TERM PLANING MODELS AND THE CATALAN CASE

Úna Bhreathnach[*]

Abstract

This paper introduces the framework of term planning in the context of language planning, which is a vital activity in all languages and is becoming increasingly important.

Several examples of term planning in different languages are given, and some of their weaknesses highlighted. A model of term planning is set out, based on the literature and on three cases which have been studied in detail by the author. These three cases are TERMCAT (the term planning organisation for Catalan), Terminologicentrum TNC (the term planning organisation for Swedish) and the Irish-language term planning organisations, principally the Terminology Committee (Forasn a Gaeilge) and Fiontar, Dublin City University. The term planning model covers planning, research, standardisation, dissemination, evaluation and training, all of which contribute to the most important aspect, term implantation.

Three interesting aspects of the TERMCAT approach are described: term standardisation, term dissemination and evaluation, particularly of implantation. These three aspects show how much can be learned from term planning in practice. While standardisation *has* been studied extensively, the way in which the theory has been put into practice for Catalan is noteworthy. Although dissemination (in the sense both of publication and of marketing and awareness-raising about term resources) is essential for term implantation, it is hardly discussed in the literature, and the Catalan approach, particularly the *Antena de Terminologia*, could provide inspiration for other organisations. Finally, the comprehensive, systematic, approach to evaluation taken by TERMCAT allows for continuous improvement – and illustrates, again, the importance and challenges of term implantation.

MODELS DE PLANIFICACIÓ TERMINOLÒGICA I EL CAS CATALÀ

Resum

Aquest treball presenta el marc de la planificació terminològica en el context de la planificació lingüística, activitat vital per a totes les llengües i que esdevé cada vegada més important.

S´ofereixen diversos exemples de la planificació terminològica en distintes llengües, i es recalquen algunes de les seves febleses. Es planteja un model de planificació terminològica, basat en la bibliografia i en tres casos que l´autora ha estudiat en detall. Aquests tres casos són el TERMCAT (l´organització de la planificació terminològica per al català), el Terminologicentrum TNC (l´organització de la planificació terminològica per al suec) i les organitzacions de planificació terminològica per a la llengua irlandesa, principalment el Comitè Terminològic (Forasna Gaeilge) i Fiontar, Universitat de la Ciutat de Dublín. El model de planificació terminològica cobreix la planificació, la investigació, la normalització, la difusió, l'avaluació i la formació, tots els quals contribueixen a l´aspecte més important, la implantació terminològica.

Es descriuen tres aspectos interessants del plantejament del TERMCAT: la normalització terminològica, la difusió i l´avaluació, particularment de la implantació. Aquests tres aspectes mostren quant es pot aprendre per mitjà de la pràctica de la planificació terminològica. Tot i que la normalització s´ha estudiat extensament, crida l´atenció la forma en què s´ha portat la teoria a la pràctica en el cas del català. Encara que la difusió (tant en el sentit de la publicació com pel que fa al màrqueting i a la conscienciació sobre els recursos terminològics) és essencial per a la implantació terminològica, amb proa feines es comenta a la bibliografia, i l´enfocament català, particularment l´Antena de Terminologia, podria servir d´inspiració per a altres organitzacions. Per últim, el plantejament global i sistemàtic de cara a l´avaluació adoptat pel TERMCAT permet una millota contínua, i il·lustra, un cop més, la importància i els reptes de la implantació terminològica.

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[*]Úna Bhreathnach, Fiontar, Dublin City University, una.bhreathnach@dcu.ie

Summary

1. Introduction

This paper introduces the framework of term planning in the context of language planning, which is a vital activity in all languages and is becoming increasingly important. Several examples of term planning in different languages are given, and some of their weaknesses highlighted. A model of term planning is set out, based on the literature and on three cases which have been studied in detail by the author. TERMCAT, recognised as one of the best term planning institutions worldwide, was one of the case studies used in developing this model, and three interesting aspects of the TERMCAT approach are selected for description here: term standardisation, term dissemination and evaluation of term implantation. These three aspects show how much can be learned from term planning in practice.

Term planning is the development and provision, by an organisation or organisations, of terms for a language. 'Term planning' is understood here to refer to a language planning context, and not, for example, to terminology resources within a corporate or purely academic context, although some aspects of the model could be useful in these cases as well. It is an important activity, as acknowledged by, among others, UNESCO (2005) and ISO (ISO 29383:2010). This importance is growing, as language communities become increasingly aware of the benefits of systematic terminology planning:

> At a strategic level, the positive potential of systematic terminology planning – and especially of terminology policies – in support of information, knowledge or innovation policies, as well as of educational strategies, etc. has been recognized. With this greater awareness, countries and language communities are increasingly feeling the need to formulate systematic terminology policies (comprising also terminology planning strategies) in order to improve their competitiveness. (UNESCO 2005, ii)

The users of the products of term planning could include some or all of the following, depending on the language situation:

- professional language users in a range of areas: translators, proof-readers and correctors, whether for administration, legal or official documents, private translation work or localisation

- educators

- the media: journalists, as well as editors and proof-readers

- public administration and other public sector workers

- private companies and private individuals

- specialists working in a mono- or bilingual context.

Terminology has become more and more important as an aspect of language planning. In the last twenty years, there has been an increase in the use of technical terms outside their original fields, largely due to the western world's shift to a knowledge society. Obvious examples are technology and computing, as well as economics, environmental studies, genetics and healthcare (Meyer and Mackintosh 2000, 127). This has meant that popularisation and determinologisation have become objects of study (see, for example, Meyer and Mackintosh 2000, or Gaudin 2003, chapters 3 and 4), and that the traditional supposition that LSP (Language for Special Purposes) and LGP (Language for General Purposes) are separate activities has been questioned (Gaudin 1994, 9).

