Technical Translation

Usability Strategies for Translating Technical Documentation

JODY BYRNE

Traduction Technique

Τεχνική μετάφραση

Technische Vertaling

技术转换

Technical Translation

Traducción Técnica

Traduzione Tecnic

Технически Перевод

技術的な変換

Tradução Técnica

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Preface

Based largely on my doctoral dissertation "Textual Cognetics and the Role of Iconic Linkage in Software User Guides", this book is intended to serve as an introduction to technical translation and usability for translators and translation researchers. In this book we will look at how it is possible to improve the quality of technical translations by drawing on cognitive psychology, usability engineering and technical communication to develop skills which can be implemented during the text production stage of the translation process to ensure more usable texts. This book draws on a broad range of research and makes it accessible and applicable to an audience with a background primarily in translation although those with backgrounds in technical writing will also find the discussions of usability, cognitive psychology and usability testing useful.

Technical translation has traditionally been regarded as the poor cousin of "real" translation. Often regarded as a vocational, practical and at times rather basic type of translation, it has been largely neglected in the literature on translation theory. The work that has been done in this area has largely been restricted to terminological issues or technical issues (e.g. tools such as translation memories and machine translation, etc.) or does not fully reflect the reality of modern translation and needs to be updated (e.g. Pinchuk 1977, Sykes 1971). However, technical translation is a much more promising avenue of theoretical investigation than many suspect. Indeed, its inevitable roots in commercial translation have served to make this an even more rich and complex area than previously believed.

In recent years, the range of technical texts facing translators has grown significantly. No longer is it enough for a translator to merely understand the source text and be able to render it into a comprehensible target text. Nowadays, clients spend vast amounts of money on professional technical writers, document design and testing procedures while technical writers spend years studying how best to present technical information to users. Technical translators, on the other hand, do not necessarily receive the training and exposure to the text types which have become so prevalent or to the processes needed to create them. There is, therefore, an urgent need

to incorporate knowledge of technical communication and usability testing into the theory and practice of technical translation.

Aims and Structure of this Book

The book aims to show how to improve the usability (and consequently, the quality) of technical translations within the context of target-orientated models of translation, while at the same time recognising that there is, theoretically at least, a division of labour between author and translator. Beginning with a discussion of accepted translation theory, Chapter 1 explains that existing theories of translation do not fully consider the reality of translation as form of technical communication. Subsequent discussions make the case for a communicative approach to translation where the emphasis is very much on the target audience, rather than the original source language audience or the author.

We then examine the field of technical communication as a form of professional communication and as a "supplier" for the translation industry. Chapter 2 will explore the motivations for producing technical documents and look at the various types of documents and why they are produced. After introducing a number of fairly typical types of technical texts we turn our attention to the genre of software user guides. This genre is chosen for a number of reasons. Firstly, the ubiquity of software user guides in itself merits attention. Secondly, software guides are good examples of instructional texts, a genre which also includes training and educational materials, operating guides as well as multimedia materials. Indeed, many other types of technical text perform some form of instructional function and so, an examination of user guides will provide knowledge which can applied in a variety of contexts. The book will then set about discussing how to improve translated instructional texts using an understanding of human cognitive psychology coupled with various strategies and methods garnered from technical communication.

Chapter 3 provides a detailed examination of the fundamentals of cognitive psychology and explains how humans read, understand and learn, both in general and from texts. By understanding what it is that makes humans use and understand texts, we are better placed to discover ways of making sure the interaction between reader and text is more effective. This chapter aims to provide this grounding in human cognitive abilities and limitations before highlighting the way they affect how we read texts, particularly software user guides. The aim here is to help translators understand the

problems posed by technical instructional texts for average readers and to explore the potential for drastically improving the quality of translated technical texts using both linguistic and non-linguistic methods. Ultimately, such endeavours will ensure that texts complement the cognitive abilities of readers while at the same time, compensating for the limitations of the human cognitive system.

