soit chimiste, économiste, informaticien ou juriste, ingénieur ou universitaire, la lecture de plusieurs ouvrages de terminologie, ou même seulement de quelques dizaines de pages. L'élaboration d'un guide conciliant la précision et la concision, l'exhaustivité et l'efficacité était nécessaire. Le **Guide des bonnes pratiques**, qui compte une cinquantaine de page, est conçu sous la forme de fiches présentées dans l'ordre des rubriques et des étapes qu'un terme parcourt, de l'identification de la notion nouvelle à sa publication au Journal officiel. Il peut donc être lu par les experts comme une foire aux questions, en fonction de leurs interrogations et au fil des séances de travail.

La modification en 2015 du décret fondateur du DELF de 1996, effectuée dans le cadre d'un large mouvement d'allègement des procédures administratives, portait essentiellement sur l'organisation, sans toucher aux objectifs fondamentaux. Celle-ci a toutefois ébranlé la « maturité terminologique » du DELF avec :

<sup>2</sup> Cette brochure présente les missions, les objectifs, le cadre légal, le rôle de chacun des acteurs du réseau d'enrichissement de la langue française, ainsi que la composition de la CELF, la procédure d'examen des termes, le site et la base de données FranceTerme, la liste des 19 collègues d'experts dans les ministères. [L'édition 2018 peut être téléchargée](#)

<sup>3</sup> [Le Guide peut être téléchargé](#)

- l'abandon du renouvellement quadriennal, alors que la composition des groupes était auparavant renouvelée tous les 4 ans par arrêté ministériel. La séance d'installation tenue après chaque renouvellement offrait l'occasion, tant de rappeler aux experts reconduits que d'expliquer aux nouveaux le cadre du DELF, ces objectifs et la méthode que tous devaient appliquer, mais aussi de donner des consignes et de remettre des documents de référence.
- le renouvellement des membres devenu « permanent » pour mieux coller aux besoins en permettant l'arrivée d'experts comme leur départ en fonction des sujets abordés, qui fragilise finalement la cohérence des groupes de moins en moins au fait des bonnes pratiques terminologiques. La composition des groupes n'est plus homogène : en matière de connaissance des objectifs du DELF et de maîtrise des consignes terminologiques, il y a un net décalage entre les experts en place depuis longtemps et ceux qui rejoignent les groupes au fil des réunions, parfois seulement le temps de quelques séances. Ce qui a été gagné d'un côté, la souplesse pour mieux coller à la réalité des besoins terminologiques, est perdu de l'autre, si l'on considère le temps consacré à réexpliquer individuellement au fil des séances les objectifs et les consignes à tous ceux qui découvrent le travail.

### Le contexte du travail terminologique confié à des experts

L'accompagnement se fait dans un contexte précis, marqué par la faible disponibilité des experts et l'espace des « rendez-vous » terminologiques.

Les experts ne peuvent consacrer qu'un temps limité au dispositif. S'ils sont en activité dans l'administration, l'enseignement, la recherche ou le secteur privé, le temps qu'ils consacrent à la terminologie est souvent pris sur leur temps libre. Et s'ils sont retraités, ils consacrent encore beaucoup de temps à d'autres activités scientifiques et techniques.

Le DELF repose donc sur une activité bénévole fournie par la majorité des experts, ce qui entraîne une fréquence de réunions présentiels réduite (de une réunion par mois à une réunion tous les trois mois selon les groupes d'experts), alors que le gain des échanges par courriel et des rencontres informelles entre certains experts dans l'intervalle des réunions reste limité.

Les séances de travail doivent donc être très productives sachant qu'il est impossible d'accabler les experts d'instructions diverses telles que la structure de la fiche, la mise en forme, la typographie ou encore les formules standards.

### Que faire pour bien accompagner les experts ?

Il est fondamental de ne pas décourager les experts, de leur permettre de se sentir indispensables et de leur donner la possibilité de constater rapidement le fruit de leur labeur en leur offrant la satisfaction de voir publiée au Journal officiel la notion nouvelle qu'ils ont repérée, définie et nommée. Dans ce contexte, le rôle d'un terminologue du DELF est donc particulier. Il doit :

- pas faire le travail à la place des experts – rédiger définitions et notes, nommer les notions –, il en serait d'ailleurs incapable,

- procéder par questions, en les hiérarchisant ; les questions sur le fond précédant celles sur la forme et l'élégance de la rédaction, bien que certaines questions de forme, « quel est l'antécédent d'un verbe, d'un pronom ou le sujet ? », par exemple, relèvent du fond,
- anticiper les interrogations et les incompréhensions du grand public en jouant le rôle du néophyte auprès des experts, afin de les aider à décrire les notions dans la langue la plus claire possible et à l'attention du plus grand nombre,
- aider par conséquent l'expert à identifier tout ce qui est explicite pour lui mais ne l'est pas pour un néophyte, par exemple les termes complexes et inconnus du grand public qu'il doit éviter d'employer en rédigeant une définition,
- et l'aider à formuler ce qui est complexe de la manière la plus compréhensible par les néophytes en restant aussi juste et précis que possible puisqu'il doit définir des concepts et proposer des termes satisfaisants et incontestables pour les spécialistes de son domaine,
- s'interdire de faire la synthèse des informations et des propositions avancées par les différents experts, sauf en ultime recours, car les experts doivent apprendre à rédiger une définition synthétique,
- aider l'expert à écarter les termes, dont la définition relève de la loi ou de réglementations professionnelles, nationales ou internationales et que le DELF s'interdit de publier au *Journal officiel* car il n'a pas l'assurance de pouvoir actualiser ses propres définitions au même rythme. Dans les rares cas où le DELF a dérogé à ce principe, par exemple pour les « conditions internationales de vente » (Incoterms en anglais), qui relèvent de la Chambre de commerce internationale, ou l'« échelle internationale des événements nucléaires et radiologiques », établie par l'AIEA et l'OCDE, il n'est pas possible de maintenir les fiches à jour de façon satisfaisante.
- aider en sorte que les experts disposent de suffisamment d'informations pour rédiger la définition et trouver la désignation la plus appropriée. Ces informations proviennent de publications et de la presse aussi bien spécialisées que grand public, des normes, des bases de données terminologiques des partenaires francophones ou de leurs travaux en cours sur la même notion, voire de sites non professionnels ou participatifs comme Wikipédia !
- aider l'expert à assurer une bonne cohérence et circulation entre les concepts, ce qui consiste
  1. à harmoniser la formulation des définitions, entre des concepts complémentaires ou voisins ; à bien répartir les informations entre les concepts en fonction des relations hiérarchiques,
  2. à harmoniser également les termes nouvellement proposés avec ceux publiés précédemment,
  3. à établir des liens entre les concepts complémentaires par l'ajout de renvois, un seul type de renvoi ayant été retenu dans la fiche du DELF qui regroupe les différents types de relations, dans un système de concepts, entre la notion décrite et les autres, sans faire de distinctions entre superordonné, subordonné, générique, spécifique, intégrant, partitif, coordonné, etc.

La liste des points sur lesquels le terminologue doit agir est donc longue, celui-ci devant garder à l'esprit que s'il pourrait être parfois plus facile de prendre la direction des débats et la plume pour établir la fiche, il doit constamment rester en retrait en veillant par ses questions à insuffler progressivement aux experts une « conscience terminologique ».

Le terminologue doit faire œuvre de pédagogie par la pratique.

Enfin, si le terminologue doit jouer en permanence le rôle du **néophyte** auprès des experts, il se retrouve parfois dans la position de **celui qui sait**, lorsque les définitions et les désignations proposées sont étudiées par le petit groupe qui prépare les séances de la CELF, l'instance des « non-spécialistes » qui examine les termes avant leur publication au *Journal officiel*. Si les séances de la Commission se tiennent en présence des experts, les modifications décidées étant adoptées avec leur accord, un petit groupe de représentants de la Commission se réunit en amont pour étudier les propositions et vérifier s'il est possible, en l'absence des experts, de comprendre parfaitement définitions, notes et termes. Il arrive donc que le terminologue, qui a suivi le processus de « maturation » des termes, soit amené à apporter des éclaircissements sur les intentions des experts. Tantôt néophyte, tantôt sachant, le terminologue est **schizophrène** !

### Accompagner les experts en esquivant quelques écueils

Différents facteurs interfèrent dans le déroulement des séances de travail des experts ou la production de définitions et de termes conformes aux objectifs du DELF. Ainsi, des facteurs humains affectent plus ou moins grandement les travaux selon que les animateurs des groupes d'experts disposent de suffisamment d'adresse et d'autorité pour recentrer les débats.

Ce sont les non-experts, qu'ils soient lexicographes, terminologues appartenant à d'autres institutions, traducteurs, rédacteurs, voire terminologues autoproclamés..., qui, même s'ils sont animés de bonnes intentions, compliquent le plus la tâche des experts tout en nuisant à l'efficacité du travail collectif. Il leur arrive de multiplier les interventions et les consignes sur des détails formels, parfois même de donner des consignes en vigueur dans leurs institutions mais différentes de celles du dispositif, d'insister sur l'élégance de la forme plus que sur le fond – comme le font quelques lexicographes –, de vouloir multiplier les désignations – le « travers » des traducteurs – alors que cette multiplication de recommandations nuit à l'implantation des termes...

Les réunions étant espacées, certains experts oublient ce qui a été dit, décidé, arbitré ou tranché précédemment. Certains experts acceptent moins que d'autres que leur point de vue, « la définition doit comporter telle information », ne soit pas retenu et insistent parfois pendant quelques séances avant d'être convaincus par le groupe ou, inversement, de trouver de meilleurs arguments pour convaincre les autres experts. Enfin, il y a aussi des experts qui, ayant été absents à une des séances précédentes, ignorent ce qui a conduit le groupe à faire tel ou tel choix rédactionnel. Les experts n'étant pas des machines mais des êtres humains, chaque séance de travail terminologique peut donc comporter son lot de « redites » ou de « radoxes ».

Les groupes d'experts sont souvent tentés, plutôt que de cerner précisément la définition, de débattre d'abord de la désignation à recommander, notamment parce que la majorité

des notions nouvelles est véhiculée par un terme en anglais. Or le choix prématuré du terme influence souvent la rédaction de la définition.

Tout au long du processus d'élaboration des définitions et des termes, pendant les réunions des groupes d'experts, mais aussi lors de l'examen des termes par la Commission d'enrichissement de la langue française<sup>4</sup> et dans les avis rendus par la Commission du Dictionnaire de l'Académie française<sup>5</sup>, le terminologue doit veiller à ce que la production des termes ne soit pas également affectée par différents facteurs liés à l'inexpérience terminologique, à l'influence de la lexicographie (la définition très courte et souvent averbale des dictionnaires de langue générale est un modèle prégnant), à l'encyclopédisme ou à la subjectivité :

- les définitions qui n'en sont pas, portant essentiellement sur la finalité (à quoi ça sert ? dans quel but ?), sans décrire le concept (comment ça marche ?).
- les fiches sans définition, ce qui est un non-sens terminologique : il faut convaincre à différents stades, d'abord les experts, qui pensent se contenter d'une simple traduction, puis les membres de la CELF ou de l'Académie française qui proposent de supprimer la définition « parce que le terme est suffisamment transparent ». Ainsi, le terme « imperméabilisation des sols » a perdu sa définition et sa note (« Couverture permanente de sols par des matériaux imperméables, résultant d'aménagements. *Note* : L'imperméabilisation des sols s'intensifie du fait de la croissance continue de l'urbanisation, de la demande en infrastructures de transport et en terrains de la part de nombreux secteurs de l'économie. »)
- l'insertion d'exemples ou d'énumérations dans les définitions – par exemple, tel que, comme... – plutôt que de les rejeter en note, pratique qui semble largement inspirée des articles des dictionnaires de langue générale.
- le souci de l'élégance ou de la légèreté de la formulation – définitions sans verbe ou sans relative, chasse aux répétitions... – qui nuit souvent à la précision en introduisant une ambiguïté sur le sujet de l'action ou dans l'enchaînement des compléments.
- les jugements de valeur, voire idéologiques, de la part de certains experts qui souhaitent dire qu'une chose est « moralement condamnable », ou de l'Académie française qui a par exemple estimé – était-ce pour manifester une hostilité envers la gestation pour autrui ? – que les termes « père d'intention » et « mère d'intention » ne relevaient pas du domaine du droit alors que ces termes sont pourtant essentiellement employés dans

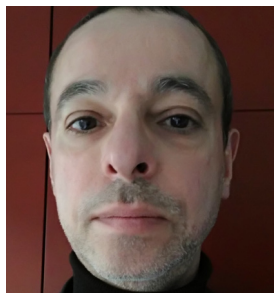
<sup>4</sup> Si les terminologues participent activement aux travaux des groupes d'experts et contribuent à la réflexion du groupe de travail de la CELF qui se réunit pour préparer l'examen des termes, ils ne font qu'assurer le secrétariat de séance de la CELF où le débat se déroule entre les représentants des experts et les membres de la Commission. Exceptionnellement, les terminologues peuvent intervenir dans la discussion pour appeler l'attention sur des informations présentes dans le dossier ou répondre à des questions sur la présentation des fiches.

<sup>5</sup> La Commission du Dictionnaire de l'Académie française, dont la composition n'est pas connue officiellement, se réunit à huis clos (donc sans représentant de la CELF et des experts) et rend des avis généralement assortis de propositions qui, en revanche, sont débattues pas les experts puis examinées lors des séances de la CELF.

les contrats entre la mère porteuse et les parents d'intention, et par les tribunaux lors de la reconnaissance des enfants.

- la tentation de mélanger les domaines, dans une approche trop lexicographique. Par exemple, on ne définit pas de la même façon le « quorum bactérien » (*quorum state* en anglais) en biologie (phénomène général, telle la bioluminescence observée en milieu marin) et en bactériologie (phénomène infectieux).
- la subjectivité ou les arguments euphoniques ou esthétiques que l'on lit parfois dans les avis de l'Académie française, par exemple pour « anonymiser » (*La pratique de l'anonymat, qui a cours notamment dans l'éducation et l'administration depuis fort longtemps, n'a jamais nécessité le recours à ce néologisme malsonnant...*) ou que l'on entend en séance, par exemple à propos d'« innovation incrémentale » où « incrémental fait penser à excrément » (sic).
- la traduction littérale de l'anglais qui est un des facteurs les plus récurrents puisque les concepts nouveaux nous parviennent souvent en anglais, par exemple dans le cas d'*advanced persistent threat* qui ne se rapporte pas à une « menace » mais à une « attaque » informatique bien réelle.
- les informations conjoncturelles, encyclopédiques, étymologiques..., parfois rapidement obsolètes ou contestées, et que l'on trouve parfois dans des fiches publiées, par exemple la note de « marché à terme » (*À la bourse des valeurs en France, le marché s'appelle « règlement mensuel »*), *terme de 1987 révisé et republié au Journal officiel le 22 septembre 2000 au moment même où la Bourse de Paris mettait fin au « règlement mensuel » !*

Être terminologue au service du dispositif d'enrichissement de la langue française est une école de patience. S'il n'est pas toujours aisé d'être entendu par les experts, lorsque ces derniers anticipent les questions et les suggestions que nous nous apprêtons à faire, nous comprenons que le savoir-faire terminologique que nous avons semé au fil des réunions a germé et qu'il est devenu notre bien commun.



## Etienne Quillot

### Institution

Délégation générale à la langue française et aux langues de France

### CV

Au terme d'études d'espagnol et de portugais dans le cadre de la filière « langues étrangères appliquées » et un diplôme d'études approfondies de portugais, engagé comme terminologue pour diverses entreprises de 1988 à 2002, chargé en particulier de la gestion de vocabulaires multilingues.

Depuis 2003 : responsable à la Délégation générale à la langue française et aux langues de France de l'équipe de terminologues et du suivi des groupes d'experts de terminologie et de néologie du dispositif d'enrichissement de la langue française qui réunit plusieurs centaines d'experts de domaines les plus variés.