Popularisation (in activities such as translation, journalism and education) has meant that terminology has become more important to a wider public than ever before, and in new ways. This is shown, for example, by the sharp increase in the number of terms included in general-language dictionaries (Meyer and Mackintosh 2000, 126). It is augmented by the development and growth of the Internet. These changes are very relevant to term planning: they reveal a need for a wider availability and diffusion of term resources,

and, particularly in the case of less widely-used languages, for publicity and promotion. Terminology has become an increasingly important aspect of language planning. This, combined with a new interest in language politics, mean that the 'social implications' of the discipline have increased:

> 'L'approche sociolinguistique de la terminologie… était nécessaire pour le développement de la recherche en terminologie, les implications sociales de la discipline s'étantmultipliées et diversifiéessous la pression du développementconjoint des technologies de la langue et des préoccupations de politiquelinguistiquedans les paysfrancophones, ceux de langues romanes, et dans le cadre de la francophonieinstitutionelle.[1] (Gaudin 2003, 11)

The changes in terminology were also partly triggered by changes in linguistics (Gaudin 2005, 80). The development of sociolinguistics, from the 1960s onward, has meant a new interest in the use of language in society; theoretical sociolinguistics emphasised the importance of discourse; and the need for cultural expertise in language planning is recognised.

> It is a devastating mistake to assume that corpus planning merely requires the interplay and coordination of linguistic expertise and technological expertise, devastating certainly if one's goal is not merely to do corpus planning (i.e. not merely to *create* a nomenclature in chemistry, or in some other modern technological area) but to have it *accepted* (i.e. to have it liked, learned and used). If the *latter* is our goal (and anything less strikes me as a travesty), then cultural expertise in all its ramifications is called for as well. (Fishman 1983, 109, italics original)

Language politics led to the development of terminological practice in Quebec and in other places. In general linguistics, the term was being re-theorised as a sign, and the link between terms and referents was being questioned. Terminology gradually became a branch of applied linguistics and was not confined to scientific and technical standardisation. New concepts emerged in the 1990s such as sociolinguistic enquiry, research into the implantation of official terms, and measurement of terminological implantation (e.g. Quirion 2003a and 2003b).

To speak of a sociolinguistic approach to term planning implies the importance of social contexts. Specifically, the sociolinguistic approach is seen in the following:

- Seeing terminology as an aspect of language planning, and the importance of close links to other aspects of language planning (particularly in the organisational and decision-making structures, and in dissemination of term resources).

- Close connection with language users in planning and in research/standardisation work, including research into language usage, and close interaction with opinion-leaders in language choice, particularly subject specialists and the media.

- The importance of social aspects of term use; emphasis on usage and likely usage (implantability) in term choice and standardisation.

1. 1 Examples of term planning: Mauritania, Brunei Darussalam, Indonesia and Russia

Much term-planning knowledge is not widely documented or published: most of the resources on which terminologists rely are internal working documents, not easily accessible to the external researcher. Further, many terminology policies are not explicitly formulated, much less written down. This is problematic as it indicates limited sharing of expertise (Budin 2001, 14-15). The following examples of term planning are among the few discussed at any length in the literature. It may indeed be true that

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[1] 'The sociolinguistic approach to terminology… was necessary for the development of research into terminology, the social implications of the discipline having multiplied and diversified under the pressure of the development of language technologies and the development of language policy concerns in Francophone and Romance language countries, and within the context of institutional *Francophonie*.' (Translation: Bhreathnach)

terminology work shows a 'one-sided regard to the generation rather than the management process' (Hübschmannová and Neustupný 2004, 84).

Mahmud's (1986) paper on the sociolinguistic determinants of language planning in Mauritania is a description of the political, racial and cultural tensions influencing the development of the indigenous African languages for education. This tension was between those who wanted Arabic to be the basis for term creation, and those who did not, favouring French or indigenous bases instead. Various terminology conferences are described – with different interests represented at each, and various decisions being taken in favour of or against Arabic as the source for borrowing. Mahmud concludes that:

> Terminology planning is a sociolinguistically determined process in as far as it interacts with socio-cultural and political variables. What seems to be a technical-linguistic aspect of language planning is in fact readily amenable to politicization, especially in relation to the question of the source of terminology expansion. It cannot therefore be pursued in isolation from the sociolinguistic context, nor can it be carried out successfully on the basis of what are assumed to be rational considerations. (Mahmud 1986, 108)

This emphasis on the sociolinguistic context is reinforced by Smith's (1994) analysis of Malay development in Brunei Darussalam. Because of the very rapid economic and social development of the country, the shift from English to Malay as the language of administration, and the continuing importance of English, there are enormous human resource problems in terminology, and 'there is little local interest in acquiring new Malay terminology or in reading serious texts in Malay' (Smith 1994, 299). He predicts that, as English becomes the dominant language, 'Brunei terminologists will… fulfil a ritual and subsidiary role as creators and cultivators of Malay equivalents for English terms which will have little or no operational use' (Smith 1994, 299).