Having discussed human cognition and outlined the role this can play in producing better translations, the book applies this knowledge to the text production stage of the translation process. The concept of usability will be introduced as a truly indicative measure of the effectiveness of a text. By ensuring that readers can use the information in a text effectively, we make sure that the text succeeds in its primary function to instruct, or rather to educate. A detailed discussion of usability will be presented which will include definitions of usability and human factors, factors which affect usability, development processes to promote usability and key characteristics of usable texts. Usability strategies will be examined under the categories of principles, guidelines and rules.

With this theoretical basis, the next stage is to apply it in practice. A case study will be presented in which one example of a guideline along with several of its associated rules are tested as part of an empirical study conducted in order to test whether it is possible to improve the usability of translated texts using linguistic methods alone. The case study simulates the text production stage of the translation process and examines whether Iconic Linkage, the process of replacing non-isomorphic but semantically identical segments of text with isomorphic formulations can improve usability. Iconic Linkage will be defined and discussed. A range of examples are provided to illustrate the concept in a multilingual context. A detailed description of the rationale, preparations, methods and results of the empirical study will be presented and discussed.

The book will conclude by evaluating the previous sections and examining other ways in which textual cognetics can be used in translation theory and practice.

Using this Book

This book is aimed at a number of potential audiences, each of which may have different needs and expectations when it comes to reading this book. The following list is intended to help you find information on individual subject areas:

- Translation theory and technical translation: Chapter 1
- Cognitive psychology: Chapter 3
- Experimental methods: Chapter 5
- Usability: Chapters 3, 4 and 5
- User guides: Chapter 2
- Reading: Chapter 3
- Readability: Chapter 2
- Technical communication: Chapter 2
- Writing strategies: Chapters 2 and 4

Chapter 1 provides a general overview of translation in general and technical translation in particular. It does not represent a comprehensive review of all the literature on translation but it does provide a good overview of the main themes in translation as they relate to technical translation.

Chapter 2 examines technical communication as a creative and technical discipline. It is useful for understanding why technical documents are produced, how they are produced and by whom. This chapter also describes user guides in detail and describes the various requirements which need to be met for a user guide to be regarded as successful and effective.

Chapter 3 is of benefit to those wishing to understand the cognitive processes which allow humans to perceive information, read documents and learn new information. It provides an introduction to human cognition and explains how this mechanism facilitates learning and reading.

Chapter 4 deals with how we can use an understanding of human cognition, translation and technical communication to engineer user guides so that they are as usable and effective as possible. This chapter looks at usability in detail and discusses various criteria which can be used to quantify

usability. After introducing the notion of usability principles and rules, the chapter presents Iconic Linkage as one possible method for improving usability in user guides. Read in conjunction with Chapter 3, this chapter provides a solid basis for understanding usability in general and with regard to user guides.

Chapter 5 draws on all of the preceding chapters and sets out to implement measures to improve usability and then assess the effectiveness of the measures. This chapter provides a detailed introduction to usability testing and evaluates a wide range of literature on the subject. The chapter culminates in a practical usability study which draws on a range of theoretical and practical sources. The results of the study are assessed, evaluated and discussed.

Chapter 6 attempts to draw conclusions from the preceding chapters and discuss the impact of usability on technical translation as well as implications for future research.

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Contents

Chapter 1

Technical Translation

Technical translation has long been regarded as the ugly duckling of translation, especially in academic circles. Not particularly exciting or attractive and definitely lacking in the glamour and cachet of other types translation, technical translation is often relegated to the bottom division of translation activity and regarded as little more than an exercise in specialised terminology and subject knowledge. Indeed, these factors, particularly subject knowledge, have in some quarters led to technical translation being feared and loathed, like a modern-day barbarian of the linguistic world.

That technical translation has traditionally been regarded as the poor cousin of "real" translation in the literature is clear. This vocational and industrial type of translation has been largely neglected in the literature on translation theory. This is supported by an enlightening survey by Franco Aixelá (2004) who reports that out of 20,495 publications listed in the BITRA[1] multilingual bibliography of translation research only 1,905 or 9.3% addressed technical translation. Literary translation, on the other hand, is the subject of some 4,314 entries accounting for 21% of the total number of entries despite its niche status in professional practice.