## Terminesp, une plateforme pour la convergence terminologique en espagnol: la contribution des services de traduction de l'UE

**Luiz González**

Spanish Language Department, DG Translation Field Office (DGT), European Commission Representation in Spain

Terminology is critical for (institutional) translation, just as (institutional) translation is critical for terminology. Terminesp, a project presented thirteen years ago (!!) by Teresa Cabré (at that time president of AETER) at the 1st Conference on Terminology and Institutional Translation, organised by the DG Translation of the European Commission in Madrid, is a well designed platform but it has, unfortunately, not yet been implemented. In any case, translation is obviously called to be a driving force of this platform.

EU institutional translators are among the main beneficiaries and, in our opinion, they have to be, a key (and collective) player in the development of content for this terminology platform. Here we present, in a schematic way, the latest development of the platform and the main contributions that EU translators can make to it.

We consider that translators, who contribute, through the proliferation of translated texts, to terminological variation and divergence (especially in less standardized or more “cultural” fields, such as law, administration, etc.) are also essential for the necessary and desirable terminological convergence (leading to harmonization) in institutional translation. This process can only be achieved through texts and not through mere «nomenclatures».

A resource like IATE, which is not strictly speaking a database for standardised terminology, allows us to collect several layers of linguistic information, thus orienting the translator's options as much as possible.

From a terminological point of view, the institutional translator is increasingly used to working with what we might call «micro-texts» (for example, the segments of translation memories), contexts (rather than simple phrases), of a certain stability and an obvious terminological relevance.

In addition to the participation of institutional translators in the edition of terminological contents, we will address in our presentation their involvement in the validation and dissemination of these contents.

Presentation (pdf) available [here](#)

Video of the presentation available [here](#)



**Luis González**

**Institution**

European Commission Representation in Spain, Madrid

**CV**

Current position: Language Officer, DG Translation (DGT) Field Office, European Commission Representation in Spain, Madrid

Formerly:

- Terminologist at the Coordination Team, Spanish Language Department, responsible for the coordination of terminology-related activities at the Spanish Language Department and for the organization of meetings on TERMINESP (regular contacts with Instituto Cervantes) and on interinstitutional terminology
- Member of the DGT Terminology Programming Committee
- Founder and member of the editorial board of *puntoycoma* (interinstitutional newsletter on translation and terminology)
- Member of the editorial board of *Panace@*, international journal on medical translation
- Around 30 presentations on Translation and Terminology given at internal and public fora (DGT Translation Forum, seminars and conferences) in Spain, Belgium, Luxembourg and Hungary.
- Founding president of the non-profit association “El español, lengua de traducción” (*EsLeTra*) and member of the organizing committee of four editions of the *EsLeTra* Conferences

## Terminology in enterprise architecture and business development – how Swedish government agencies learn from each other when accelerating their work in concept analysis

**Nina Lewau**

The Swedish Migration Agency, Sweden

### Abstract

Enterprise architecture is the design of the components in an organisation, and the relationships between these components. These components are concepts that needs to be analysed and related to each other. So, concepts are a core part of enterprise architecture, and of an organisation. In enterprise architecture we tie all of the results from defining concepts into one, common source, where you can find not only the term and it's definition, but also the concept diagrams, links to the information models and attributes lists, processes that use the concepts and handle its information, where the information is stored etc.

**Keywords:** Enterprise Architecture, terminology, concept analysis, common understanding, Swedish government agencies

### The Swedish Migration Agency

At the Swedish Migration Agency we serve individuals who seek protection in Sweden and those who want to work, study, live in Sweden or become Swedish citizens. In addition to receiving and considering applications from these persons who wants to come to Sweden, we also provide housing spaces for the asylum seekers and help them function in our society during the time they wait for the decision to be made.

Of course, we are only one of many participants in the process of coming to Sweden and getting established in our society. Several authorities and organisations are involved in the migration chain, and it is part of our mission to function as the authority which holds this chain together and keeping it intact. The authorities in Sweden which are affected by migration work in different ways are primarily:

- the Swedish embassies and consulates abroad, which receive applications for visas, work and residence permits
- the Police, who are responsible for border control and for persons who refuse to leave the country on their own accord
- the Migration Courts and the Migration Court of Appeal, where the decisions of the Swedish Migration Agency can be appealed

We are given our tasks by the government, and we are commissioned by parliament and government, who set the Swedish asylum and migration laws.

## Background

Ever since I was a kid, I've loved jigsaw puzzles – pieces that separately rarely mean anything, but by putting them together they finally forms a wholeness and together they make sense. It's often difficult, and it's much easier if the frames are laid first. It is also easier to first create little islands of pieces that fit together forming a particular figure in the puzzle. Sometimes the pieces just click into place, but sometimes it requires some force in order to get it into it's place. This interest and passion for creating a wholeness has been with me through all my life, and it's still what drives me in my daily work.



Figure 1: Jigsaw puzzle

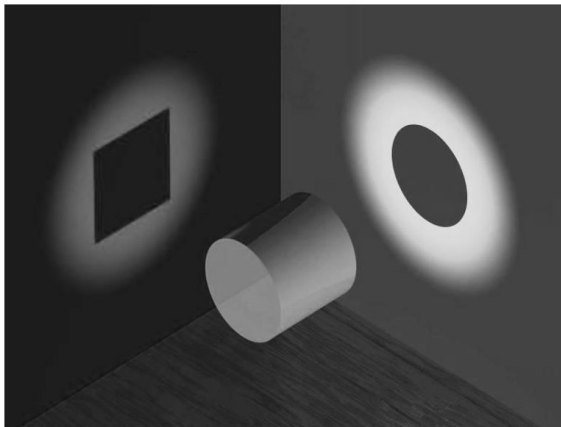
I'm not a terminologist, I'm an Enterprise architect. This article is an attempt to give you an insight into my world of enterprise architecture, and how I believe that the area of terminology enriches it, and contributes to the wholeness. Actually, when my kids ask me what I do at work I answer them that it's kind of laying big jigsaw puzzles.

To give you a better understanding of my world, I will first try to explain my background and some of the drivers for enterprise architecture. Previously, I've worked as a consultant at an IT Company for many years, mostly as a project leader, requirement analyst and business developer. I often found it very frustrating that the deliverables and solutions, even though they were delivered as ordered, rarely fitted in in the organisation in a way that it gave the desired effect overall - the wholeness wasn't quite there. Figure 2 represents the feeling from that situation.



*Figure 2: Pieces that don't fit together*

It's kind of the silo problem, which you're probably familiar with. Each process, department or business area have their specific goals, responsibilities, tasks and areas of expertise. But, between these silos there's often a lack of understanding that they all, in their own way, contributes to the same thing. They don't always realise that their different perspectives actually are perspectives of the same thing (see figure 3).



*Figure 3: Different perspectives of the same thing*

This thing could for example be information sets, or data sets. When the IT department introduces new systems or software they should perform security analysis of the information managed in the system in different situations. This information being the information sets. When the Legal Advisers set up contracts for exchanging information with other authorities or organisations, it is (should be) the same information sets. When the records manager talks about records, and the classification and archiving of them, the records are the information sets. We just use different terms and apply different perspectives. When the pieces don't fit there is no bigger picture, or rather, most of the people in the organisation have their own version of the bigger picture, and they don't have the knowledge of how, or why other functions in the organisation affects the same things as they themselves do. In this situation it's very difficult to achieve the desired effect of all different kinds of activities and deliverables in the organisation.

When I discovered the area of enterprise architecture I finally found the answer to the problems I saw, and enterprise architecture gave me the possibility to work with my passion; contributing to the wholeness and gaining a common understanding (in this case gaining a common understanding of the bigger picture of an organisation). An organisation without silos, where everyone shares the same bigger picture, and knows what part they have to play, how their work relates to others, and how all of their work holistically contributes to reaching the business goals. Unfortunately, it's not that easy to achieve, as you're probably all aware of. The organisational culture aspect alone is a challenge, but it also requires a new way of thinking in order to gain the common understanding and bigger picture.

## Enterprise Architecture

I'm going to try to explain to you what Enterprise Architecture is about. And, as it is complex, this is a simplified description, and not a complete description. An enterprise is, in this case, any human endeavour, with people, collaborating together for a purpose, such as for example running a commercial business or a government body, although we mostly use the term organisation. An enterprise is made up of many interrelated pieces (see figure 4), just as in a jigsaw puzzle; structural pieces like buildings and equipment's, the organisational structure, capabilities and skills, strategies and plans, compliance regulations and information, and operational pieces like activities, processes and products, transactions or services. And supporting pieces like software applications, databases, hardware platforms and communications networks.

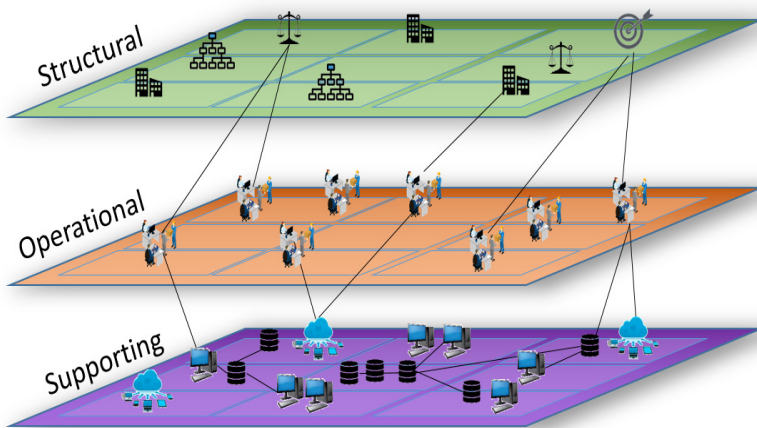


Figure 4: Interrelated pieces in an enterprise

All of these pieces are structured as components in a range in a way that allows the enterprise to exist, and to fulfil its aims. The structure and the arrangement, in conscious design, of all these components are the architecture of the enterprise. We as architect create frameworks for managing the architecture and detailed descriptions and visualisations of the architecture and its components. These abstracted visualisations of the enterprise enable a comprehensive, encompassing picture of the enterprise, or organisation, as a whole. The bigger picture. You might compare it to architecture for constructions and buildings, where there are a lot of different kinds of plans and drawings. For example you have the drawings for the electricity, the plumbing, for communication networks and of course the floor plans. All of these different drawings combined makes up the building. One and a same wall is found in the drawings for electricity, as well as for the plumbing, with different kinds of pieces on their drawings, but within the same wall, who has the same measurements on all drawings, and with consideration to each others pieces so that the linings doesn't collide, hopefully. Descriptions and visualisations of an enterprise architecture works the same way. Where the process map, the information models, the service list etc. all combined makes up the enterprise, with consideration to each other in a coherent way.

Architects look at the architecture in two main states – how it is in its current state, and how it might be in a future state. Architects then work out the alternatives and options for moving from the current state to the future target state, involving all of the previously mentioned inter-related components and roadmaps to show the best ways to change and improve the architecture. Architects does however not work alone, it's not the architect that decides what services or business goals the organisation needs. The architects work together with the management, the process leaders, the terminologists etc, as architecture is a perspective of these pieces, the perspective of how to design and manage them, what pieces are needed in order to achieve

specific goals etc. And to get back to the example with the information sets, the enterprise architects can help identify that these different pieces are actually the same things, and needs to be modelled and linked together, both in the architecture and in the daily work, in decision processes, when assigning responsibilities etc.

## Terminology in Enterprise architecture

When I was employed as an enterprise architect at the Swedish Migration Agency, I was appointed the responsibility for the information area within our architecture, an area where concepts and terms are a part of. Even though I had worked with concepts analysis before many times, I decided to deepen my knowledge and attended a three-day Terminology course at TNC in Stockholm. This was an eye opener into a new, deeper, world of terms and concepts, and I realised why my previous concept analysis's not always had given the desired results. However, these new perspectives wasn't easy to immediately integrate into our architectural work or to our body of knowledge, and methods and literature were scarce. As I didn't want to waste either time or the tax payers money I started a network together with other Swedish authorities, and actually by chance it was composed of mostly enterprise architects, linguists and terminologists. No one of us had, or has, all the answers on how to accelerate our concept analysis work and get desired effect, but together we are building knowledge and gaining insights. We meet for one day, every third month to discuss issues and share experiences in order to construct a shared body of knowledge and gaining insights. The experiences we share concerns for example our processes for working with terms and concepts in relation to our architectural work, the roles involved in analysis, management and publication of terms, as well as we share results from actual concept analysis work, with terms, definitions, descriptions and concept models.

So, what have we learned so far? Well, since we (terminologists and linguists on one side and enterprise architect and information architects on the other) have so different perspectives and different experiences it's been difficult to understand each other's points of view. I guess traditionally we have probably most of the time worked in totally different arenas, with different kind of tasks and purposes. But, we have come to realise that we do have the same goal – gaining a common understanding. However, what's needed in order to gain a common understanding might vary.

For example, when I ask different roles in our organisation to define a certain concept, the answers I usually gets is:

- From the “user” – a description of how they do their daily work – how they work with tasks related to the concept, what it entails. For example if I ask them to define case, as in case handling, they might answer “that's what we do, the activities, in order to make a decision for an application”
- From the architect: perhaps attributes for the information relevant to hold about the concept. They might answer “a case is defined by that it has a start and end date, a unique ID, a case manager, is tied to an application, and consists of documents and information about the different activities involved”.



- From the statistician: the conditions that needs to be fulfilled in order for the concept to be valid. They might answer “a case I defined by that the post in Case\_table has a value in the start date-field”
- From the Legal Advisers: arguments and reasoning’s for how to relate to the concept in different situations. On the task of defining “related person” they give you a 5 pages documents containing the reasoning’s for how to decide if a specific person is a related person to the applicant – depending on how long they’ve known each other, lived together, what they know about each other etc.
- Now, we don’t have a terminologist, but if we would have one, the answer would then be a terminological analysis, with terms and definitions, I presume.

Of course, all answers are correct. In their context, and in respond to the needs in a way that is relevant to their trade or expertise. What I think we have missed is to tie all of these results and perspectives together. As I mentioned earlier, architecture is the structure of components and their relationships within an organisation. These components are concepts that needs to be analysed and related to each other. So, concepts are a core part of enterprise architecture, and a core part of an organisation. What we’re trying to do is to tie all of these results from defining concepts into one, common source, where you can find not only the term and it’s definition, but also the concept diagrams, links to the information models and attributes lists, the legal reasoning and so on. In that way, we all get what we need in order to gain an understanding of the concept.

I believe that one of the most important insights we’ve had in our network so far is that we need all of these perspectives combined when looking at a problematic situations regarding concepts and terms. Because, different kind of problems requires different kinds of solutions. If the problem is assessed only by one of the roles, the number of alternative solutions to choose from is few, due to the assessors limited area of expertise. A terminologist would probably suggest a terminological analysis. An architect might have suggested a concept model and an information model, a Legal Advisers would probably suggest a legal investigation and so on. Therefore it’s perhaps not the best suited solution that’s is taken, but rather the solution known to the persons assessing the problem. I believe that by valuing every roles needs and results for defining concepts, involving them all when assessing the problems in order to find the best suited solution, which may very well be a combination of them all, and bringing all of their results together into one giant jigsaw puzzle, we can achieve the wholeness, and gain a common understanding of the bigger picture.



**Nina Lewau**

**Institution**

The Swedish Migration Agency

**CV**

After earning a degree of Master of Science in Information Systems Analysis, Nina spent 14 years as a consultant, working as a project leader, management leader, requirements analyst and business developer within the area of information management. She then spent 3 years as a researcher at the Swedish Defence Research Agency, researching systems architecture. Her current position is as an enterprise architect at the Swedish Migration Agency.