In his description of term planning for Indonesian in Indonesia (and also in Malaysia) since the 1930s, Samuel (1996) charts the inefficiency of official language planning policies. The large numbers of terms produced – 321,710 between 1950 and 1966 (Samuel 1996, 131) – belie the problems: no implantation policy, a lack of professionalism and the fact that term production quickly became an end in itself. In the early 1950s, the commercial sale of terminology dictionaries by language agencies was banned, under the pretext that work carried out by a State agency should not be sold for profit (Samuel 1996, 139). This meant that language agencies did not have the means to distribute dictionaries except in tiny numbers, and that most people turned to dictionaries from non-government publishers. Most dictionaries before 1975 were privately published, with the result that competing dictionaries on the same subject often have different terms, with different source languages. Samuel compares this situation with terminology provision in Malaysia, which was in a much better position in terms of stability, authority, financing, and the competence of its personnel.

Samuel sums up this historical situation in suggesting that there was no terminology policy in Indonesia before the 1980s:

> 'Peut-on parler de politique terminologique en Indonésie? D'ailleurs, quel terme employer pour définir l'action de l'État sur la langue dans ce pays? Indépendamment de la réalité de cette action, le terme de planification nous semble convenir le mieux, à cause de ce qu'il sous-entend: dirigisme, centralisme, concertation limitée. Mais si l'on entend par planification un ensemble cohérent de décisions, engageant l'action de l'État dans la durée pour atteindre des objectifs précis, correspondant á des besoins identifiés, cette action étant soutenue par des moyens appropriés, on peut dire qu'il n'y a pas de politique terminologique avant les années quatre-vingts' (Samuel 1996, 145).[2]

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[2] 'Can we speak of a terminology policy in Indonesia? Or what word should be used to define the State's action on the language in that country? Independently of the reality of this action, the term 'planning' seems to me to suit best, because of what it covers implies: interventionism, central control, limited consultation. But if what is understood by planning is a coherent ensemble of

Karpova and Averboukh (2008) find that, in term planning for Russian, some areas became fashionable during the 1990s and were much better provided for than other fundamental areas such as machinery, chemistry or the building industry (Karpova and Averboukh 2008, 989), showing a lack of strategic planning. This demonstrates the assertion that 'terminology policy-making is a complex management process rather than a strictly straight, chronologic, arguments-based and linear top-down process' (Drame 2009, 18).

It has been repeatedly stated (Onyango 2005; NicPháidín and Bhreathnach 2008) that lack of strategic planning and management are detrimental to language planning oriented term planning. Looking at these examples, we find that the rational development of terminology, based on the needs of the language user, is often abandoned in favour of political or sociolinguistic considerations. Term implantation is not prioritised, and as a result terms do not reach or are not accepted by the intended users. The cases of Irish, Swedish and Catalan, discussed below, are somewhat different, as – although not perfect – in each case, thought has been given to term planning and term dissemination and implantation.

1.2 A note about methodology

The description below is based on PhD research[3] carried out in the period 2006-2011, and in particular on study visits carried out to the three term planning organisations discussed below during 2009-2010.

In order to develop a detailed model for term planning, which would describe the management of an ideal term planning organisation, an investigation was carried out in 2009–2010 of practice in three term planning situations: TERMCAT (the term planning organisation for Catalan), Terminologicentrum TNC (the term planning organisation for Swedish) and the Irish-language term planning organisations, principally the Terminology Committee (Foras na Gaeilge) and Fiontar, Dublin City University.[4] This research was carried out through a series of 26 in-depth interviews with key actors, which were then coded, analysed and compiled into reports. The discussion below is based on those reports, as well as on the existing literature.

There are considerable differences between the three cases from a sociolinguistic perspective, but also similarities. They are all situated in affluent Western European countries, where well-documented and elaborated Indo-European languages are spoken and have a high status, although that status is different in each case. This means that the case study results are not representative of or universal to all language situations, particularly those in developing countries. None of the five major European languages were included either. The findings of the research are therefore limited, and assumptions are made for the purposes of the model about levels of financing, resources, staff, user and staff education and the state of development of the language itself, which are not valid in all term planning situations. The model is an *ideal* and implementation depends on practical considerations. On the other hand, no matter what the specific sociolinguistic situation, the objectives of term planning organisations which are language planning-oriented are generally the same, and most of the methods are similar too. Each organisation has to go through the same process of trial and error with regard to all the basic aspects of terminology: research, standardisation, publication, dissemination and so on.

2. How is term planning done?

Terms, no matter how good, are irrelevant if they are not used, or *implanted*. Implantation is influenced by many factors, including:

- Acceptance by the media (which may in turn be influenced by their involvement in term creation and dissemination).
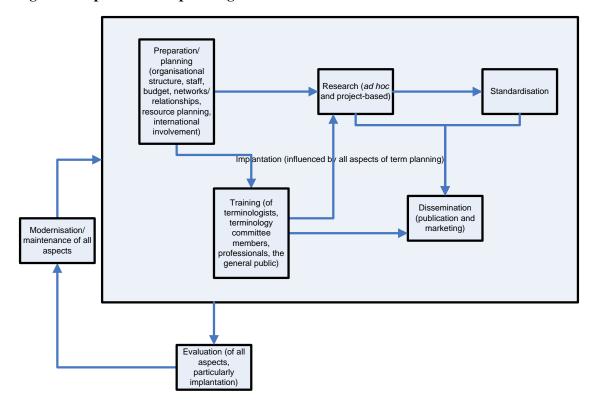
- Public attitude to the language and to the discussion of specialised subjects in that language (which may in turn be influenced by the awareness-raising work of the term-planning organisation).

- Active participation by representatives of the target audience in the research and decision-making processes.

- Quality of the terms themselves, including conciseness, absence of competing terms, derivative form capability and compliance with the rules of the language.

- Timely provision of terms in easily accessible formats.