The work that has been done in this area has largely been restricted to terminological issues or technical issues (e.g. translation memories or machine translation, etc.) or needs to be updated to reflect the modem realities of technical translation (e.g. Pinchuck 1977, Sykes 1971). However, technical translation is a much more promising an avenue of theoretical investigation than many suspect. Indeed, its inevitable roots in commercial translation and technical communication have served to make this an even more rich and complex area than previously believed.

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[1] BITRA is the *Bibliography of Interpreting and Translation* which was created by Javier Franco in the Department of Translation & Interpreting at the University of Alicante. This useful web-based resource can be found at http://cv1.cpd.ua.es/tra_int/usu/buscar.asp?idioma=en

The aim of this chapter is to challenge some misconceptions about technical translation and describe the reality of this form of translation. I will also try to relate technical translation to some of the more common theories of translation. There are two main reasons for this. Firstly, to show that technical translation is worthy of theoretical study and secondly to show that technical translation, like other specialised types of translation, does not fit neatly into any one theory or approach and that there is, as yet, no adequate explanation of technical translation as an activity.

The Importance of Technical Translation

It has been estimated that technical translation accounts for some 90% of the world's total translation output each year (Kingscott 2002:247). This is unsurprising given the importance attached to the availability of technical information in a variety of languages, motivated partly by the increasingly international focus of many companies and partly as a result of legislation such as Council of the European Union Resolution C411 (1998a), EU Directive 98/37/EC (Council of the European Union 1998b) and Council Directive 93/42/EEC (1993) and international standards such as EN 292-2: 1991 and EN 62079: 2001 to name just a few. These represent just some of the various laws, directives and regulations across the world that require the provision of comprehensive, accurate and effective technical documentation in a variety of languages. Coupled with increasing international co-operation in scientific, technological and industrial activity, it is clear to see why technical translation is one of the most significant employers of translators.

Yet despite the overwhelming demand for and importance of technical translation, there are several stubbornly persistent myths about technical translation's importance, nature and role both in industry and within academia.

Some Misconceptions

Before we examine technical translation in greater detail and try to relate it to various theories of translation, it would be useful to look at what we mean by "technical translation" and contrast some misconceptions about technical translation with the realities of what it means to be a technical translator.

Technical translation includes economics, law, business etc. In reality, "technical" means precisely that, something to do with technology and technological texts. Just because there is a specialised terminology, doesn't make something technical. In discussing technical translation it is useful to make the distinction between specialised and technical translation. For example, religion has a very specific terminology and very definite conventions, styles and document structures but it is never regarded as "technical". The tendency among certain theorists to include LSP texts such as legal, financial and economic texts within the field of technical translation is less than helpful not least because each area has its own unique characteristics, requirements and constraints. Simply because a field or subject area has unique or specialised terminology does not make it technical. This is not to say that financial translation, or indeed legal translation, do not deserve to be studied in detail as areas in their own right, in fact there are a number of extremely useful books on these areas such as Alcaraz & Hughes (2002), but rather that they will not be discussed here. Instead, this book will take as its basis a definition of technical translation that has its roots in the translation industry and indeed industry as a whole, namely, that technical translation deals with technological texts. Or more specifically, technical translation deals with texts on subjects based on applied knowledge from the natural sciences.

Technical translation is all about terminology. This particular misconception is not unique to those uninvolved in technical translation. A surprising number of people within technical translation share this belief Pinchuck (1977:19), for example, claims that vocabulary is the most significant linguistic feature of technical texts. This is true insofar as terminology is, perhaps, the most immediately noticeable aspect of a technical text and indeed it gives the text the "fuel" it needs to convey the information. Nevertheless, Newmark (1988) has claimed that terminology accounts for at most just 5-10% of the total content of technical texts yet there is a disproportionate amount of attention devoted to terminology and lexical issues in technical translation. A simple subject search for "technical translation" on the BITRA bibliographic database reveals that more than half of the 150 entries found relate to terminological or lexical issues.