## Terminology across borders: the example of WIPO Pearl

**Cristina Valenti**

Head of Terminology Unit, PCT Translation Division, World Intellectual Property Organization (WIPO), Switzerland

The presentation will describe the terminology work of the Patent Cooperation Treaty (PCT) Translation Division, illustrating current scope, objectives, and future developments. In particular, WIPO Pearl, the freely accessible online terminology portal of the World Intellectual Property Organization (WIPO), will be described in detail as a successful tool for disseminating high-quality content and best practices in terminology in the field of intellectual property (IP), and, particularly, patents.

The first part will focus on topics such as multilingualism, multidisciplinary, and collaboration with universities, governmental organizations, and other institutional partners. In so doing, we will illustrate the various outreach initiatives put in place in order to cross geographical and professional borders and raise awareness of terminology principles and methodology.

The second part will show more specifically how different technologies are used in day-to-day PCT terminology work. It will be demonstrated how WIPO Pearl's Concept Map Search interface helps to bridge the gap between traditional ontological and lexical resources, and how artificial intelligence algorithms are used for the automatic generation of concept relations - so-called "concept clouds". Finally, examples will be provided of how corpora, translation memories, and machine translation engines are used for term extraction and record compilation, and how their integration in WIPO Pearl enhances the user experience and attracts different types of users.

Presentation (pdf) available [here](#)

Video of the presentation available [here](#)



**Cristina Valenti**

### **Institution**

World Intellectual Property Organization (WIPO)

### **CV**

Cristina Valenti is Head of the Terminology Unit, Support Section, PCT Translation Division, at the World Intellectual Property Organization (WIPO) in Geneva, Switzerland. She has been working at WIPO since 2010 and her main tasks involve the design and development of terminology resources and guidelines, and terminology workflow management. In 2009 she received a Ph.D. in Languages, Cultures, and Intercultural Communication from the University of Boogna, Italy, where she worked as a researcher in topics such as simultaneous interpreting, occupational health and safety terminology, terminology databases design, multimedia corpora design, audiovisual translation, and child language brokering.

## Thematic portals, a shortcut to disseminate terminology to specialized users

**Jordi Bover**

Director of Termcat Terminology Centre, Catalonia

### Abstract

In this communication we explain a new line of work in TERMCAT to make our terminology resources more visible and available to Catalan experts by means of looking for and activate complicity with the most representative institutions and experts from all different fields of knowledge.

To achieve this goal, on one hand, we have boost the creation of terminology committees made up with experts from a thematic field and terminologists in charge of detecting, elaborating and updating the dissemination of terminology in the correspondent speciality domains. On the other, we have started promoting the creation of sectorial channels, web platforms which gather terminological resources constantly updated on every single domain mentioned before.

**Keywords:** terminology committees, thematic websites, dissemination of terminology, implantation of neologisms

### 1. More than 30 years of terminological work

Since its creation in 1985, now more than 30 years ago, TERMCAT has carried out a huge task so that Catalan specialists have terminology in their own language: it has worked especially in three lines of action: creation of terminology products, terminology standardisation and advisory services.

In total, over these years, TERMCAT has helped to develop more than seven hundred terminological products that cover a range of knowledge fields, from sciences, technology and industry to human and social sciences and sport. They are presented in a variety of formats and a degree of specialization, ranging from highly specialized works to products especially focused on dissemination.

## Creation of terminology products

more than 700  
terminological  
products



[www.termcat.cat](http://www.termcat.cat)

The more than one hundred titles from the free online dictionaries collection are especially relevant.

The content of most of these dictionaries can be downloaded for reuse from the section Open Terminology in our web.

In addition, the almost 9,000 neologisms that have been studied exhaustively and standardised are especially significant and emblematic of TERMTOCAT work.








They are Catalan denominations for new terms that emerge in the fields of science, technology and humanities when no form exists in Catalan or when the existing forms are inappropriate from a linguistic or terminological point of view.

## Terminology standardisation

Process to fix and disseminate the most appropriate names for the concepts of the different fields of specialty.

More than 9,000 standardised terms

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	tablet	tauleta	
	gamification	ludificació	
	drone	dron	
	chaise longue	chaise-longue	
	comprimido buco/orodispersable	comprimít bucodispersable	
	<i>Danaus chrysippus</i>	papallona tigre	
	Bimi	brocolet	

www.termcat.cat

And, finally, I must point out the more than 200,000 terminology doubts raised by more than 25,000 users in the Advisory Service, which has been operating uninterruptedly since the creation of TERMCAT with the aim of solving terminological questions from users. All this production can be consulted through Cercaterm, the search engine that TERMCAT makes available to the public and that collects more than 350,000 terms and more than 1,300,000 denominations in several languages.

## Terminological advice Cercaterm and online consultation service

Since 2000



Servei de consultes

- ⇒ 354,000 terms (84% with source of origin)
- ⇒ 1,319,712 denominations
- ⇒ multilingual search engine
- ⇒ thematic classification
- ⇒ new proposals
- ⇒ monthly update

- Global data:
- ⇒ 200,000 queries resolved
  - ⇒ 25,000 registered users
  - ⇒ 3,700 experts consulted

## 2. Knowledge of this work

This work is well known and followed by an important network of language professionals working in Catalan, both in publishing houses, the media and the Government of Catalonia departments, who help spread Catalan terminology. Thanks to them, the books edited, the official documentation or the newspapers disseminate the appropriate terminology.

On the other hand, in spontaneous, or even teaching uses, the terminology used has much more hesitation and also interference from other languages, mainly English and Spanish.

One of the main reasons for these bad uses is that experts are unaware of the existence of these resources that TERMCAT offers.

And this happens in spite of the fact that to carry out all this work TERMCAT has always had the advice and consensus of the experts, who provide the knowledge of concepts and the current use of terminology in their domain of knowledge –in these years TERMCAT has worked with more than 3,700 specialists from all sectors.

This ignorance is also a too big obstacle for many neologisms proposed by the Centre to compete on equal terms with loanwords from English or other languages that are fixed in use along with the dissemination of the concepts they designate.

## 3. A new approach to reach specialized users

That is the reason why TERMCAT has taken another step in the dynamics of collaboration that historically has had with specialists and has undertaken a new line to make all this terminological work more visible to different fields, seeking an active complicity of the most representative institutions and experts in key areas in which the neological activity is important and the number of potential users is very high. Basically, we would like experts to be involved in updating the terminology of their field, collaborating in the early detection of terminology neologisms and having them available in a context that they feel as their own.

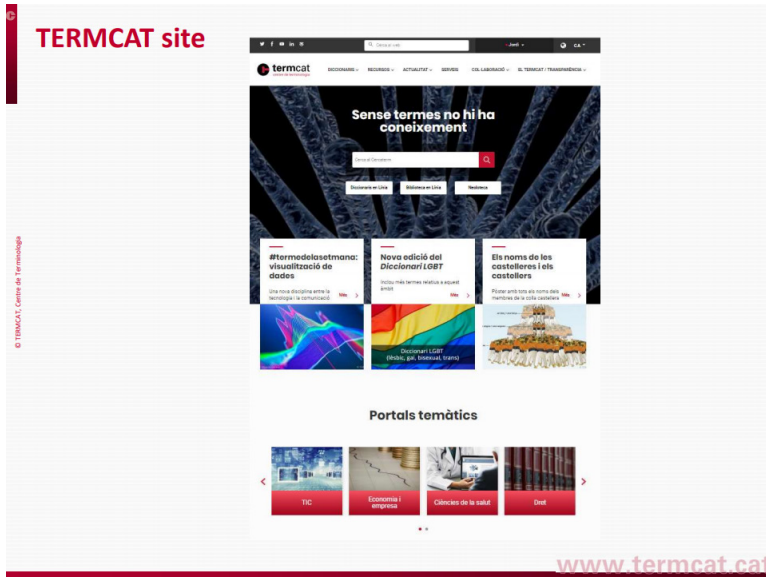
Experts are the natural users of terminology and as such they are key actors for its fixation and dissemination: their work is invaluable to create terminology, delimit concepts and propose or validate denominations. They are also privileged detectors of terminological changes: both to propose neologisms and to propose updates to the terminology collected. But above anything else, they are diffusers with big influence in their sector: whether they do so through teaching or publishing specialized articles.

However, it must be taken into account, that for an expert, terminology is an instrument and not an end, and therefore it is difficult for him to spend time in terminological reflections if they do not see a sense linked to their work or hobby. That is why it is necessary to get terminology as close as possible to the environments in which experts use it.

To do this, from TERMCAT we have promoted, on the one hand, the creation of terminology committees made up of specialists in a field and terminologists, who participate in the detection, elaboration, updating and dissemination of the terminology, and, on the other, we have begun to promote the creation of thematic websites that offer terminological resources (terminology search engine, comments, queries, documentary resources, etc.) permanently updated.

#### 4. Thematic terminological websites

In the coming weeks, TERMCAT will publish a new version of its website, which will include access to a new section of thematic portals.



There will be portals in six key areas, which have a great neology activity due to their ability to generate new concepts continuously. These are health sciences, ICT, law, economics, nutrition and sports. In the future we expect to add new portals from other relevant fields, such as life sciences or industry.

We aim to involve specialized reference institutions of each sector in each of these websites. In fact, the aim is for these institutions to feel the portal as their own and not to think they are collaborating in a website made by linguists. That is the reason why some portals may have their own domain, not dependent on the TERMCAT website: it will be clearer that the other institutions will have the same degree of authority as TERMCAT. This will also facilitate the identification of specialists with the portal. The will is to involve these institutions in the provision of contents and to add links to these thematic websites on the specialized web pages that experts consult.

We can now see one of these portals: the portal of law. We launched this website long ago in collaboration with other institutions and the results begin to be visible.



## Thematic terminological websites

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CONTACTE SUBSCRIPCIÓ Cerca al web CA

**Terminologia jurídica**

CERCADOR TERMINOLÒGIC APUNTS DICCIONARIS PRODUCTES MULTIMÈDIA ENLLAÇOS D'INTERÉS QUI SOM

En aquest portal trobareu els recursos en terminologia jurídica que el Comitè Terminològic de Dret posa a disposició pública.

El Comitè Terminològic de Dret Sobre el cercador

Cerca un terme


**Apunts**

www.termcat.cat

The will is that these portals are supra-institutional: the website of legal terminology involves more than twelve institutions: the ones you can see here. All of them are formally constituted as a terminological committee, which was set up in March 2015. The members of the Committee are representative of professional colleges, universities, the Department of Justice of the Government of Catalonia and the Parliament of Catalonia. TERMCAT holds the secretariat.

In the constitution of the Committee, we looked for institutions linked to the various fields of law. The underlying idea is that the work that is carried out is the result of debate and consensus among the various sectors. In addition, the composition of the Committee is open, and if there are other institutions that wish to be represented, they can join in at any moment. Also, is envisaged the participation of advisers from other institutions, of more specific fields of work or of different territorial areas, in case work needs require so.

**Thematic terminological websites**



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Regarding the profile of the members, the Committee is formed by experts from the various legal areas, which provide conceptual knowledge and use of the terms, and by linguists and terminologists, who contribute with their linguistic knowledge and terminology work. These profiles are complementary to carry out the tasks entrusted to the Committee, specifically:

- to collaborate in clearing up doubts and giving expert advice for terminology standardisation.
- to help keep up-to-date the terminological information that is disseminated.
- to identify terminological needs and to help respond to them.
- to act as a link in the creation of sub-committees for speciality projects or for solutions to one-time terminological problems.
- to help reach the greatest possible consensus on, and dissemination of, terminology in the sector.

#### 4.1. Terminological search engine

The portals have certain flexibility in the sections they contain, although the idea is that the centre of the portal be the search engine of the terminology of the sector: this search engine can be a thematic filter of the general search engine of TERMCAT, the Cercaterm, or a specialized online dictionary. In the case of the law portal, users access the contents of Cercaterm included in the area of law. The fact that Cercaterm also collects terminology of quality elaborated by other institutions and that in each term its origin is explained helps to visualize this interinstitutional collaboration.

## Search engine

The screenshot shows the homepage of the TERM CAT website. At the top, there is a navigation bar with links for 'CONTACTE', 'SUBSCRIPCIÓ', and a search bar containing 'Cerca al web'. The main header features the TERM CAT logo and the title 'Terminologia de les TIC'. Below the header is a menu with options: 'PRESENTACIÓ', 'CERCADOR TERMINOLÒGIC', 'DICCIONARIS', 'RECURSOS', and 'NOTÍCIES'. The main content area contains a paragraph: 'En aquest portal trobareu els recursos que el TERMCAT posa a disposició pública en relació amb la terminologia de les tecnologies de la informació i la comunicació.' Below this text are two buttons: 'Presentació' and 'Sobre el cercador'. At the bottom, there is a search input field with the text 'gamification' and a search icon.

www.termcat.cat

## Search engine

The screenshot shows the search results page for the term 'ludificació'. The page title is 'ludificació'. The main content area contains a box with the text: 'La informació d'aquesta fitxa procedeix de l'obra següent: TERMCAT, CENTRE DE TERMINOLOGIA; UOC (UNIVERSITAT OBERTA DE CATALUNYA). Vocabulari de l'aprenentatge en línia [en línia]. Barcelona: TERMCAT, Centre de Terminologia, cop. 2016. (Diccionaris en Línia) [http://www.termcat.cat/ca/Diccionaris\\_En\\_Linia/226/](http://www.termcat.cat/ca/Diccionaris_En_Linia/226/)'. Below this box, there is a list of language variants: 'ca ludificació, n f', 'es ludificación, n f', 'fr gamification, n f', 'fr ludification, n f', and 'en gamification, n'. At the bottom, there is a link: '<Aprenentatge en línia > Recursos didàctics>'. The TERM CAT logo is visible in the top right corner.

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Here we can see a term with the TERMCAT source (see gamification in ICT portal), and then a term with a source from the Universities of Barcelona and Valencia (see *ensañamiento* in law portal). If the language is not specified, the search is made on all denominations, regardless of the language.

### Search engine

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### Search engine

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Each term includes at least one denomination in Catalan with the corresponding lexical category and the reference to the thematic area in which the term is framed, as well as the source of origin of the terminological file. Usually equivalents are also provided in other languages, especially in Spanish, French and English, a definition in Catalan and, where appropriate, complementary notes with conceptual or linguistic information.

The search engine of the law terminology website currently allows access to the query of more than 13,000 terms; in other cases, like the health sciences portal, the dictionary contains about 80,000 terms.

## 4.2. Terminological posts

Apart from the search engine, the portals have other sections. For example, a section of terminological posts to comment on specific terms and certain terminological and linguistic aspects.

For example, in the nutrition terminology portal, we can see this post about the Catalan alternatives to wrap or food truck: «Ens mengem un enrotllat en una furgoteka o un wrap en un food truck?».

**Terminological posts**

Ens mengem un enrotllat en una furgoteka o un wrap en un food truck?

26.07.2018



Ens mengem un enrotllat en una furgoteka o un wrap en un food truck?

Amb el mot anglès wrap es designa el que en català podem anomenar **enrotllat**, o simplement, un **enrotllat**. Es tracta d'un empenya fet amb un pa pla i tou, habitualment tortat, pleu o banyat, enrotllat i fent de trossets de carn, peix, llegums, verdures o altres ingredients, que es pot menjar fred o calent. Tot i l'ús estès del manlleu anglès, en espanyol i francès es proposen també formes semblants a les catalanes: *enrollado* o *sandwich enrollado*; *roule* o *sandwich roule*.

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Often the terminology discussed in these posts is linked to the present: for example, terms appearing in news media or events that have informational impact, either because they are close to us or because they are of great importance.

For example, we can see here a post, in Law Terminology Portal, about the terms of the new general data protection regulation.

## Terminological posts

**Protecció de dades: els termes clau**

23.05.2018

**termcat** centre de terminologia

**Reglament general de protecció de dades (RGPD): termes clau**

<b>Drets existents</b>	dret d'accés	dret de rectificació	dret de supressió	dret d'oposició
<b>Drets nous</b>	dret a l'oblit	dret a la limitació del tractament	dret a la portabilitat de les dades	

[www.termcat.cat](http://www.termcat.cat)

### 4.3. Dictionaries and dissemination materials

The portals also include access to other thematic online dictionaries, usually elaborated by TERMCAT, as well as to other terminology diffusion materials, especially multimedia products. You can see here different thematic tags which allow to access to related information.