Implantation is affected by the planning, research, dissemination (publication and marketing) and training aspects of term planning work, as well as by the quality of the overall strategic planning. Implantation, if carefully evaluated, is a good measure of the term planning organisation's work as a whole, and it is therefore vital that it is assessed.

Seven aspects of term planning are set out, and very briefly described, below. This structure is based on practice as observed in the three cases of Irish, Swedish and Catalan, and on models and discussions in the literature (including Auger 1986, Quirion 2003a, Cabré 1999 and 1998, Santos 2003, Antia 2000, Onyango 2005 and Fähndrich2005, as well as UNESCO 2005 and the ISO TC37 standards). These seven headings cover all the main functions of a term planning organisation, although not all the sub-headings described in the model are given here.

As seen in Figure 1 below, the aspects are closely related. Term implantation is the objective of term planning. Despite its place in many term planning models, examination of the literature and of the cases themselves shows that implantation is a passive stage, and not something the term planning organisation can actively 'do', although it can clearly influence the outcome. On the other hand, implantation, from a sociolinguistic perspective, is the most important result of successful term planning. For this reason implantation is not treated as a heading here, but in the case of each heading, the effect on implantation is discussed. This relationship is illustrated by the figure below.

Figure 1: Aspects of term planning

For the sake of convenience, the rest of this paper refers to 'the term planning organisation' in the singular. This does not mean, however, that term planning work must be limited to a single organisation and that tasks cannot be shared between organisations or institutions. Such an approach can *only* work, however, as long as all the tasks mentioned here are clearly assigned, where there is a forum for strategic planning, and the organisations work seamlessly together.

2.1. Planning

Preparation and planning covers all the organisational aspects of term planning, including what work is done and by which organisations, what the staffing and financial arrangements will be, and what networks and relationships there will be, as well as resource planning and international involvement. The way in which preparation and planning are done affects all aspects of term planning work, including where, when, how and by whom they are done. The establishment of priorities (strategic planning) and the limits set by budget and by the kind of staff recruited are particularly important in this regard.

A term planning organisation needs to be able to change and evolve in response to new research and to user and language needs; it also needs to be able to take research initiatives. It is therefore important to have or establish a dynamic, flexible organisation. This may mean that the organisation is not a part of the Government administration, or that part of its work is delegated to a private company or a university. Interested parties such as a language academy or institute (if there is one), the national standards institute, the Government department with responsibility for language planning (if there is one), specialist organisations, publishers or media groups, and academics with expertise in the area should be represented on the decision-making board.

2.2. Research

Term research can be divided into two distinct areas: *ad hoc* research and project-based research on a group of concepts or a dictionary (including research into *in vivo* terms, that is, terms created by the user community, and *in vitro* creation by an expert committee of terms which are then passed to the users). Other kinds of research are also carried out, of course: research into new work methods; or research in order to compile style guides and manuals, as well as research to evaluate term acceptance.

A very large proportion of term provision may be done on an *ad hoc* basis, and not as part of term research projects. This is particularly the case for terms in current usage or newly emerging domains, or for particular user groups, such as the media. The ways in which this work is done are therefore important; it is not an 'extra' task to be taken on as time permits, but as an integral part of a term planning organisation's work. In *ad hoc* work, response times are very important, particularly for the media. It is difficult, however, to balance a fast response with accuracy, consistency, authority and adequate research. There is a danger that research will be rushed, and that hastily-made decisions will be reversed later. This reinforces the importance of clear processes, documentation, reference resources and a specialist network. Queries to an *ad hoc* service could include requests for terms, for concept clarifications, and for definitions of terms; or questions about terminology usage. Publishing and diffusing the responses quickly means that those terms related to current affairs or which are just entering into usage are more likely to be used.

The most important issues for project-based term research, used to compile a term collection or dictionary, are

- comprehensive project planning, to ensure that the work is done on time (and within the budget allowed)

- participation by domain experts and opinion-leaders, to ensure quality and implantation. The more experts are consulted, the more reliable the research results are likely to be. Involving experts and media contacts will also create interest in and knowledge of the project, which will be an aid to dissemination and implantation of the terms, particularly if specialist users know that the term decisions were made by their peers.

- research into *in vivo* language use

- thorough research and documentation, to ensure consistency and accuracy, especially in *in vitro* term creation.

International standards, particularly the ISO standards, should be followed as far as is practicable. Where aspects of the standards are not followed, there should be a good reason for this, and this should be documented. Good practice in other organisations can also be studied, perhaps through study visits for terminologists. It must be recognised, however, that aspects of the ISO approach do not fit all languages, particularly minority languages and in larger projects where there may be more pressure to create comprehensive term resources quickly.

2.3. Standardisation

In both the literature and the cases, there are different understandings of what terminology standardisation might mean. Most aspects of standardisation methods are unproblematic, however: for example, the need for a committee structure with expert and other representation.

Standardisation is here defined as the selection by a representative standardisation committee of recommended terms to be used in a defined field, such as in education or administration. The standardisation committee should be representative both of the user community and of the different aspects of term work. In order to represent different aspects of term work, terminologists, language experts (philologists, perhaps from the language academy, if there is one) and a range of domain experts should be on the committee. In addition, representatives from academia, Government departments, the media and the translation sector might represent the user community.

 It may be decided to only standardise a certain type of term, such as those over which there is controversy, or cases in which there is no agreed term, and where this causes problems. Or every term which has been thoroughly researched and discussed by a certain committee may be considered standardised. This may or may not be reinforced by an element of obligation; for example, translators and editors working for the government might have to use the standardised term in legal documents. Whether this is necessary or desirable depends on the language policy, on the language situation and on the administrative culture. In either case, standardisation must be supported by good term resources and effective dissemination, as well as agreement and cooperation in implementation; obligation alone is hardly sufficient.