What makes this even more surprising is the fact that in many fields of science and technology, the terminology is remarkably similar to the extent that separate, specialised dictionaries are frequently unnecessary. Indeed, Fishbach (1993 and 1998) points to the quasi-conformity of medical terminology thanks to the common origins in Latin and Greek. So, depending on the particular language pairs, a translator should have less trouble locating appropriate specialised terms in the target language than with

non-specialised, general terms. Similarly, in computing and IT, the terminology is largely uniform thanks, in part, to a predominance of English in the creation of new terms and partly to the proliferation of proprietary terms and the availability of terms from software companies, e.g. the Microsoft glossaries which are available in every language into which Microsoft's products have been localized.

However, perhaps even more important than terminology is actually knowing how to write the texts. Translators need to produce texts which are identical to those produced by technical writers working in the target language (Fishbach 1998:2). Failing to comply with target language text conventions can undermine the credibility of the text, the author and the information in the text. O'Neill (1998:72) claims that "there is no substitute for a thorough knowledge of the target language". In order to do this, it is necessary to look to technical writing and this is not something many translators have the opportunity to do, either as part of their training or as part of their own efforts to improve their skills.

According to Lee-Jahnke (1998:83-84), there are three things that are essential in order to learn how to deal with scientific and technical texts:

- know the text structure in the different languages
- know the LSP for the area
- know the subject area

Style doesn't matter in technical translation. This is, perhaps, one of the more irritating misconceptions for technical translators because it is so completely unfounded and implies that technical translators do not have the same linguistic and writing skills as other types of translator. Perhaps the problem stems from differing opinions of the nature of style and the popular belief that it relates exclusively to literature. If we look at style from a literary point of view, then it does not have any place in technical translation. But if we regard style as the way we write things, the words we choose and the *way* we construct sentences, then style is equally, if not more, important in technical translation than in other areas because it is there for a reason, not simply for artistic or entertainment reasons. As Korning Zethsen (1999:72) asserts, literary texts "do not hold a monopoly on expressivity and creativity". To illustrate this, consider a leaflet containing instructions for using a product. The limited space available requires both the author and translator alike to express information in a way which is sufficiently clear, simple and concise so as to allow readers to understand the information completely and quickly but which nevertheless conveys all of

the necessary facts. In comparison, consider a poem where an author may purposely choose stylistic devices, structures and metaphors which will make the meaning ambiguous and leave it open to several interpretations so as to add to the readers' enjoyment of the poem. Both situations will require the use of stylistic and expressive language in order to achieve the desired effects although these approaches may be at opposite ends of the stylistic spectrum.

In many cases, the importance or even existence of style in technical texts goes completely unacknowledged, due largely to the belief that because technical language is functional, it must be "plain" and stripped of any form of style or linguistic identity. In reality, however, technical translation is a highly complex endeavour and style is one of its most important facets. For this reason, this book will take as its basis the concept of style and its application in technical translation. This book will show that style, which has been regarded at best as a way of ensuring compliance with target language norms, can actually have much more profound effects on the quality of technical translations.

Technical translation is not creative; it is simply a reproductive transfer process. While technical translation "is undoubtedly more restricted in range than aesthetic translation" it is much too easy to overestimate and exaggerate its apparent simplicity (Pinchuck 1977:20). But in order to convey information in an appropriate and effective way, technical translators have to find novel and creative linguistic solutions to ensure successful communication. That this task is often hampered by a restricted vocabulary and stylistic constraints merely makes the achievement all the more impressive.

You need to be an expert in a highly specialised field. There is a common belief that in order to be a good technical translator, you need to be an expert in a highly specialised field and you can't specialise in more than one or two subject areas. But the reality is that, armed with a good and solid understanding of the basic principles and technologies, many technical translators can, in the words of Robinson (2003:128) "fake it". He says that "translators... make a living pretending to be (or at least to speak or write as if they were) licensed practitioners of professions that they have typically never practiced." They are like actors "getting into character".

However, lest technical translators be branded a bunch of scurrilous charlatans who deceive unwitting clients we need to put Robinson's comments into perspective. The notion of *pretending* to be an expert means that the translator should have enough subject knowledge either to know how to deal with the text or to be able to acquire whatever additional information is needed. Researching a new subject area for a translation is