## Thematic online dictionaries

**termcat** Terminologia de les TIC

**Diccionaris en Línia**

Entorn de les TIC, el TERMCAT ha publicat els diccionaris en línia següents:

Aprentatge en línia	Administració electrònica	Cartografia, Fotogrametria, SIG, Teledetecció
Ciberseguretat	Comerç electrònic	Dispositius mòbils
Màrqueting digital	Productes informàtics	Telecomunicacions
Videojocs	Xarxes socials	Tecnologies del so i de la música (UPF)

[www.termcat.cat](http://www.termcat.cat)



## News



### Notícies



[www.termcat.cat](http://www.termcat.cat)

#### 4.6. Subscription

Finally, it should be noted that there is the possibility of subscribing to the portal. Registered users will receive an email notification whenever new content is published.

#### 4.7. Twitter Accounts

Linked to these websites, accounts have also been opened on social networks. For example, linked to the Law Terminology Website, the Twitter account @termdret has been opened with the aim of disseminating the contents that are published on the portal. This account also informs of events in the sector, articles and other information of interest that have language and law as a common denominator.

#### 4.8. Consultation service

When a user who is looking for a term does not find the answer in the search engine, he can put the question through a form on the portal.



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**Terminologia jurídica**

## Consultation service



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**Com es diu 'devento' en català?**

© 4 d'abril de 2017

En castellà s'utilitza la denominació **devento** per a fer referència a **diversos conceptes**. D'acord amb el diccionari de la Real Academia Espanyola, dos dels significats d'aquest terme són: la "cantidad devengada", d'una banda, i el "momento en el que nace la obligación de pago de un tributo", de l'altra.

Tant per a un significat com per a l'altre, en català la denominació corresponent és **meritació**. La primera accepció es documenta al diccionari normatiu de l'Institut d'Estudis Catalans, que defineix la meritació com la "**quantitat meritada**".

La segona accepció, relativa al moment en què neix l'obligació tributària, es documenta entre altres a la Llei general tributària, específicament a l'article 21: "**Meritació és el moment en què s'entén realitzat el fet imposable i en el qual es produeix el naixement de l'obligació tributària principal.**" Podeu consultar la fitxa d'aquest terme al cercador.

Font: TERMCAT



© Image original: iStockphoto.com/Robert Sobotnik Images



**meritació**

ca meritació *nf*

es devengo

Dret, Administració

Moment en què s'entén realitzat el fet imposable i en el qual es produeix el naixement de l'obligació tributària principal.



**termcat**  
I ELS I

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Then, the terminologist of TERMCAT in charge of the portal initiates a terminological search in order to respond to the user in the shortest possible time. Thus, he looks up the term in Catalan and in other languages. If necessary, he asks to specialists linked to the portal their opinion. If they deem it necessary, they may consult advisers from other institutions, from more specific working fields or from other geographical areas.

Parallel to the search and response task, a new terminological entry is made with the data that is documented and validated. This term is subsequently added to the database that feeds the search engine, so that in the future it can be of help to other users. Also, posts are published about those recurring consultations, about terms that involve frequent terminological doubts, or which are considered linguistically or terminologically interesting. These posts include the linguistic, terminological and usage arguments taken into account in the resolution of such cases. The publication of posts is disseminated through Twitter for the general public and through the email for users registered on the website. What initially was an individual terminological need is openly answered and disseminated through several channels to make it accessible to other users.

## CONCLUSIONS

As we have said, experts are the end users of terminology and they must be the target audience of the terminology works. From TERMCAT we understand that if the mountain won't come to Muhammad, Muhammad must go to the mountain. We think that the creation of specialized terminology websites linked to communities of experts is the first step in a long way to bring

terminology to its natural setting. Specialized terminology websites won't be useful at all if specialists do not visit them. It will be necessary to seek the complicity and understanding of the main institutions and specialists in each domain so that experts know more about the terminological resources that they have at their disposal and they engage actively in their fixation and dissemination. We hope that this new approach to TERMCAT activities will be soon productive and we will be able to extend it to all the major areas of knowledge, with an integrated network of websites and committees that allow the work and dissemination of terminology to a degree of specialization in which experts feel themselves as much represented as possible.

## Conclusions



[www.termcat.cat](http://www.termcat.cat)



**Jordi Bover**

**Institution**  
TERMCAT

**CV**

Jordi Bover is the director of TERMCAT, the Centre for Catalan Terminology. Previously he has been the head of the Terminology Projects dept. in the Centre and, before, the secretary of TERMCAT Supervisory Council, which is the permanent corporate body responsible for standardising neologisms from the specialty lexicon in Catalan Language. He holds a degree in Catalan Philology from the University of Barcelona.

## Getting the right terms out to the right users

**Delyth Prys**

Bangor University, Wales

### Abstract

Terminologists face a number of conflicting demands on their time and resources. One aspect of their work often neglected is the need to get their terminology disseminated and used by their target audience. Sometimes this is an explicit requirement when a project is awarded, at other times it may not even have been considered as part of the scope. However, the success of a terminology project lies not only in the quality of the terminological product, but also in its uptake and use. This paper looks at how appropriate dissemination was achieved and quantified for some Welsh language terminology products.

**Keywords:** terminology dissemination, measuring impact, less-resourced languages, Welsh

### Importance of dissemination

Different funders of terminology work understand dissemination in different ways. It may not be important for some projects, for example, when a company commissions a terminology product for its own internal use. Such a product could also be intended for controlled environments, where computer software, rather than human editors, ensure the correct use of terminology. In such cases, a company will not be interested in reaching a wider audience outside its own company environment. At the other extreme, a standardized terminology product could be designed to be part of national language planning, especially in less-resourced or minoritized language communities. Here a project might be commissioned to fill in lexical gaps and develop new terms to improve the language's status and communication needs. In such cases widespread dissemination and uptake by the general public can be a crucial element in the project. Somewhere in the middle are projects for specific audiences, for example school and university education, where the product is nonetheless useful to a wider community. Here it is beneficial to disseminate the product outside its core target audience, and encourage its take-up by a wider community.

Sometimes the terminologist's role is limited to developing their terminology product, with others being tasked with publication, dissemination, and engagement with other stakeholders. However, the importance of dissemination is often underestimated and neglected, with an expectation that once the work is published it will somehow magically be used, and will reach its intended audience. On the other hand, numbers of product sales, downloads or other such indicators are often used as measurements of success, and in times of spending cuts, and when terminology centres are under threat, terminologists need to be able to prove the value of their work and quantify its impact. At the very least they need to understand what it means to create a successful terminological product, and, in our view, shoulder some responsibility for dissemination and promotion if there is no one else engaged in these activities.

Dissemination needs to be understood as more than advertising and publicity campaigns, and includes choosing appropriate platforms and formats to reach the product's target audience. It

is now rare for users to favour paper-based dictionaries over electronic media, unless there are problems of connectivity and internet access, which is still the case for some less-resourced and marginalized language communities in developing countries. We do not argue for the abandonment of paper dictionaries in favour of electronic resources where access to the internet and electronic infrastructure remain problematic. Our study here is restricted to situations where good internet connectivity and electronic infrastructure prevail.

Specialist users such as translators now often use translation memory software, where terminology products are integrated into their TM environment. Students and ordinary members of the public on the other hand have different needs. If mobile phones are their favourite multi-purpose tool, a dictionary app for smartphones and tablets could be their most popular choice. Where the purpose of new terms is to fill lexical gaps in a language, they need a great deal of exposure both in texts and in speech in order to become familiar and to be used as part of a language's natural vocabulary. Dissemination therefore is of the utmost importance, and channels such as web portals for translators, and phone and tablet apps for the general public, help reach different audiences. Where less-resourced and marginalized languages have relatively few public communication channels, such as daily newspaper and television channels, accessible dictionary aids are even more important to their target users.

### Case Study from Wales

The Centre for the Standardization of Welsh Terminology, now part of the Language Technologies Unit (LTU) at Bangor University, Wales, has been standardizing terminology for Welsh and producing bilingual Welsh->English terminology dictionaries for over 25 years. Funders have been mainly from the public sector, including education, health, museum, environment and food safety organizations. Until recently many would have been content with producing traditional paper-based dictionaries. However, public sector funders have always wanted cost-efficient answers, and to be able to reach their target audiences as efficiently and comprehensively as possible. Funders are not always aware of the new possibilities provided by digital media, and so have been guided in the technology options and publication modalities available, as well as standardization issues.

The first major terminology dictionary produced, *Y Termiadur Ysgol: Standardized Terminology for the Schools of Wales* (Prys & Jones, 1998) was originally published on paper, with a subsequent CD version published separately. It was also included in the Welsh software collection *Cysgliad* (Prys et al, 2005) as part of the compendium of electronic dictionaries *Cysgeir*, together with the *Cysill* Welsh spelling and grammar checker. The *Cysgliad* collection is still available as an off-line electronic option, but is now no longer distributed on CDs but rather as downloadable software.

A revised, enlarged edition of *Y Termiadur Ysgol*, renamed *Y Termiadur Addysg* (Prys et al, 2006) contained a CD version inside the book cover. In a further development it was also made available [on its own website](#) in 2011, and as part of the Welsh National Terminology Portal ([termau.cymru](#)) in 2011. It has subsequently been published both as part of a dictionary app, *Ap Geiriaduron* (Robertson et al, 2012) for Android and iOS platforms, and as part of the mouse-over dictionary *Vocab* (Jones et al, 2016) for websites.

The dictionary content was stored from the outset in a digital master database. This facilitated not only the production of the dictionary in a number of different formats and media, but also its continual updating and enlargement. No print edition of the dictionary has been published since 2006, but its content is continuously revised and enlarged in its electronic web- and app-based versions. *Y Termiadur Addysg* shares its database design and publication platforms with all other terminology dictionaries produced by the LTU, enabling savings on cost and production times. The other major dictionary of standardized terms for Welsh-medium education, *Geiriadur Termau'r Coleg Cymraeg Cenedlaethol* (Prys, Andrews et al, 2009-) was from the outset published solely in these electronic media. This dictionary is intended for students and staff at university level. It is disseminated on three platforms, namely [its own website](#); the Welsh National Terminology Portal; and the Ap Geiriaduron.

Another on-line electronic dictionary was automatically generated from a merger of *Y Termiadur Addysg* and *Cysgair*, an earlier electronic dictionary published by Bangor University in the mid 1990s. This combined dictionary was published as *Geiriadur Bangor* (2014) with [its own website](#). It was not included in the Welsh National Terminology Portal because the *Cysgair* part of it is a general language dictionary, and could cause confusion to users in a standardized terminology setting. Nineteen other terminology dictionaries have also been published electronically, using the same, shared database design. A comprehensive list of them can be found on the National Terminology Portal. An API key has also been provided for many of them, enabling these dictionaries to appear also on the website of a commissioning agency or public body, with its own branding, as well as appearing in the 'one-stop shop' of the National Terminology Portal. API keys, and other useful tools and resources, are available through another Welsh National Portal, namely [the Welsh National Language Technologies Portal](#).

## Measuring Dissemination and Impact

Although not an original requirement of any of the terminology projects listed above, gathering statistics on the number of page visits, searches, downloads, or other methods of quantifying the use of these terminological resources has become an important part of reporting to funders. The importance of collecting statistics was not immediately recognised when some resources were originally published, and earlier resources themselves predate effective tools for gathering statistics. Different resources also have different start dates. Google Analytics was usually used to gather these statistics.

In order to help in analysis, it should be remembered that the numbers of Welsh speakers reported in [the 2011 official census](#) was 562,016. During the 2017/18 school year [it was reported](#) that 89,150 schoolchildren received all or most of their education through the medium of Welsh.

Of the terminology resources discussed above, the statistics obtained are as follows:

Ranking#	Dissemination-mode#	Number-of-searches#
1#	National-Terminology-Portal#	1,717,627#
2#	Geiriadur-Bangor#	1,380,990#
3#	Vocab-on-BBC-CymruFyw#	1,262,392#
4#	Y-Termiadur-Addysg#	1,012,128#
5#	National-Terminology-Portal-accessed-from-phone-app#	466,539#
6#	Vocab-on-Golwg-360#	267,396#
7#	Y-Termiadur-Addysg-accessed-from-phone-app#	125,248#
8#	Geiriadur-Termau'r-Coleg-Cymraeg-Cenedlaethol#	103,421#
#	<b>TOTAL#</b>	<b>6,587,976#</b>

Figure 1: Impact and statistics: top 8 on-line, from their inception (various dates) to October 24, 2018

It was no surprise to discover that the most popular resource was the National Terminology Portal. As a comprehensive one-stop shop, this is widely used by people who want to be able to access all terminology dictionaries at a glance. The appearance of *Geiriadur Bangor* in second place was more surprising since no attempt had been made to promote it. It shows however that some users are not interested solely in technical terminology but like the convenience of a combined general language dictionary and a more specialist terminology dictionary accessible together in one window. Despite the decision not to include any general language dictionaries in the National Terminology Portal, it is apparent that, given the choice, some users appreciate a mixed dictionary. On the other hand, users might not be aware of the difference between general language and technical terminology, and use whatever source is easiest to find, without understanding the implications of standardized terms in specialist contexts. We try to rectify this in our teaching and training materials, for example Prys (2016).

The *Vocab* mouse-over dictionary on the BBC's Welsh language news website shows the popularity of this news provider, possibly aided by the BBC's strong brand image, and the lack of a daily printed newspaper in Welsh. Together with *Golwg360*, the other main source of Welsh language news online, which came sixth out of the top eight resources, it shows the additional reach of terminology dictionaries through secondary applications such as the *Vocab* mouse-over dictionary. This platform possibly reaches users who would not turn so readily to dictionaries in traditional formats. *Y Termiadur Addysg* in fourth place shows the use of its dedicated website, which has additional resources over and above those shown through the Welsh National Portal, and includes guidelines, subject lists, newsletters and explanation of changes. *Y Termiadur Addysg's* own website is thought to be more popular with schools, who are the primary target of the resource, whereas translators and general users are drawn to the more comprehensive Welsh National Portal.

At numbers 5 and 7, the National Terminology Portal and *Y Termiadur Addysg* accessed through the phone app reflect additional searches made through mobile phones and tablets where the downloaded *Ap Geiriaduron* did not provide sufficient answers. Again their relative popularity is no surprise, and reflects the more general nature of the National Terminology Portal over *Termiadur Addysg's* specialist school audience.

In eighth place, *Geiriadur Termau'r Coleg Cymraeg* reflects the specialist university user base for this particular dictionary. Also, its website contains no additional information or resources for users beyond what is available through the National Portal, in contrast to the dedicated *Y Termiadur Addysg* website, which has additional features and information for teachers and schoolchildren. When looking at an individual resource such as *Y Termiadur Addysg*, it is important to add up the number of views from each different format. Thus the total for the contents of *Y Termiadur Addysg* views across all devices was 6,484,555 views. This was in addition to use on off-line formats such as *Cysgeir* and the *Ap Geiriaduron* which could not be counted, and any use of older paper editions still in circulation. The total for *Geiriadur Termau'r Coleg Cymraeg Cenedlaethol*, which is only available on the National Terminology Portal accessed directly and from the *Ap Geiriaduron*, apart from its own website, was 2,287,587 views.

We were also able to look at statistics for 2018 on their own, from the beginning of the year up to October 24, thereby comparing the use of the different formats and resources within the same time period. In first place was Vocab on the BBC's Welsh news website, showing that it continues to be widely used by the public. Vocab for the other major Welsh language news website, *Golwg360*, remained unchanged in sixth position. Vocab is also deployed on a number of other websites, with an API key to enable anyone to embed it in their own website freely available from the Welsh National Language Technologies Portal. None of these made it into the top eight. Surprisingly, given the continued lack of promotion of this resource, *Geiriadur Bangor* remained in second place. There are now numerous on-line bilingual Welsh<>English dictionaries, but this combination of technical terminology and general everyday language remains popular, and is an important point to remember for developers of specific technical terminology.