If a label such as 'standardised' (or 'recommended', or 'approved') is used in the terminology database or in other publications, it must be made clear what this means. It should be clearly stated (on the website or in the publication) when, by whom, how and for what purpose the term has been standardised, and what implications, if any, this has for the user. Similarly, if a term is marked 'deprecated', it should be clear exactly what this means.

In some cases, standardised terms may not be accepted by the user community even after a considerable period of time, or new evidence may emerge about usage or the definition. In such cases, standardised terms could be reviewed. Such reviews should be carried out as infrequently as possible, however, because they could undermine confidence in the standardisation process.

2.4. Dissemination

Dissemination covers a broad field in terminology, including at least the publication of term resources and drawing the attention of users to resources. It could also cover the publication of information about terminology, and creating debate about, interest in, and appreciation of terminology work. All this work is important if term resources are to be used and implanted.

The overall aim of dissemination is – or should be – to empower language users to use and actively engage with terminology resources. The term planning process is more effective, the more people are involved and interested in it; in fact, participation in the research process may be one of the best ways of guaranteeing term use. As with all language matters, a sense of ownership and involvement is important. Getting more

language users and specialists involved is also useful for the terminologist, as it means a broader spread of information sources. It is also a way of bridging the gap between *in vivo* and *in vitro* term creation.

Online dissemination of terms is the most effective, both for the planning organisation itself and for the user. Terms can be published immediately, and information can be updated as required. Good online dissemination is therefore vital. This means a simple, easy to use portal to a database which allows users to find the information they need quickly, and in suitable formats (direct search, downloaded lists, as resources for translation software, etc.). As much material as possible should be made available online, thus reducing the amount of time spent by the organisation responding to routine questions and enquiries. If material is not made available, it cannot be used or implanted. Searching should be as easy as possible, and it should be assumed that the user has no specific knowledge about terminology. The resources must be kept up to date. The user experience should be closely monitored, because it is important to understand what users are searching for, and, if they do not find a satisfactory result, what the reasons for this are: whether because of database layout, search functionality or unavailability of the terms. This is an important strand of the evaluation discussed below. Depending on the language situation and on users' needs, it could be important to provide grammar information, variant forms and other lexical resources. Whether definitions are always needed also depends on the situation.

For many users, especially in a bilingual situation, the term resource *will* be used as a lexical resource, and this should be borne in mind when presenting data. Most users cannot be expected to distinguish in an academic way between lexicographic and terminographical resources. As with all online resources, it is impossible to anticipate the characteristics or needs of all users, so room for error should be minimised. Users may not want to have to search two different resources. If there is a general language resource, therefore, it should be linked to the terminology database, so that a simultaneous search of all resources can be carried out. Different resources for a language should, as far as possible, be integrated.

No matter how well developed the terminology resource, there will always be a need for a service to deal with queries. Such an *ad hoc* terminology service can be advertised on the term planning organisation's website. There should also be an easy way for users to notify the database editors of mistakes, omissions or errors, and these should be corrected online immediately. Besides improving the quality of the data, this values the user and gives him or her a sense of ownership.

The media is an important user group: journalistic choices largely determine what terms language users will encounter, and, as a consequence, what terms will be implanted. They are usually the main mediators between term creators and end users. This is particularly the case for terms linked to current events.

Spreading the 'message' about terminology work can be problematic, and it is crucial if implantation is to occur. This is so that language users know and use available resources, of course, but also so that they can become involved in planning and decision-making. The target group depends on the language situation, but usually includes, at a minimum, translators, language specialists, technical writers, legislators and the media, as well as the education system. Public attitude is important, and if terminology is valued, then organisations, even in the private sector, will feel that the use of correct language and terminology is a way of making themselves look good. This is especially the case in a minority language situation, where domain loss may be problematic.

2.5. Evaluation

Evaluation is a very important aspect of term planning; it allows for corrections and adjustments in the organisation's work, and positive evaluation is an important mark of progress. If evaluation is limited to 'push' factors (such as term production) alone, this will give an untrue portrait of term use and acceptance (see, for example, Samuel 1996). All the aspects mentioned here (and others – see, for example, Antia and Clas 2003) can be evaluated regularly, but evaluation of implantation is – from a sociolinguistic perspective – the most important measurement of the term planning organisation's success and particularly of the effect of term dissemination. So it is vital that both quantitative and qualitative studies be carried out regularly and in accordance with the most recent research. Sponsoring a PhD or postdoctoral researcher may be a cost-effective way of carrying out this work. Decisions must be made about the types

of implantation to be measured – the domain, the medium (whether written or spoken), the user groups (subject specialists, the media, etc.) – and this should reflect the organisation's priorities as set out in the strategic plan.

Regular external reporting and evaluation, whether by a funding body, a board of directors or an external consultant, can lead to innovative ideas and fresh perspectives.

Term research work can be measured against a list of criteria for success. These criteria could include measures such as compliance with terminological standards, formal and methodological consistency, accuracy of the information, correct allocations of terms and equivalents to concepts, and correct spelling and grammar (ISO 23185:2009, for example, could be followed). Research projects can be assessed against project planning measures: whether budget and time constraints were adhered to, and whether participants' expectations were met. Participants (such as subject experts) can also be asked about their experience of the project – whether they found it useful, whether the work was well-paced, and whether the right training and tools were provided for the task.