Down from first to third place was the Welsh National Terminology Portal, possibly because the most popular way to access this resource now is through the downloadable app. If users can't find what they're looking for in the app, they can access the on-line version through the app itself, and this activity was the fourth highest count, up from fifth over the lifetime of the product.

The on-line version of *Y Termiadur Addysg* slipped from fourth to fifth place, and accessing the on-line version through the app fell out of the top eight altogether. This is consistent with anecdotal evidence of a preference for the aggregated format of the Welsh National Terminology Portal over websites for individual dictionaries, and of the popularity of the downloadable dictionary app, *Ap Geiriaduron*, especially amongst students and younger people. *Geiriadur Termau'r Coleg Cymraeg Cenedlaethol* for university level terminology was up one place from eighth to seventh, and again could also be accessed through the Welsh National Terminology Portal and the *Ap Geiriaduron*.

The new, and unexpected, entry into the top eight is the suite of dictionaries of flora and fauna produced by Cymdeithas Edward Llwyd, the Welsh Naturalists Society. These are also accessible through the National Terminology Portal. However the provision of an API key to the Society's website, [Llên Natur \(n.d.\)](#) has enabled them to embed it in their own environment with their own branding and additional information, thereby giving it additional exposure and publicity amongst their own members and followers.

The full table reads as follows:

Ranking	Dissemination mode	Number of searches
1.(3)	Vocab-on-BBC-CymruFyw	407,646
2.(2)	Geiriadur-Bangor	345,251
3.(1)	National-Terminology-Portal	256,294
4.(5)	National-Terminology-Portal-accessed-from-phone-app	154,371
5.(4)	Y-Terwiadur-Addysg	98,087
6.(6)	Vocab-on-Golwg-360	78,979
7.(8)	Geiriadur-Termau'r-Coleg-Cymraeg-Cenedlaethol	17,232
8.(10)	Cymdeithas-Edward-Llwyd-website	8,475
	<b>TOTAL</b>	<b>1,368,459</b>

Figure 2: Impact and statistics: top 8 on-line, January 1 to October 24, 2018

By way of comparison, we were able to count the number of downloads of the *Ap Geiriaduron* dictionary phone and tablet app over the same period of time. There has been a steady upwards trajectory, with the number of downloads counting both iOS and Android devices reaching 142,145 by the end of October 2018. Educational downloads were counted separately, with some schools seemingly downloading the app onto numerous school devices on specific days, normally at the beginning of the new school year. However, the higher take-up of the app by non-school devices shows that its use is not confined to the educational world, and that it also has currency in the wider community.



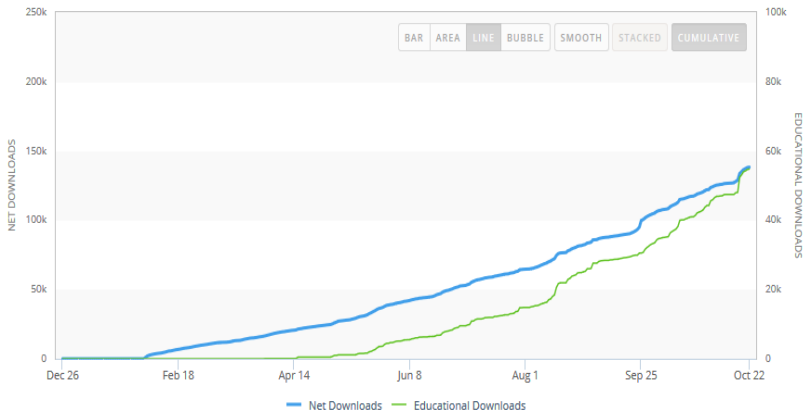


Figure 3: Total downloads of the Ap Geiriaduron app for iOS and Android to October 24, 2018

## CONCLUSIONS

The aim of the statistical analysis above was not so much to find out which dissemination methods were most successful in order to dispense with the rest, but rather to try and quantify how different methods of dissemination each contribute to the total effort of getting the terms within easy reach of a wide constituency of users. Rather than a ‘one size fits all’ approach, the ability to provide for different platforms and devices greatly increases the overall use of the terminology resources. Taking as a baseline the printing of 15,000 copies of *Y Termiadur Ysgol* in 1998, and a further 15,000 of *Y Termiadur Addysg* in 2006, it is clear that 142,145 downloads of the *Ap Geiriaduron* containing *Y Termiadur Addysg* is of an entirely different order of magnitude. The figures for accessing the dictionaries through the various websites also show that the dictionaries are being actively consulted and used, rather than being left unused on bookshelves as might have been the case with traditional paper-based dictionaries.

The additional access to the terminology dictionaries through such means as the Vocab interface also considerably enhances their usefulness. Future developments will further increase this ‘recycling’ of terminology resources, for example by incorporating glossaries drawn from the dictionaries into the translation workflow as ‘push’ technology, where an identified term can be offered as translators work, without their having to actively look it up. New developments in machine translation mean that such electronic dictionaries will also be used to improve the development of translation engines, through hybrid methods in conjunction with parallel text corpora to train new translation models.

Less-resourced languages such as Welsh cannot afford to duplicate and waste resources, and the creation of well-designed master databases, where all corrections and updates are made, is a vital prerequisite to developing multiple applications to disseminate terminology. Funders may not be aware of the benefits and additional uses of these terminology resources, and might

only ask for the one dissemination mode they are interested in at the time. Terminology providers therefore need to educate their funders on the new possibilities and the benefits of taking a long-term view. In the case of the resources outlined above, the original commissions were for single, paper-based and later on, electronic on-line dictionaries. Their re-use in aggregated environments, and as apps, mouse-over dictionaries and other formats were the vision of the development team, implemented at minimal extra cost with an eye to long-term sustainability. When terminology standardization work started at Bangor University in 1993 the internet had yet to reach the university. Since then the changes in the use of electronic media, including dictionaries, has been unprecedented. The Bangor terminology databases have survived these changes, and have grown and evolved to be disseminated, used and reused in many different ways. We anticipate further technological developments in the coming years, but believe that we are well-placed to face these challenges, and commend these methods of reusing and recycling terminology resources to other less-resourced language communities.

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**CV**

Delyth Prys has been involved in terminology standardization since 1993 and has edited over 20 bilingual (Welsh and English) terminology dictionaries. She leads a mixed team of terminologists and software developers who together develop standardized terminology for Welsh, and also other language tools such as spelling and grammar checkers, translation technology, text to speech and speech recognition. She is a member of the British Standards Institute's Terminology sub-committee, and also the International Standards Organisation's technical committee for Language and Terminology where she is convenor the Socioterminology Working Group which was responsible for the recently published ISO standard: ISO TR20694 "A Typology of Language Registers". Delyth is a committed European and believes that good ideas can come from small and minoritized language communities and be shared with all for the mutual benefit of our common multilingual heritage.



## Terminoen ezarpenaren azterketa diakronikoa euskarazko lege-testuetan: 2DITE lexiko elebidunen egiaztatzaile automatikoaren erabilera terminometriari / The diachronic study of term usage in Basque-language legal texts: use of UZEI's automatic verifier for bilingual texts (2DITE) in terminometry

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### Abstract

The presentation was aimed to show the conclusions drawn from the experimental use of the automatic verifier for bilingual texts 2DITE as a source of information on the implantation of legal terminology in Basque over the last few decades. Specifically, UZEI analyzed two corpora of texts, compiled purposely for this study. One of them contained the first normative texts approved by the Basque Government after its legalization with the advent of democracy. These first texts were elaborated without the help of spelling or lexical correctors, such as those we have nowadays for Basque. Furthermore, at that time the general and specialized lexicon in Basque was barely standardized, and therefore it might foreseeably contain greater lexical and terminological variation in comparison with contemporary texts. In the second corpus legal texts from recent years were compiled. Those texts were published after the launch by UZEI of the first tool for automatically checking the lexicon in Basque.

The research project TEIS, elaborated by UZEI and published in 2007, demonstrated a great implantation of terminology in Basque in a synchronic corpus of texts from the domain of Administration.

With the analysis of the data obtained in this latest study UZEI sought to know the degree of implantation of legal terms in Basque from a diachronic perspective, and to assess the contribution to terminometry of the use of an automatic lexical verifier such as 2DITE.

**Keywords:** Implantation evaluation, terminology planning, UZEI, experimental use of 2DITE lexical verifier

### Implantation evaluation in the terminological standardization process

Terminology work goes well beyond term creation and use, standardization and dissemination. According to Auger (1986)<sup>1</sup>:

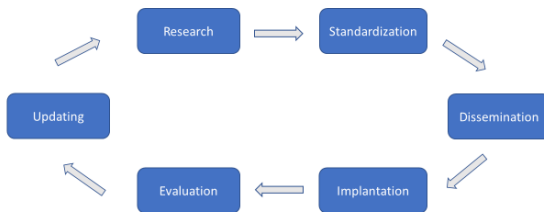
<sup>1</sup> AUGER, P. "Francisation et terminologie : l'aménagement terminologique". In SAGER, J.C.; RONDEAU, G. *Termia 84 : terminologie et coopération internationale : la terminologie, outil indispensable au transfert des technologies*. Quebec: Gisterm, 1986, pages 47-55 or.

- Terminological standardization only makes sense within a framework of general language planning, with six basic functions: **research, standardization, dissemination, implantation, evaluation and control** and **updating**.
- Term implantation evaluation must lead to updating and improving the terminological standardization process.

## 1. IMPLANTATION EVALUATION

### EVALUATION OF IMPLANTATION IN TERMINOLOGY PLANNING

(Auger, 1986)



Therefore, evaluation of term implantation is essential in terminology planning because it measures the real use of standardized terms, which reflects the extent to which these terms have been successful.

### Standardization

All languages go through a terminology standardization process, which can be a spontaneous process or a planned process depending on whether specialized terminology appears in specialized discourse in a spontaneous or planned manner, respectively.<sup>2</sup>

In the case of languages that are undergoing a standardization process such as Basque language, the standardization function mentioned above is especially important and there is a risk that the terminology is generated in a non-systematic manner, which usually occurs because of the great influence of the predominant languages in the field of international scientific and technological communication.

In situations like this, institutions sometimes intervene to guide planned standardization. The aim of such an intervention is on the one hand to help create terminology for each area of knowledge, and on the other hand to give recommendations to experts and teach them new approaches to help them when creating and implanting new terms.

<sup>2</sup> MONTANÉ, M.A.; CABRÉ, M.T. "La implantación de la terminología oficial según el ámbito de uso de los textos". *IXe journée scientifique REALITER: La terminologie panlatine dans les politiques linguistiques*. Paris, Sorbonne University, 16-17 October 2013.

In 1999 the General Plan for the Promotion of the Use of the Basque Language was ratified by the Basque Government. This plan establishes, among other things, the need to carry out the planning of terminology work for the Basque language. As a result of this planning, two key elements in the normalization of Basque terminology were subsequently created:

1. EUSKALTERM, the Basque Public Term Bank that was created in 2001, based on the terminology bank of the same name created by UZEI in 1987.
2. The Terminology Committee, which was created by the Basque Government in 2002 as a sub-committee of the Basque Language Advisory Council. Among the main functions of the Terminology Committee are providing the criteria to be applied in terminology work and setting priorities in the field of terminology. This committee also accepts the new terminology, which is agreed with members and experts from various entities. The terminology proposed by the Terminology Committee is not official terminology because it doesn't have prescriptive faculty (which corresponds only to Euskaltzaindia, the Basque Language Academy). So, the Terminology Committee does proposals and provides recommendations to fix normalized terminology, the aim being the normalization of Basque language.

### **Implantation**

As previously mentioned, terminology work is not only about standardization and dissemination of terms, it goes far beyond that.

The implantation of terminology is not something that should be taken for granted and it sometimes happens that terms others than the proposed ones are also used in practice. This could be due on the one hand to the need of a bigger socialization/dissemination effort, but it could also be a consequence of not having had sufficient success among agents involved in the transmission of the terminology work that has previously been done.

### **Evaluation**

It is therefore clear that in terminology planning the use of terms needs to be monitored. Which means that terminology planning and terminology standardization need an evaluation and control phase just as any other management process.

The information derived from the implantation evaluation should be correctly interpreted so that terms that are not used, for example, can be reworked and updated. And the work done at this stage will guide the re-examining of the criteria that terminologists follow in their work (Quirion, Lanthier 2006).

In times when profitability and efficiency are acquiring increasing importance, it is evident that the measurement of the implantation of the proposed terms is of great help to optimize terminology planning and to help improve the chances of success of such planning.

One of the objectives of implantation evaluations would be to find the causes of the success or failure of the terminology proposals so that they can be taken into account in the terminology standardization process.

The main objective of all this would be that the proposed terms are appropriate and viable, so as to maximize their chances of success. That is to say, to propose terms that can be widely used in language for special purposes.

Standard terms must also be reliable, appropriate and correct (Cabré 1998). And, of course, their quality must always be sought (Blanchon 1998).

With regard to research on implantation evaluation, a number of works have been carried out, particularly in Quebec and France. Research of this kind has also been carried out for languages such as Catalan, Hebrew, Turkish and Gaelic. And, as will be shown below, to some extent, in the case of Basque language.

In the framework of Basque terminology planning, the Terminology Committee of the Basque Government's Basque Language Advisory Council stated in its action plan that "it is necessary to analyze and know the level of success of the terms recommended by the Terminology Committee".

However, as far as the Basque language is concerned, in the field of terminometry there has not yet been, in our opinion, any comparable progress with that made in other fields of terminology planning.

Fortunately, the Basque Government has shown its willingness to carry out initiatives in this field in the near future.

### **UZEI's previous contribution to implantation evaluation of Basque terminology**

To date, all existing terminometric resources for Basque language have been developed by UZEI. In 2005, aware of the need to develop tools to evaluate the level of implantation of the terms, UZEI began to develop terminometric resources for Basque language. At that time there were still no terminology proposals by the Terminology Committee, but it was foreseen that this activity would be launched shortly. Terminologists at UZEI were aware of the need to know what kind of acceptance the proposed terms had had in society and among users. The results of this line of work undertaken by UZEI in 2005 will be presented below.

### **TEIS (Terminology Implantation Information System)**

TEIS (Termino Ezarpenaren Informazio Sistema), UZEI's first project in the field of terminometry, was carried out in 2006-2007 financed by the Basque Government's Saiotek programme.

Its goal was to design an information system on the implantation of standardized terminology in Basque. To this end, as a first approach, research was carried out to monitor Basque terms used in written texts. That was the first systematic work that was carried out in the case of Basque language, and it can be said that it was the only one.

The research phases of the TEIS project were as follows:

1. Corpora design and creation

Four synchronic corpora were compiled, taking as its main synchronic point what was published in 2004 in the following four areas: administration, education, the media and business. The corpora consisted of 500,000 words overall.

2. Compilation of the terminological dictionary

As mentioned before, at that time there were still no terminology proposals by the Terminology Committee. As a result, the terminological dictionary had to be compiled using the most appropriate material available at the time:

- Prescribed words that could have terminological use were taken from the unified and prescriptive dictionary of the Basque Language Academy, Euskaltzaindia. In the selected set of words there were, for example, words relating to biology (names of animals and plants), law, medicine and so on.
- Documentation was also used regarding various terminological decisions taken at that time by UZEI.

The dictionary was structured by concepts so that for each concept all the terms that could be used were included: both those that had been prescribed by Euskaltzaindia and those that had not. A total of 552 concepts and 1,333 terminological forms were compiled in the dictionary.