Term resources should also be assessed for their quality – monitoring by random checking of the database against set performance indicators for accuracy and consistency is important. These editorial and technical performance indicators could include quality and consistency of data, response times, and accurate search results. Target standards should be set in advance. If standards fall below these targets, this may indicate that more time should be spent on editorial improvements.

Analysis of statistics about user numbers and behaviour can be used to decide strategic priorities. For example, if fruitless searches are consistently carried out in particular domains, this might influence resource planning or set priorities for *ad hoc* work. If common search mistakes mean that results are not found, a more sophisticated search strategy might be necessary.

2.6. Training

There are at least four aspects to training, from the point of view of a term planning organisation. These are:

- training of terminologists (term planning organisation staff and future terminologists)

- training of specialists and others advising the terminologist

- training of professionals who (will) work closely with terminology

- training/education of the general public.

Training work is important both to improve the quality and use of term resources, and to foster understanding of the use and importance of terminology. It is therefore closely related to dissemination and implantation work. The training of terminologists and of terminological advisers (as described, for example, in RaDT 2004) is vital to successful research work.

It is impractical to provide terminology training to the general public, however, and educational resources and 'help' files on websites are often little used. The provision of training tools, therefore, does not mean that terminology resources can be any less easy to use or intuitive; it should be assumed that users have not been trained.

2.7. Modernisation/ Maintenance (and Innovation)

Modernisation and maintenance are necessary in order to keep a high standard of work in each of the aspects of term planning. Modernisation is heavily reliant on the results of evaluation and on reacting in a positive way to findings. Evaluation of the different aspects of term planning, whether done within the organisation, with service users or with external evaluators, will throw up modernisation ideas, and highlight areas or services which are not adequately developed or maintained.

In a large database, particularly one to which new resources or terms are constantly being added, continuous maintenance and updating is necessary. Concepts will need to be aligned; terms which conflict with each other will need to be harmonised in discussion with specialists. Evidence of real usage of terms may lead to certain cases being reopened. Certain sources of definitions may become obsolete, and so may usage samples. This work may be done in part by responding to information and requests received from users. Technical, as well as editorial, maintenance is needed. The database may also need to be upgraded, redesigned or reimagined to respond to requests from the editorial team or from users, as well as in order to keep up with changing technologies. Research standards are maintained by comprehensively documenting the work and through staff training.

3. Some examples of real-life term planning

3.1. Irish

In the case of the Irish language, the national Terminology Committee, part of ForasnaGaeilge, is the statutory entity responsible for terminology approval and publication (overseen by a Government department, the Department of Arts, Heritage and the Gaeltacht). The Committee consists of a group of volunteer language and subject experts (with wide representation), and a permanent secretariat. Fiontar, the Irish-medium unit within Dublin City University, is contracted to carry out terminology projects for both ForasnaGaeilge and the sponsoring department. This work includes the design, development and management of the National Terminology Database (www.focal.ie). Focal.ie is the major source for terminology for Irish, with more than 160,000 term records and up to 1 million searches per month. Editorial development and technical development are also carried out by Fiontar in collaboration with the Terminology Committee. For example, Fiontar is currently researching a new dictionary of arts terms for publication on Focal. There is close collaboration between the two organisations; a Fiontar terminologist is a member of the Terminology Committee, and there are quarterly meetings of the project steering group. Other terminology projects in Fiontar, which are funded directly by the sponsoring department, include the digitisation and extraction of terms from a collection of statutory instruments, and the development of terms for the European IATE database (c.8,000 annually). Because there is no single agency dealing with all aspects of terminology work, however, there is little or no discussion about term planning, on a macro level, for Irish.

3.2. Swedish

Terminologicentrum TNC, or TNC as it is generally referred to, is the Swedish national centre for terminology, and the hub of Swedish terminology work. Established in 1941, is one of the oldest terminology centres in the world. TNC's terminology, and collections made available to TNC by other organisations, are primarily published in the Rikstermbanken term bank (www.rikstermbanken.se). TNC is a non-profit making private company, with shareholders such as the Swedish Standards Institute, the Swedish Academy, theFinnish Centre for Technical Terminology (TSK) and representatives from areas such as construction, mechanical engineering, geographic information, chemistry and information technology. Advantages of this structure include increased dynamism, flexibility and independence, compared to a state body. TNC has been in operation for over seventy years, and has built up a reputation as a reliable, serious and trustworthy institution.

TNC is part-financed by the Ministry of Enterprise, Energy and Communications, and so has both a public and a profit-making aspect. The second main source of funding is from work on terminology projects, usually for the public sector. This varies from year to year. (Other less significant sources of income included dictionary sales, a subscription service for terminology advice, and courses and classes.) This is consistent with UNESCO (2005, 21), which finds that fee-based consultancy services should not be excluded.

The funding structure can be problematic for TNC, as there is a dependence on obtaining contracts. At the end of the 1990s, for example, EU project work dried up, leading to a financial crisis. Work which is not funded cannot be undertaken, which can mean the neglect of terms in some domains. On the other hand, research that is paid for is likely to be valued and used.

3.3. Catalan

TERMCAT is a consortium; its directory board consists of members of the Catalan Government, of the Institute of Catalan Studies, and of the Consortium for Language Normalisation. The president of the consortium is the secretary for language planning of the Government. Being a small consortium rather than part of the Government administration allows independence in management, as well as dynamism.