3. Identification of the terms in the corpora and results

The lemmatizer developed by UZEI was used to automatically detect the terms from the dictionary in the corpus. This automatic detection resulted in a total of 10,151 valid concordances, corresponding to 457 terminological forms out of the 1,333 forms collected in the dictionary. Consequently, the remaining 876 terminological forms contained in the dictionary remained unidentified.

From the analysis of these concordances the conclusion was drawn that the implantation rate of the recommended terms was very high. In fact, in the four areas mentioned (administration, education, the media and business) the level of implantation of the terms was around 90% (Loinaz 2008).

The research had a second part in which the corpus was compiled using documents coming directly from the Internet.

## IDITE

The following steps taken by UZEI in the field of terminometry after the TEIS project have been complementary sessions aimed at evaluating whether some tools developed by UZEI may also be used in terminometry.



The first of the above-mentioned complementary sessions was conducted using IDITE, a tool developed by UZEI for automatically checking the adequacy of Basque vocabulary and terminology contained in texts.

The constituents of IDITE are a lexical database (which comprises a terminological part and a vocabulary part), a computer application and a collection of linguistic rules. The terminological part of the lexical database comprises all the terminological decisions taken by UZEI along its terminological activity plus the terminology proposals made by the Basque Government's Terminology Committee. On the other hand, the vocabulary part inside the lexical database (called euLEX) contains the information provided by the unified and prescriptive dictionary of the Basque Language Academy, Euskaltzaindia.

Both the terminological part and the vocabulary part of the lexical database used by IDITE not only include up-to-date information on the forms considered as correct by the linguistic authorities in Basque terminology and lexicography respectively, but also those forms that have been rejected by them.

In consequence, IDITE also detects incorrect forms from both general lexicon and terminology, and when this occurs it automatically proposes the correct form for each case.

IDITE is used by several institutions where Basque is a working language, among which are provincial councils, the Basque Parliament, one of the main Basque publishers and Euskaltzaindia itself. The latest, Euskaltzaindia, chose IDITE to verify the compliance of texts with the rules prescribed by itself.

In order to evaluate the possible application of IDITE in terminometry as a complement to information systems like TEIS, a corpus of 1,000 entries was compiled from the Basque version of Wikipedia, which contained about 300,000 words. All the Wikipedia entries used corresponded to the scientific field and were classified in 10 sections: astronomy, biology, physics, geology, meteorology, computing, environment, chemistry, mathematics and statistics, and medicine.

This corpus was analyzed using IDITE, and as a result a total of 681 "incorrect" forms were identified for which IDITE proposed prescribed or recommended alternative forms. As mentioned above, the objective was not, in this case, to obtain implantation indexes, but to provide some complementary data of interest in the context of the terminometric evaluation, such as data related to the date on which each word was added or fixed in the lexicon.

This work was presented at the Ugarteburu Terminology Conference organized by the University of the Basque Country in 2013, so more information on this presentation (Zapirain 2013) can be found in the publication containing all the presentations of this Conference<sup>3</sup>.

<sup>3</sup> ZAPIRAIN, J. "IDITE, espezialitate-testuetan terminologia egiaztatzeko tresna". In ALBERDI, X., SALABURU, P. *Ugarteburu Terminologia Jardunaldiak (2013). Terminologia naturala eta terminologia planifikatua euskararen normalizazioari begira*. Bilbao: Publishing Service of the University of the Basque Country, 2013.

### Use of UZEI's automatic verifier for bilingual texts (2DITE) in terminometry

UZEI's previous trajectory in terminology implantation evaluation having been explained, the latest complementary session aimed at evaluating whether the UZEI automatic verifier for bilingual texts (2DITE) can also be used in terminometry will be presented.

UZEI created the automatic lexical verifier for bilingual texts 2DITE to meet its own needs, moving from single-language text analysis to bilingual text analysis.

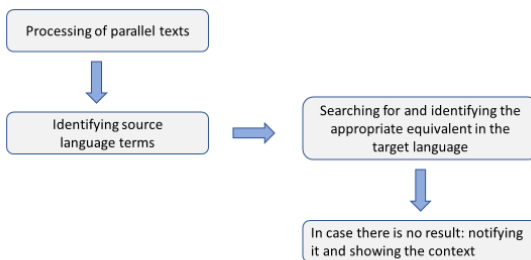
2DITE was initially created by UZEI in order to comply with our quality needs in bilingual texts, that is, to verify the proper use of the lexicon both in the case of material generated by us through translations and in the case of bilingual materials to be corrected or controlled by UZEI.

In 2018 UZEI carried out a diachronic test to find out if this automatic lexical verifier for bilingual texts could also be useful for evaluating terminology implantation. As will be explained later on, this test analyzed the evolution of terminological implantation in two corpora belonging to different periods and containing legal texts in Basque.

### About 2DITE

2DITE is a tool that uses as a reference resource a bilingual lexicon (which can be adapted to specific needs anytime) and analyses whether the general lexicon and the terminology contained in it are used accordingly in parallel texts. When the tool does not find in the target text the appropriate equivalent or equivalents collected in the bilingual lexicon, it displays a notice, showing the context where this inconsistency has been detected.

### 3. 2DITE



UZEI mostly uses 2DITE with Basque and Spanish as working languages, for three main reasons:

1. They are the languages UZEI most works with regarding translations, proofreading and general lexicon and terminology assessment. In our case, the majority of translations are carried out using Spanish as the source language and Basque as the target language.

2. As a consequence of the more standardized situation of Spanish, the level of coherence and the consistency of the lexicon are generally bigger in the case of Spanish texts than in Basque texts. Thus, using Spanish as the source language for automatically verifying the appropriate use of general lexicon and terminology in Basque is the most practical approach in our case.
3. Our tools for natural language processing such as our lemmatizers and analyzers have been created to be used with Spanish and Basque.

## Experimental use of 2DITE as a complementary tool for terminometry

### Corpora design and creation

Given the nature of the 2DITE tool, the corpora to be analyzed needed to have special features. Since the corpora had to be bilingual, the texts they comprised came from translations. On the one hand, this means that these corpora were subject to the characteristics and requirements of this type of text, but on the other hand, we considered it interesting to analyze the material generated in the translation sector since, after all, there are several areas in which the generation of texts in Basque language is mainly carried out by means of translations.

For this experimental diachronic test two corpora were compiled using legal and administrative texts: one of them was compiled using texts dating from the 1978-1994 interval, and the other corpus contained texts from the 2014-2018 interval.

Given that in this 25-year period Euskaltzaindia has dictated a large number of rules and a wide range of terminological standardization work in Basque has been carried out in the areas of law and administration, the objective pursued by analyzing these two corpora using 2DITE was to observe the evolution of both the rules dictated by Euskaltzaindia and the standardization of terminology in the areas of administration and law.

In order to be able to observe this evolution, the extent to which the terminology proposed at present is used in both corpora was analyzed, assuming that the different levels of implementation that we would logically find would be useful to obtain some clues based on which we would be able to analyze the result of the standardization effort carried out over the last 25 years.

As regards the size of both corpora, the corpus relating to the old texts consisted of 180,000 words, and the corpus containing new texts comprised 195,000 words. Therefore, both corpora contained a total of 375,000 words. Since it was an experimental approach, using corpora of such sizes was considered to be sufficient.

### Compilation of the bilingual lexicon

A bilingual lexicon was compiled containing terms from the legal-administrative field that had undergone some process of standardization. For this purpose, normalized/agreed terms from the legal and administrative sphere were collected from these sources:

1. Dictionaries from the legal-administrative field containing terminological recommendations by the Terminology Committee (such as dictionaries elaborated for areas like civil procedure, criminal procedure, civil registry, local administration, etc.).
2. The Basic Legal-Parliamentary Dictionary, published by Euskaltzaindia in 2017.
3. Decisions taken on terminology and phraseology by the Committee for the normalization of court forms of the Justice Department of the Basque Government.
4. Documentation of terminological decisions made by UZEI over the years.

The resulting bilingual lexicon was organized by concepts, indicating the synonymous forms used to designate each of the concepts, and contained a total of 3,249 concepts to which corresponded 5,212 Basque forms.

### Analysis of both corpora using 2DITE and results

The results obtained after analyzing both corpora using the reference lexicon were reviewed manually to disambiguate the results and to ensure that the computed occurrences of the terms present in the reference lexicon were relevant.

### Results from the 1978-1994 corpus

In this corpus a total of 19,469 occurrences were found, of which:

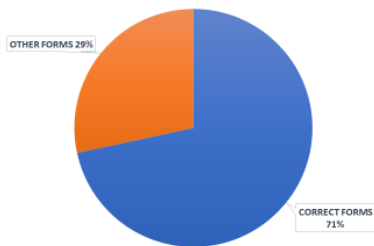
- 13,861 occurrences (71%) corresponded to correct Basque forms pertaining to 607 concepts.
- 5,608 (29%) corresponded to other Basque forms concerning 367 concepts.

## 3. 2DITE

### 1978 – 1994 corpus

- Correct forms:  
Occurrences: 13 861  
Concepts: 607
- Other forms:  
Occurrences: 5 608  
Concepts: 367

TOTAL OF OCCURRENCES: 19 469



### Results from the 2014-2018 corpus

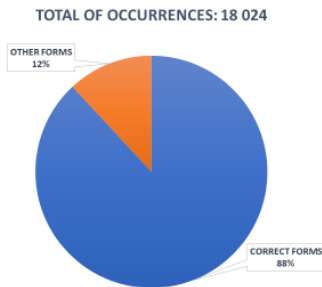
In this corpus a total of 18,024 occurrences were found, of which:

- 15,989 occurrences (88%) corresponded to correct Basque forms pertaining to 831 concepts.
- 2,035 (12%) corresponded to other Basque forms concerning 323 concepts.

## 3. 2DITE

### 2014 – 2018 corpus

- Correct forms:  
Occurrences: 15 989  
Concepts: 831
- Other forms:  
Occurrences: 2 035  
Concepts: 323



### Some specific examples





Focusing on the occurrences of the forms in Spanish that correspond to forms in Basque that are not those collected in the lexicon, a wide variety of cases can be observed:

- In the 1978-1994 corpus the cause is sometimes not lexical, but typographical errors due, surely, to the fact that at that time there was no possibility of using the current spelling and lexical correctors. Therefore, in those cases when the term corresponded to the form included in the reference lexicon, we have considered those occurrences as correct.
- In other cases, dubious equivalences between terms have been found; for example, the use of the term *bezera* (client) to indicate the concept *kontsumitzaile* (consumer).
- Cases have also been found where the form used does not conform to current general lexical standards; for example, compound nouns having *giza-* (meaning human), with a hyphen, as the first component.
- In other cases, there are forms that do not yet meet the criteria set at a later date for general lexicon; for example, the form *dekreto* (24%) appears instead of *dekretu* (76%), or the form *funtzionari* (49%) instead of *funtzionario* (51%).

### 3. 2DITE

**1978 – 1994 corpus**

- Forms that do not meet general lexicon criteria established later on:

- *dekreto* (24%) / *deketu* (76%) 
- *dirulaguntza* (30%) / *diru(-)laguntza* (70%) 
- *eraskin* (47%) / *eranskin* (53%) 
- *funtzionari* (49%) / *funtzionario* (51%) 

Many forms found in the corpus were standardized later on

Example: *funtzionario* (-ario, standardized in 1995)




In cases such as these, lexical forms were often standardized after the texts that make up this corpus were written (for example, forms ending in *-ario* such as that of *funtzionario* were standardized by Euskaltzaindia in 1995, through rule number 50).

- And, of course, there are also cases in which a concept is referred to by a broader variety of forms than the one currently agreed upon, i.e. forms that were used in the period 1978-1994 are observed which are not currently recommended or marked as a preferred form of use. For example, in the case of the concept pension the form *bizisari* (41%) is sometimes used instead of *pentsio* (59%), or the form *aldibaterako xedapen* (45%) instead of *xedapen iragankor* (55%) in the case of the concept *transitional provision*.

### 3. 2DITE

**1978 – 1994 corpus**

- Terminology standardization:  
in some cases, a larger variation is observed than that found nowadays

- *bizisari,...* (41%) / *pentsio* (59%) 
- *aldibaterako xedapen,...* (45%) / *xedapen iragankor* (55%) 
- *arduralari batzorde, eraentza batzorde,...* (51%) / *administrazio kontseilu* (49%) 

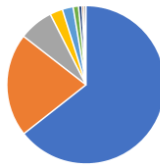
As can be seen in the following graph, in the 1978-1997 corpus the variation was extremely large in some cases. For example, the concept general budget, which was found 270 times, showed a great variety of forms, being the most used of them all *aurrekontu orokorrak*. This form, which is currently the normalized form, was used to refer to this concept in 64% of cases in the old corpus.

### 3. 2DITE

#### 1978 – 1994 corpus

- Terminology standardization: an example with an extremely large variation

- *aurrekontu orokorrak* (64%)
- *guztizko diruegitamuak* (21%)
- *diruegitamu nagusiak* (7%)
- *guztizko diru-egitamuak* (2.6%)
- *aurrekontu nagusiak* (2.2%)
- *guztizko aurrekontuak* (1.1%)
- *erabateko aurrekontuak* (0.7%)
- *guztizko diruizendapena* (0.4%)
- *orotariko diruegitamuak* (0.4%)



In the 2014-2018 corpus the cases in which the forms used differ from the recommended or preferred forms are logically less common. It should also be noted that in the new corpus far fewer typographical errors have been found, which is directly related to the fact that nowadays spelling and lexical correctors are available.

On the other hand, in the new corpus, forms that do not meet the criteria of general lexicon disappear as these criteria and norms are socialized. Consequently, forms such as *eraskin*, *dekreto* and *funtzionari* disappear completely and only correct forms such as *eranskin*, *dekretu* and *funtzionario* are found in this new corpus.

On the other hand, a significantly lower formal variation can be observed in this corpus, due to the standardization efforts made in the field of Basque terminology over the last few years. For example, it has been observed that, contrary to what happens in the old corpus, in the 2014-2018 corpus no incorrect or non-preferential forms such as *bizisari* and *aldibaterako xedapen* have been used to express the concepts of pension and transitory disposition, respectively.

Even in the case of greater dispersion in the old corpus (the one relating to the concept of *general budget*) it is observed that in the new corpus the standard form, *aurrekontu orokor*, has been used in 100% of the cases.

### 3. 2DITE

#### 2014 – 2018 corpus

- Terminology standardization: significantly less formal variation
  - *pentsio*, *xedapen iragankor* (100%)
  - *aurrekontu orokorrak* (100%)
- Anyway, there are divergencies in some cases
  - *falta (oso) larri* (46%) / *falta (oso) astun* (54%)
  - *gizarte-arloko epaitegi* (42%) / *lan-arloko epaitegi* (58%)



However, in some cases significant use of forms other than agreed or standardized terms has been observed. These "discouraged" forms may be assumed to persist by inertia, as a consequence of having been used in recent years. For example, forms such as *falta larri* and *falta oso larri* continue to be used in 46% of cases rather than the recommended forms *falta astun* and *falta oso astun*, respectively. The same occurs in the case of the "discouraged" form *gizarte-arloko epaitegi*, which continues to appear in 42% of the cases in the new corpus to designate the concept of social court as opposed to the recommended form *lan-arloko epaitegi*, used in 58% of the cases.

As a general appreciation, and taking into account the implantation levels described, we can draw the conclusion that a logical evolution is observed which we already predicted before carrying out the present experimental diachronic test: the basic terminology in Basque created in the period in which this was necessary to be able to structure the government and to write the first legal texts was normalized as these activities were carried out increasingly in Basque. Consequently, the terminology in Basque relating to these areas was progressively extended and standardized.

As lexical prescriptions and terminological recommendations have been made, the actual use of the terms has been updated and adapted accordingly from an implementation level of 71% in the 1978-1994 corpus to an implementation level of 88% in the 2014-2018 corpus.