TERMCAT has responsibility for the creation and diffusion of terminology; for the creation of linguistic and terminological criteria for terminology work; for the standardisation of terminology where necessary; and for advising other organisations and the public about terminology. In practice, the focus is on *ad hoc* work in response to enquiries; dictionary production; standardisation; and the development of terminology tools, as well as advising on policy, publishing research, and organising conferences. TERMCAT is thus the coordination centre for Catalan terminology work. Theoretical terminology research, such as research into implantation, is not carried out at TERMCAT (although applied research is published in methodological and linguistic studies). This is done in cooperation with various universities, however, and conferences are frequently attended.

4. Three interesting aspects of TERMCAT's term planning approach

The TERMCAT approach to three of the aspects of term planning are discussed below. All three examples stood out during the case study research as innovative and noteworthy, and in each case there was a considerable difference between TERMCAT and the other two term planning situations studied.

4.1. Term standardisation

In different contexts, 'standardisation' means different things, and this is not clearly defined in the literature. There is no consensus on the need for, or uses of, standardisation. In some sources standardisation is understood as the choice of particular terms as the official or obligatory choice in certain defined situations; others (such as Auger 1986, 50) see it as the way a terminological system regulates itself, or a committee of experts that oversees and validates the terminologist's research (Auger and Rousseau 1978, 48). Other authors question the value of officialisation strategies and how much writers' and editors' decisions can be forced (Martin 1998), except in certain very limited circumstances, which require strict regulation (Drame 2009, 63). The literature (such as Auger 1986, Guespin 1993, Baxter 2004) emphasises the importance of consensus and negotiation with users in achieving standardisation.

ISO 15188:2001 defines terminology standardisation as the 'establishment of terminology standards or of terminology sections in technical standards, and their approval by an authoritative body' (2). Drame (2009, 93), referring to the ISO approach, lists the most prominent features of standardisation as: documented agreements; consensus-driven; inclusive (all stakeholders); promoting conformity for enhanced interoperability and exchange; and generally voluntary (unless incorporated into national legislation).

'Standardisation' is understood and performed differently in different term planning situations. In the case of TERMCAT, there is a very clear distinction between standardised and non-standardised terms; in TNC, standardisation is not carried out; and in the Irish case, there is no clear, defined understanding of what standardisation means.

For TERMCAT, standardisation is a specific process which is carried out in the case of occasional terms which are considered problematic, mainly because a loanword or calque is in use, but also when there are different designations for the same concept or variations in spelling. Terms which have been standardised are obligatory for certain users, primarily the Catalan administration.

In contrast to this approach, TNC's work is to give recommendations, and its terminology has no particular legal or administrative authority; there is no normative body for Swedish terminology, in line with Swedish language policy in general. (In practice, however, because term project work is done in cooperation with, and at the initiative of, subject specialists, TNC's recommendations are generally accepted.)

There is no legal obligation on public bodies or on others to use terms approved by the Irish language Terminology Committee, either. Its work is prescriptive, but without enforcement. This creates problems where cooperation and agreement is necessary between organisations, such as for the EU IATE database for example, where Fiontar creates terms and the Terminology Committee approves them, for use by EU translators. Different traditions even within the administration mean that recommended terms are not always accepted and there is no accepted point of reference for settling (sometimes long-standing) disagreements about term choice.

Before making a standardisation recommendation, TERMCAT carries out very detailed investigations into definitions, context and usage, and consults a minimum of five subject experts. About 125 sources are consulted in each case, and a minimum of two days spent on each concept. The media might also be consulted through the Antena de Terminologia (discussed below). This evidence is considered at a fortnightly one- to two-hour meeting of a supervisory council, which is also responsible for approving general policies on terminological matters. The supervisory council, which has more authority than TERMCAT itself, consists of two philologists from the language academy, two TERMCAT terminologists, and three specialists, one each from science, from the humanities and from technology. Thus what TERMCAT considers the three vertices of the concept of a term – a *linguistic denomination* referring to a *concept* used in a *particular area of specialisation* – are reflected in the group's composition (it is also in line with UNESCO 2005, 13).

The terms thus standardised have a higher status in the Cercaterm database than other terminology work done by TERMCAT, and their use is obligatory for the Catalan administration. About 300 terms are standardised per year, and these requests come from TERMCAT's work on dictionaries, from the media and from the public. It takes about two months for a question to be processed. Socioterminological criteria such as the likelihood of term implantation are taken into account: if, after a period of time, it becomes clear that a standardised term is not in use, the case can be re-opened (consistent with ISO/TR 22134:2007, 15, and with Sager 1990, 119).

The TERMCAT approach is thus in line with ISO/TR 22134:2007 (7) which recommends that standardisation be carried out 'in close association with the targeted professional people', based on a description of usage, and that terms 'shall be selected taking account not just of the usual terminological criteria, but also of implantability criteria. Standardization requires a socioterminological approach.' The 'prior consultation with the users' suggested in the report takes place in discussions with the subject experts. Similarly, Kocourek argues that standardisation must take account of language usage, so that recommendations are reasonable:

> The essence of these delicate prescriptive activities [does not consist] in arbitrary decisions imposed on the public, but in observation, description and evaluation of terms, resulting in reasonable recommendations that stand a chance of obtaining the consensus of prospective users. (Kocourek 1981, 225)

The Irish Terminology Committee, on the other hand, consists of people chosen for their expert knowledge of the spoken and historical language and most of them are academics from Irish-language departments. There are also representatives from bodies engaged in lexicography and terminology; Government departments; the media, and the translation sector. They meet monthly. In some cases the Committee has in-depth discussions; in others, work is approved but not discussed. The secretariat carries out some research into evidence for term use, but does not have the resources to carry out detailed studies; in many cases, it is unlikely that any terms have been created *in* vivo anyway, given the marginalised situation of the language and the tendency in general speech to rely on English-language terms (NíGhearáin 2011). The level of detail of the work – and of the evidence submitted to the Committee – is not comparable to that of TERMCAT, but far more terms are approved annually.

It is clear that in each of the three languages, a different approach to standardisation suits – at least to some extent – the situation faced. In Sweden, there is no need for or acceptance of prescriptivism. For Irish, terms approved by the Terminology Committee and published in the National Terminology Database are

generally used, because it is the best known language resource, and because much high-level language use is translation, with little emphasis on individual creativity. In the Catalan case, the extensive research done lends credence to the prescriptive approach, although it will be seen that, even here, implantation is an issue.

4.2. Approaches to dissemination

There is a need, in disseminating term resources, to reach a critical mass in users:

> 'After reaching a critical mass of adopters, any innovation, like the introduction of new terms, the consultation and contribution of databases or relevant forums (electronical or otherwise) becomes self-sustaining. Earlier and later users re-inforce themselves mutually in their decision to continue, abandon or take up this particular innovation.' (Drame 2009, 126)

In the Irish and Catalan cases, online databases (www.focal.ie and http://www.termcat.cat/) are well known among target user groups; in TNC's cases, it was felt that the (in 2009, very newly available) database was not well known and had limited influence but that this was likely to change. There is competition in the Swedish case from other online resources such as the national Swedish Encyclopaedia and Wikipedia, as sources for definitions. One problem in the Catalan case, not attributable to TERMCAT, is the fact that Cercaterm can be misused as a *Spanish*termbase, just as Focal is often misused as an LGP resource. This confusion in users' minds between LGP and LSP resources is also pointed out by Moffet (2004, 19), who found that users of the *Grand dictionnaireterminologique* expected to find both general language words and specialised terms in the database.

Cercaterm – and the ease and speed with which it can be used – is a key strength of Catalan term planning work. As well as dictionary-publication, term collections are sometimes made available as posters, leaflets or other 'decorative resources'. TERMCAT's free telephone and email advisory service is another way of disseminating terms, although the number of requests for already-existing terms fell after the introduction of Cercaterm. General-language terms are usually published in the normative dictionary of the Catalan language. Terminology is also available through Optimot, a public Internet language service for the Catalan language which searches general language dictionaries and TERMCAT's databases.

Dissemination of terms among the media is regarded as particularly important and challenging in all three cases. There are several mentions in the literature of planning for informal means of dissemination of terminology, since dictionaries, etc., only have indirect influence in term dissemination (Onyango 2005; Prys 2007, 8; Kummer 1983). TERMCAT has developed a particular tool to deal with this, the *Antena de Terminologia*. This is an occasional email distribution list comprising all the main media working through Catalan. Although relatively small, it has considerable impact among the media and with other observers, such as the universities and the Consortium for Language Standardisation. It is an exchange platform, allowing members of the media to give TERMCAT information about the use of terms and allowing TERMCAT to inform the media of new terminology. It also allows consensus-building in difficult cases. A mechanism such as the Antena is extremely valuable both for research and for dissemination, costs little, and could be adopted by other term planning organisations, and perhaps adapted to reach other target groups apart from the media.

4.3. A critical eye: evaluation

UNESCO (2005, 30) mentions the importance of a 'monitoring mechanism' for the implementation of term planning, with 'an evaluation and assessment mechanism, which allows for timely corrections and adjustments in the operational and organizational planning of the implementation'. This is reinforced by other authors; for example, the absence of evaluation in the development of Kiswahili terminology in Kenya is 'the major handicap in the attempts to develop terminology' (Onyango 2005, 231). Other authors warn that management – and thus evaluation – cannot be limited to term production alone: Hübschmannová and Neustupný object to the '(1) concentration on terms, (2) concentration on inventories rather than processes, and (3) a one-sided regard to the generation rather than the management process' (Hübschmannová and Neustupný 2004, 84).

Implantation studies are recognised as important in all three cases (and in the literature – Martin 1998, 205, and Auger 1999, 123, for example), but only TERMCAT actually ensures that they are carried out as a measure of the term planning process. By working with external parties (two Barcelona universities), to ensure fairness, both qualitative and quantitative studies have been carried out. The challenges of implantation studies, a relatively new area of research, are recognised, particularly in collecting material and in knowing which material to study. The results obtained from one implantation study (Vila i Moreno *et al.* 2007) show that TERMCAT terms are more likely to be used in formal contexts, but that often they are neither known nor used – that is, *in vitro* work is not translated into *in vivo* results. This is recognised as problematic.

One step in evaluation taken by TERMCAT and not in the other cases was preparation for ISO 9001:2008 quality certification (obtained in 2010), which created a need for quantifiable measurements and detailed documentation work, as well as external evaluation. It also entailed the evaluation of the performance of the organisation at all levels.

5. Conclusion

This paper examined the major aspects of term planning. It is interesting that some of them, although clearly important in practice, are not discussed in detail in the literature. This illustrates the value of case-study analysis to augment and contextualise the theory. Practice is an important element in identifying best practice and the Catalan example is particularly relevant. This is especially so with the three examples given here. While standardisation *has* been studied extensively, the way in which the theory has been put into practice for Catalan is noteworthy. Although dissemination (in the sense both of publication and of marketing and awareness-raising about term resources) is essential for term implantation, it is hardly discussed in the literature, and the Catalan approach, particularly the *Antena de Terminologia*, could provide inspiration for other organisations. Finally, the comprehensive, systematic, approach to evaluation taken by TERMCAT allows for continuous improvement – and illustrates, again, the importance and challenges of term implantation.

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