With regard to the contribution of UZEI, it has been seen that 2DITE could be a useful complementary tool for terminometry (provided that bilingual texts are available), since:

- It quantifies the occurrences in the studied corpus of both recommended and non-recommended forms.
- It places these forms in context, thus facilitating disambiguation.
- It indicates which the recommended form is in case the form used is different from this one.



## Looking to the future

It is clear that terminometry research is strategic for the institutions responsible for dictating lexical rules, recommending terms and standardizing terminology.

Regarding Basque terminology, systematic terminometric research is called to be the next logical phase of language planning, since this will make it possible to know the level of implementation and success achieved by the terms recommended by the Terminology Committee. Fortunately, the Basque Government has shown its willingness to carry out initiatives in this field in the near future.

Such systematic terminometric research would be a major step forward for all those involved in terminological standardization. And, in the light of the results of this initiative, it would be possible for us to gradually adapt and improve the terminological proposals for Basque.

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## The How and the What of Terminological Implantation Efforts: What to Take into Account

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### Abstract

Although terminological planning efforts have been undertaken for several decades, there has not been a similar corresponding effort in assessing the real-world effects of these planning efforts. This article argues that while the rigorous protocol proposed by Quirion (2000) is highly useful, it nonetheless requires some modification to allow for the better appreciation of the effects of terminological planning efforts. These modifications concern the type of documents that constitute the documentary corpus, the role of biases in the creation of the terminological corpus as well as the modification of the manner in which relative use of terms is assessed. This article then closes by defending the value of examining generalist and specialised dictionaries in assessing the success of terminological planning efforts.

**Keywords:** Terminology, Lexicology, Terminological planning, Lexicometry, Terminometry

### 1. Introduction

Few countries who have undertaken measures like those the French have to defend their language from what is perceived, in some circles, to be an invasion of French by American culture and the English language (see Étiemble 1964, 1966). One particular element of the French effort to defend their language from the influence of English concerns terminology, and centres around the Government sponsored effort to stimulate the development and use of French technical terms. This effort began in the 1970s and continues to this day and is centred on the recommendation of the use of French equivalents to English terminology. Rather than taking, for example, the English verb *to download* – opaque to the uninitiated – and giving it the *-er* flexion of a regular verb to create *downloader*, or simply borrowing the English *streaming*, the France's official terminological planning efforts favour the use of terms whose meaning is compositional and which are thus more transparent to the uninitiated, such as *télécharger* and *en flux* in the case of *to download* and *streaming*. This terminological planning thus seeks to ensure that regardless of their knowledge of English, French speakers can denote technical concepts with terms they understand.

Despite the fact that the use of specific terms from numerous domains of scientific inquiry has been recommended for nearly 50 years in France, there has not been a corresponding effort devoted to the rigorous study of the real-world effects of these terminological development efforts. This leaves unanswered the question of whether the terms recommended by language planning bodies are actually used in real-world situations, or whether this is language planners' attempt "To guard the avenues of their languages, to retain fugitives and repulse intruders" that Johnson equates to "lash[ing] the wind, [an] undertaking[...] of pride, unwilling to measure its desires by its strength" (Johnson [1755]: 4)

There are, nonetheless, some points of reference in the literature when it comes to assessing the influence of terminological planning efforts, with the earliest dating from the 1970s in Israel (Allony-Fainberg 1974, 1983), the 1980s in Canada (see Quirion 2000: 64-73, 88-93) and the 1990s in both Canada and France (see Quirion 2000: 73-88, Renwick 2018: 68-69) sought to cast light on the impact of legislation put in place to ensure that French played a future in the part of these countries. While these studies were successful in identifying numerous terminological, socioterminological and procedural factors influencing uptake in real world situations of recommended terms, the shortcomings of these studies are exemplified by one key finding from Fugger (1979), which demonstrated that even though the vast majority of those surveyed supported the official effort to support the status, use and development of French terminology, the majority of those surveyed voiced a clear preference to reserve the right to decide, on a case-by-case basis, whether they would actually use the recommended terms in their everyday lives (Fugger 1979: 168-9). In doing so, Fugger highlights the fundamental distinctions between language attitude and language use, as well as between reported use and actual use. To remedy these concerns and accurately gauge the extent to which terminological planning leads to terminological implantation, corpus-based studies are thus necessary.

## 2. Quirion's protocol

This fundamental distinction between attitude towards linguistic production and linguistic production itself formed one of the key bases to Quirion's method of assessing terminological implantation (developed in Quirion 2000, published in Quirion 2003a in French and in Quirion 2003b in English). Quirion sought to develop a scientifically rigorous framework that would allow for the objective analysis of linguistic production, by placing repeatability at the heart of the question of the analysis of the extent of use of a given term. Just as physics, oft seen as a paragon of scientific repeatability, designs experiments that different teams of researchers can replicate in different labs around the world to examine, for example, the effect of gravity on falling objects, Quirion's protocol lays out the framework for how different teams of researchers can carry out repeatable and reliable analyses to determine whether certain terms are actually used in genuine acts of discourse to designate specific concepts and proposed a scale against which implantation can be judged by means of an implantation coefficient (hereinafter, IC). The IC is the calculation of the frequency of use of a given term relative to the other designations of the same concept. Suppose that the adapted borrowing *magnétar*<sup>1</sup> is attested 44 times in a corpus, while the competing term *magnétoile*<sup>2</sup> is attested 6 times. Quirion's IC tells us that, as the concept is evoked 50 times in total and since the term *magnétar* is used in 44 of those 50 cases, this term has an IC of 0.88, meaning that it is used in 88% of possible cases, whereas the competing term *magnétoile* is used in only 12% of possible cases. The IC thus gives us a

<sup>1</sup> The English term *magnetar* is a blend of *magnetic* and *star* denotes a type of neutron star with an extremely powerful magnetic field. The acute accent from the French adjective *magnétique* (magnetic) is conserved in the analogous, but not recommended French blend, *magnétique + star*.

<sup>2</sup> *Magnétoile*, the recommended equivalent of *magnetar*, is a blend of *magnétique* (magnetic) and *étoile* (star).

measure of the relative use of terms and is vastly more valuable than the quasi-meaningless absolute frequency value (Quirion 2000: 115, McEnery and Wilson 1996: 82-3).

### 3. Classification within Quirion's protocol

More than a dozen studies have used either the IC or its underlying idea of comparing the relative use of denominations of a given concept to ensure accuracy and reliability: Quirion (2000, 2011), Quirion et Lanthier (2006), Montané and Cabré (2007, 2013a,b), Karabacak (2009), Montané (2012, 2016), Cabré and Candel (2013), Saint (2013), Renwick (2015, 2018), Roy (2015), Dury and Picton (2016). To further aid the assessment of implantation, Montané and Cabré proposed and later developed (Montané 2007:16, Montané and Cabré 2013a, b) a method of grouping terms of similar ICs. The first group, *High*, contains those terms fully or highly implanted, those with an IC of over 0.75; a second division, *Intermediate*, contains those terms with an IC between 0.25 and 0.75, this implantation being classed as middling, neither completely successful nor failed. Finally, the third division, *Low*, contains those terms judged to be very little or not at all implanted, due to their ICs less than 0.25. Although the Medium category somewhat arbitrarily encompasses the middle half of the IC values, this is not, however, problematic as the data in existing implantation studies globally follow a U-shaped curve with only a small number of terms being attributed ICs in this range. According to this division, for a corpus, suppose we gathered the following results.

	High	Intermediate	Low
Number	48	13	45
Percentage	45%	13%	42%

As the table above shows, this method has the disadvantage that it implicitly refers to the number of concepts evoked in the corpus, rather than the number of concepts whose designations were searched for, which complicates the comparison of data between corpora as it is uncertain whether the data presented are based in a large number of concepts or not. It is thus highly instructive to modify the proposed classification by taking this into account, by adding three additional groups to the divisions proposed by Montané and Cabré. The first two consist in determining the percentage of cases in which terms are assigned an IC of 1 and 0 respectively, and the final groups consists in calculating the percentage of concepts for which no designation is found in the corpus, as can be seen in the table below.

	High	Medium	Low	IC = 1	IC = 0	ABS
Number	48	13	45	39	35	76
Percentage of all concepts (n=181)	27%	7%	25%	22%	19%	42%

Adding these elements to Montané and Cabré's scale allows for the appreciation of the extent to which the overall data are reliable and comparable to other corpora, as we can compare the percentage of concepts which are evoked and thus gauge whether any conclusions are based on a small number of concepts or the majority of those under consideration and whether the data are reliable for any generalisations. Additionally, in quantifying the number of cases where usage of a given term is unanimous or entirely absent, these values allow the researcher to determine in what proportion of the terms in the *High* and *Low* categories there is actual competition between designations of a single concept, for example, 6%, or 9 designations in the *High* category actually show competition between terms as the remaining 39 terms attributed a *High* IC have a CI of 1. Furthermore, this also facilitates the calculation of the number of concepts for which actual terminological competition exists, as the results can easily be calculated for the *High* category (9 concepts), *Medium* (13 concepts) and *Low* (10) categories to yield a total of 32 concepts (18%) denoted by more than one term. Finally, the addition of the ABS category, which represents those concepts for which all designations are absent, allows us to better gauge the extent to which there is a definite need for a denomination of the concepts in question.

#### 4. Implantation coefficients and texts

Despite its usefulness, the IC is not a perfect tool, it has two fundamental drawbacks. The first of these is that the IC functions at the level of a corpus and does not take account of the number of texts in which given designations appear, despite the fact that this number is highly informative in assessing the extent to which a terminological planning effort has succeeded or not. Suppose that term A is used 100 times in 1 text, term B is used 100 times in each of 5 texts, and that term C is used 20 times in 5 texts, with no competing designations being found for any of terms A, B or C. As such, each term will be calculated to have an IC of 1.0. However, the greater number of texts using B, as well as the greater number of occurrences of B, provide more reliable evidence of the fact that B is more widely used than are terms A and C. Furthermore, the IC makes no distinction between the 100 occurrences of terms A and C, despite the data for term C showing a more general tendency of individual authors' idiolects to form and represent an overall sociolect, whereas the use of term A by a single author provides no additional context as to the relationship between the particular author's idiolect and the overall sociolect that terminological planning seeks to modify.

#### 5. Implantation coefficients and concepts

Determining the extent of terminological implantation is also rendered more difficult due to the fact that the IC is calculated independently of the frequency at which concepts are evoked in corpora and constitutes the second drawback to the assessment of terminological implantation by the calculation of ICs alone: the IC fails to provide a way to differentiate cases such as those of terms A, B and C as mentioned above, as well as in the case of terms D and E. Suppose term D was used in 765 out of 789 possible cases (IC = 0.97), whereas term E was used in two of two possible cases (IC = 1.0). The data show that there exists a near-unanimous trend towards the use of Term D because the vastly superior number of cases where this concept is evoked

required authors to designate the concept with their preferred term, thereby giving a much larger, representative and reliable sample than do the two occurrences of term E, but the IC does not take this difference into account.

While it may be tempting to simply resort to ever-larger corpora to increase the number of cases where the concepts chosen for study could be evoked in order to increase the reliability of the sample, data from existing implantation studies show that the percentage of concepts evoked in corpora is highly variable, ranging from 45% to 100% (Renwick 2018: 138-9). This is necessarily due, at least in part, to the fact that corpora are finite samples of possible linguistic production which may, but not necessarily will, contain evocations of a particular number of concepts. The number of concepts whose designations are actually attested in a corpus also depends on the language planners' accurate assessment of the concepts that require denominations, because the planners must judge that authors will actually need to evoke a given concept before the planners can recommend a particular denomination of this concept. This reinforces the usefulness of the *ABS* category when assessing terminological implantation in corpora, as it provides an upper bound on the accurate judgement of the language planners in their assessment of whether concepts actually require denominations.

## 6. The documentary corpus

Quirion's protocol requires the compilation of a documentary corpus, the corpus of texts in which implantation will be examined and Quirion argues that to accurately assess the success or failure of terminological planning efforts, it is necessary to look at the type of text which the governing legislation designates as the linguistic use that is to be modified. To do so, Quirion borrows the term *institutional texts* from Corbeil (1980), who used it to contrast cases where authors write not as individuals, but on behalf of a group, association, government, school, etc., to denote the type of texts that should be examined. Further, Quirion requires the examination of all texts meeting the criteria in order to eliminate any bias on the part of the researcher. In our most recent study of the implantation of French recommended terms in the domain of space science and technology (Renwick 2018), we constructed and examined corpora on the lines that Quirion recommends, notably a corpus of general press articles (approximately 35 million words of French from two wide circulation generalist newspapers over the course of a year), as well as corpora of texts from scientific institutions, such as the French National Space Centre (*Centre national d'études spatiales, CNES*), the French National Scientific Research Centre (*Centre national de recherche scientifique, CNRS*), and a French company that manufactures and launches rockets (2 million words), as well as a corpus of popular science magazines (10 million words) from *Pour la Science* and *La Recherche*, French language magazines similar to *New Scientist* and *Scientific American*. The use of these corpora was further justified by the fact that, while French terminological planning efforts require the use of the recommended terms only in some specific circumstances relating to public servants in the course of their official duties, the use of these same terms is recommended to all. The planning process considers its target audience to be the informed citizen who could come across technical terms from specialised domains in everyday life, and that the recommended terms allowing these informed citizens to better understand scientific and technical innovations and processes than would the competing English designations.

Examining our corpora revealed that, in the corpus of generalist newspaper articles, recommended terms were rare, with an average of 12 recommended terms being attested per million words. The number of concepts (32 of 181) evoked was similarly low, 0.28 per million words. Thus, if the general press is the everyday language that French terminological recommendations seek to modify, it seems the target is ill-chosen, as the corpus shows there is in fact little need to denote the concepts in the field of space science and technology in this type of discourse, and where there is a need, the recommended terms are used in only 28% of possible cases (Renwick 2018: 249). Whether this is the case for other domains is uncertain, due to the absence of studies on similar corpora with terms from different domains.

As concerns the corpus of institutional reports, this was much richer in information, as the relative frequency of occurrences was much higher (219 occurrences per million words), and these texts involved a greater number of concepts (37 of 181), despite the corpus being vastly smaller in terms of overall number of tokens (2 million words). In this corpus, a real need to denote the concepts in question was demonstrated, but the recommended terms were used in only 49% of cases (Renwick 2018: 251).

Finally, the corpus of popular science articles was even richer again in the information it contained on the implantation of terms denoting the concepts defined in recommendations, with over 2,000 occurrences of the terms denoting 71 of the 181 concepts denoted in the terminological corpus (the competing designations of the concepts defined in recommendations), more than 222 occurrences per million words. As such, it is clear that this type of discourse is an abundant source of information on the extent to which competing designations of concepts are actually used. The results of our analyses of this corpus are less positive for France's terminological planning efforts, as we showed that the recommended terms are used in only 39% of possible cases, meaning that in more than 6 out of 10 cases, authors had the option of using a recommended term, but did not. Analysis of a smaller diachronic corpus created according to the same process but containing texts published between 1994 and 1996 yielded an IC of 0.79. While this does indicate a significant shift away from the use of recommended terms in the intervening two decades, this conclusion must be tempered by the fact that the diachronic corpus embodies the weaknesses discussed above, namely that the number of concepts for which data is available is lower, and that it is not only based on fewer occurrences but also on fewer texts.

## 7. Extending the scope of the documentary corpus

While recourse to institutional texts does allow for the analysis of what terms are actually used, rather than what people declare that they would use, the limitation to institutional texts places too great a limit on the type of linguistic production that can be examined. Firstly, institutional texts increase the difficulty of the implantation analysis, because although some institutions, such as the French National Scientific Research Center, or the American National Science Foundation, may not be dedicated to a specific field of scientific inquiry, many institutions are highly likely to use terminology only from specific fields in their written productions that can be used to constitute a corpus. For example, in publishing its official reports, the French National Space Center is obviously highly likely to denote concepts belonging to the domain of space sci-



ence and technology but is similarly unlikely to denote a similar variety of concepts in the fields of finance or oil drilling. As such, the researcher will have to expend more effort in constituting the documentary corpus if it is to be useful for studying the implantation of terms from multiple domains. Further, although it does provide vital information about which designations used to denote which concepts, the inclusion of institutional texts alone also complicates the task for the researcher examining terminological implantation as the number of relevant institutions and their respective productions will vary between domains. This will, in turn, complicate the comparison of the extent to which terms in different domains are implanted as the reliability of the samples gathered will not be constant.

Secondly, by avoiding works where authors publish as individuals, swathes of linguistic production where terminology planning efforts may have influenced real-world usage are left unassessed, most notably in the writings of the scientists, technicians, engineers and experts who have a particular need to denote the technical concepts of their fields in their daily workings. Although such writings fall outside of the strict scope of the legislation put in place in France, and as noted above, are only recommendations, examining the use of the recommended terms and their competing designations in the case where authors are free to choose between them is also entirely legitimate as well as being highly informative of the influence of language planning efforts on those with the greatest need to denote the concepts in question.

In addition to assessing the implantation of recommended terms in the types of corpus Quirion's protocol describes, we sought to determine whether the recommended terms were actually used in French scientific writings. However, due to the paucity of scientific articles published in French, we turned to doctoral theses due to their large number and their availability in the [French national thesis repository](#). Through the use of keywords, many thousands of theses in domains relevant to space science and technology (such as astronomy, astrophysics, planetary science, remote sensing, cosmology, exobiology, etc...) are available in French in digital format. Utilising this resource, we created a corpus of some 20 million words of highly specialised discourse which enabled us to determine which recommended terms were used to denote which concepts by specialists in their respective fields, and due to the large number of authors (360), we were able to more reliably identify general tendencies, principal among which was that the recommended terms are rarely used in this type of text, in some 30% of possible cases. The designations that were preferred in this corpus show a strong formal similarity to English terms (Renwick 2018: 178). Only in specific cases did usage and recommendation actually coincide, but this was due to the fact that the recommended terms were not in fact new coinages by the French terminology commissions, rather the usages continued an already existing usage of a term which has been given the status of *recommended term* after its initial use as the designation of a given concept.

Carrying out this analysis was possible without abandoning the objective process of corpus compilation that is at the heart of Quirion's protocol for assessing terminological implantation, because the corpus was created following a set of rules that preclude any bias on the part of the researcher. Examples of these rules were to include all the theses available for which the subject of the thesis in the database is a domain in the record of a recommended term, as well as including those theses which contain a recommended term or a competing term in their title or abstract. By following these rules, future researchers will be able to compile the same corpus

and reach the same conclusions. However, by going beyond Quirion's requirement that only institutional texts be examined, it was possible to gain a better appreciation of the implantation of terms in a different type of text from a different type of author. Most obviously, it was possible to determine the extent to which specific terms were present or absent in the writings of a new generation of scientists who carried out their research long after the French government had set in place its terminological planning apparatus. Whether or not specific terms were employed, we gained information that contributed to the understanding of whether the recommendation of terms actually conditions their usage, because there were further cases in which it was possible to determine whether usage preceded recommendation or whether recommendation preceded usage. The large number of authors also enhances the reliability of the results, as with larger numbers of authors, the particularities of idiolects merge into sociolect.

Analysing the use of recommended terms in specialised corpora also helps determine whether the terms in question gain an acceptance by the scientists and technicians most likely to need to designate the concepts in question, and due to their position as experts in specific fields of knowledge, engender their use in popular science magazines. Even though the corpus of doctoral theses was, by design, limited to a specific domain and comprised some 20 million words, the number of concepts (73 of 181) evoked was in fact similar to that in the corpus of popular science magazines (71 of 181) albeit that the latter corpus was half the size of the former. Consulting corpora of doctoral theses does also have the disadvantage that the authors, for entirely justifiable reasons, showed little if any terminological variation within a text, preferring to adopt a biunivocal relationship between term and concept throughout a text. The one exception to this was the entirely justifiable explicitation of cases where other authors had previously used certain specific terms to denote certain concepts but noting that such terms would not be used. Corpora of doctoral theses thus allow the researcher to determine the extent to which authors prefer certain terms over others, but much less the analysis of any possible synonymy between potentially competing designations. This reinforces our finding (Renwick 2018: 255-6) that popular science magazines constitute an excellent type of text in which to examine implantation due to these magazines not being domain-specific like some institutional reports while also providing ample opportunity for technical concepts to be evoked.

In his conclusion, Quirion (2000: 256) rightly notes that his synchronic study does not allow for the determination of the existence of a causal link between terminological recommendations and attested usage, for such a causal link can only be shown by diachronic studies. However, as Quirion also notes (2000: 256), existing studies based on his protocol can serve as part of future diachronic studies, which are becoming ever-more feasible and probing thanks not only to the development of novel digital content that can form part of the documentary corpus, but also thanks to archiving and digitisation efforts rendering existing texts more readily available to the researcher.

## 8. The terminological corpus

While Quirion stresses the importance of objectivity in the creation of a documentary corpus, as noted above, the same emphasis is not placed on the importance of objectivity in the creation of the terminological corpus – the competing designations of a group of concepts – despite the fact that these are both critical elements of an implantation study. In several implantation

studies, such as those of Gaudin and Guespin (1997: 97), Chansou (1997: 38), Rouges-Martinez (1997: 101), Gouadec (1997: 242-3), and Auger (1999: 34) an objective compilation of the terminological corpora is abandoned, with Chansou (1997: 138) judging that “This group of [241] terms appears to us to be too vast and too heterogenous to allow for its use in our study,”<sup>3</sup> with Chansou (1997: 138) as well Gaudin et Guespin (1997: 7) simply supposing that formally identical term will be implanted and Martin (1998: 54) going so far as to acknowledge that “It is clear that we have attempted to select terms we believe will be frequently used.”<sup>4</sup> As a consequence of the biases these authors introduced into the choice of their terminological corpus, these implantation studies are of questionable value overall and comparing their findings is problematic. Primarily, the data regarding the number of concepts evoked is likely misleading but the fact that the authors’ choices clearly influenced the results render these studies difficult to repeat, due to the inherently subjective nature of the opinions about which terms are most likely to be employed in a given corpus, or just when a corpus becomes too heterogenous to allow for its use in a given study.

Furthermore, the question has legitimately been raised as to whether implantation studies should exclude terms that existed prior to gaining the status of official terms, for example, Martin (1998: 51-2) writes that “Any term that constitutes an official recognition of an already established usage is of little interest for the study of the role of creating *official* terms in the process of terminological implantation, as it does not imply the existence of terminological competition and it already forms part of established use.”<sup>5</sup> However, the implied non-existence of terminological competition does not mean there is none, and it is equally possible that semantic shifts have taken place leading to a change in the term used to denote a given concept. Presupposing that such competition is non-existent and therefore such terms should be excluded rules out the possibility of determining whether any such change has taken place or whether the initial assumptions of non-existent terminological competition and use of the terms in question are even correct. Quirion’s protocol thus needs further modification to stipulate an unbiased manner of determining the extent of the terminological corpus. One possible way of implementing this is to examine the implantation of all recommended terms in a chosen domain, or, if this is not feasible, to limit the terminological corpus to terms recommended between specific dates, as these preclude the types of bias introduced in the abovementioned studies.

## 9. Going beyond corpora

Quirion (2000: 99-100) writes that “Although it is interesting to verify the presence of officialised [...] terminology in general and specialised dictionaries, we believe that the latter should not

<sup>3</sup> “Cet ensemble de [241] termes nous est apparu à la fois trop vaste et trop peu homogène pour que nous puissions l’utiliser dans notre recherche.” Our translation.

<sup>4</sup> “Il est évident que nous avons tenté de retenir des termes dont nous croyons que la fréquence d’emploi était élevée.” Our translation.

<sup>5</sup> “Tout terme qui constitue une reconnaissance officielle d’un usage déjà établi ne présente guère d’intérêt pour l’étude du rôle de l’officialisation terminologique dans le processus de l’implantation d’un terme, puisqu’il n’implique pas de situation de concurrence terminologique et qu’il fait partie de l’usage.” Our translation.

form part of a corpus study. General lexicographical works seek to reflect general language [...] What can be said if an official term appears and a competing term does not? Perhaps there is an attempt to influence usage, and thereby a lexicographical bias, rather than an exact description of the reality of usage. Perhaps the official term is indeed the only one to be used. Perhaps the corpora used to compile the dictionary indicate it being only slightly more used than another, and, given editorial constraints, the editor chose to include only the most frequent. Other hypotheses can also be proffered. What it is important to note is that the implantation of a term cannot be concluded based on its simple presence or absence from a dictionary<sup>6</sup>."

Whilst Quirion is indeed right that the implantation of a single term cannot be determined solely on its presence or absence in a single dictionary, foregoing this analysis excludes data that actually informs on the global usage of terms as well as the possible vectors influencing the usage attested in corpora. Although the presence of a single term in a dictionary is not particularly revealing, given a large terminological corpus, the presence or absence of a large number of terms provides information on several fronts.

Firstly, it can help to confirm or disprove whether any editorial bias is present; by not carrying out any analysis based on dictionaries, Quirion can only suppose that a bias may exist. Secondly, the presence of terms in dictionaries also allows us to gather information that supports both the undertaking of the implantation study itself as well as its conclusions. The data that support the implantation study itself are the additional designations of the concepts in the terminological corpus that may be present in dictionaries. If absent from the terminological corpus, these designations can then be added to it to create a feedback loop which ultimately makes the study more reliable as it can increase the number of designations of the concepts under consideration. The data that support the conclusions of the study take several forms. Firstly, data relating to the date of first attestation of a term allow for the documentation of possibly unknown cases where a term's existence prior to its recommendation can be shown. Secondly, the analyses of successive editions of dictionaries can show any changing attitude towards the recommended terms, as well as which designations, if any, are present, accompanied by additional notes about which forms are recommended or archaic, which are headwords, and which merit cross-references to competing designations, as well as which are unacknowledged in dictionaries. These various data points are of value to the researcher in the case of both specialised and general lexical resources, as analysis of the relationship between term and concept can be gleaned from the appreciation, by the editors of such lexical inventories, of the need for certain information to be present for the target audience.

<sup>6</sup> *"Bien qu'il soit intéressant de vérifier la présence de la terminologie officialisée [...] dans des dictionnaires de langue générale et spécialisée, nous croyons que ces derniers ne devraient pas faire partie d'un corpus d'enquête. Les ouvrages lexicographiques généraux se veulent un reflet de la langue générale [...] Que conclure si le terme officiel y figure, et pas son concurrent ? Peut-être cherche-t-on à orienter l'usage, et il y aurait alors parti pris lexicographique plutôt que description exacte de la réalité. Peut-être encore est-ce que le terme officiel est réellement le seul à être utilisée. Peut-être est-ce que les corpus utilisés pour confectionner le dictionnaire le donnent légèrement plus utilisé que le concurrent et que, contrainte de nomenclature oblige, le rédacteur a choisi de faire figurer le plus fréquent. D'autres hypothèses pourraient encore être avancées. Ce qu'il importe de retenir, c'est qu'on ne peut pas conclure sur l'implantation d'un terme par sa présence ou son absence dans un ouvrage dictionnaire."* Our translation.

Whilst it can be argued that certain technical terms might not belong in general purpose dictionaries, the consultation of the general as well as specialised dictionaries also provide two valuable points of reference in assessing the success of terminological planning efforts. Firstly, the researcher is afforded a further analysis of the extent to which people (be they experts in a particular technical field or not) need to denote certain concepts or need the link between term and concept to be rendered explicit. When carried out with a variety of lexical resources, this analysis allows the researcher to assess the accuracy of the language planners' judgement that certain concepts actually need recommended designations. This can, in turn, be used to aid the language planning process, by indicating that certain hitherto unconsidered concepts which are evoked in corpora alone might be in need of recommended designations. Secondly, the consultation of specialised and generalist dictionaries allows the researcher to determine the role these works play in the diffusion and use of the terms attested in corpora because the researcher can correlate the presence of certain terms in dictionaries to their presence in corpora while ruling out the influence dictionaries might play in cases where terms are present in corpora but absent from dictionaries.

Furthermore, if the presence of recommended terms in dictionaries is examined, it will also be possible to document cases where definitions diverge, either between dictionaries or between the dictionaries and the definition of the recommended term itself. Such differences can provide the basis for changes that could be made to the planning process, as was the case for two terms in the domain of space science and technology in 2015, where a generalist dictionary failed to make clear that protuberance solaire (solar prominence) and filament solaire (solar filament) are actually the same physical phenomenon, despite the concepts they denote differing by the background against which the phenomenon is observed (DGLFLF 2016: 20). If terms are systematically absent from dictionaries, it will be possible to modify the process to ensure dictionary editors better informed about the recommended terms and terminological planning activities.

Thus while the consultation of specialised and general dictionaries does not provide the same unequivocal evidence of which terms are used and which are not that can be found in corpora, the consultation of these lexical inventories nonetheless contribute to the accuracy of the corpus based study as well as offering information that form part of the explanation of the trends observed in corpora.

## CONCLUSION

Quirion's protocol is a major step forward in reliably assessing the influence of terminological planning efforts and has rightly been adopted by numerous researchers. As has been demonstrated, however, this protocol is in need of the modifications outlined in order to provide a deeper understanding of term use in real world situations, and the relationship between this use and recommendations. Whilst comparing the implantation of terms in corpora can provide great insight into the effectiveness of terminological planning efforts, the success of these efforts can be better understood if lexicological resources are also examined, due to their potential role as terminological vectors. The consultation of dictionaries thus plays an explanatory role in assessing the evidence gathered from corpora, as well as a descriptive role through

the demonstration of the link between term and concept judged to be worthy of inclusion in a given dictionary. However, to reliably make the conclusion that terminological planning efforts actually condition the use of certain terms, diachronic studies applying the abovementioned modifications to Quirion's protocol are necessary, for such studies alone can reliably determine that terminological planning efforts have led to changes in which terms denote which concepts.

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## Mesurer l'usage des noms de métiers au féminin : méthode et finalités du projet NEONAUTE

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Au-delà des polémiques que suscite la question de la « féminisation » des noms de métiers s'exprime une revendication forte : avoir la possibilité de désigner les professions des femmes – réalité du monde expérientiel – par des formes de genre féminin pour les êtres animés, c'est-à-dire par une catégorie grammaticale dans un système linguistique. C'est l'adéquation entre les deux – le monde et sa représentation, le système linguistique – qui peut garantir aux femmes une visibilité à travers la langue, dans l'espace public et le monde du travail.

Il était donc nécessaire d'évaluer, aujourd'hui en France, la politique d'aménagement linguistique, mais aussi de prendre la mesure des évolutions. Pour cela il fallait disposer d'un corpus vaste.

C'est dans cette perspective que s'inscrit le projet Neonaute (2017-2018) par la Délégation Générale à la Langue Française et aux Langues de France dans le cadre de l'appel à projet 2017 « Langues et Numérique ». Il s'agit d'élaborer un moteur de recherche pour suivre l'implantation des néologismes à partir des collections du dépôt légal du Web (Bibliothèque nationale de France). Ce projet permet de réaliser des études ciblées sur la néologie générale, la terminologie, et sur la féminisation des noms de métiers, titres, grades et fonctions.

Après un bref retour sur les objectifs scientifiques du projet, nous reviendrons sur les critères retenus pour élaborer une première liste masculin/féminin (2624 entrées au masculin), puis les suivantes, réduites aux formes prioritaires (313), puis à 20 formes traitées individuellement. L'exploitation concrète de la plateforme à partir de juin 2018 ayant rendu nécessaire l'élaboration d'une fiche terminologique par terme au féminin, on en exposera les critères de présentation (synchronie/diachronie/contextes d'emplois), ainsi que les difficultés techniques rencontrées. Enfin, on présentera les dernières fiches actualisées avec les calculs d'occurrence et la fréquence d'emploi.



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