

The Cambridge Handbook of

# Translation

edited by **Kirsten Malmkjær**



## The Cambridge Handbook of Translation

Translation plays a vital role in society – it allows us to share knowledge and enrich our lives through access to other cultures. Translation studies is a rapidly evolving academic discipline, directly impacted by advances in technological aids, and with close connections between theory and practice. Bringing together contributions from internationally renowned scholars, this handbook offers an authoritative, up-to-date account of the many facets of this buoyant discipline. It covers different themes, areas of practice and developing trends, and provides an overview of the major sub-fields and the connections among them. It is organized into six parts covering the nature of translation, its roles in society, its relationships with other disciplines, a selection of its factual genres, a selection of its art-related genres and, finally, its role in history. Comprehensive yet accessible, it is essential reading for students, teachers and scholars of translation studies, modern languages, linguistics, social studies and literary studies.

KIRSTEN MALMKJÆR is Professor Emeritus of Translation Studies at the University of Leicester. Recent publications include *The Routledge Handbook of Translation Studies and Linguistics* (2018), *Key Cultural Texts in Translation* (co-edited with Serban and Louwagie, 2018) and *Translation and Creativity* (2020). She co-edits the Cambridge Elements of Translation and Interpreting series.

Genuinely broad in scope, each handbook in this series provides a complete state-of-the-field overview of a major sub-discipline within language study and research. Grouped into broad thematic areas, the chapters in each volume encompass the most important issues and topics within each subject, offering a coherent picture of the latest theories and findings. Together, the volumes will build into an integrated overview of the discipline in its entirety.

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**Kirsten Malmkjær**

*University of Leicester*



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For David



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# Introduction

Kirsten Malmkjær

The translation phenomenon has intrigued me for as long as I have known more than one language. When my interest turned academic in the late 1970s, the discipline of translation studies had only recently acquired its name, on James Holmes's suggestion (see [Chapter 1](#)). Now, as that name nears its fiftieth year, the discipline has expanded so extensively that the term 'translation' can seem too narrow to reflect all that it encompasses. Relevant arguments for and against the continued use of the term can be found in [Chapter 20](#). For me, 'translation' still conjures up a world of variety of play and work with and within languages, and aptly names a set of practices and processes crucial to communication within and between cultures. I chose the title, *The Cambridge Handbook of Translation*, for this volume with breadth and comprehensiveness in mind, and I hope that the *Handbook* reflects this intention.

The *Handbook* is divided into six parts of five chapters each, except for the final part which consists of four chapters only, leaving room and scope to grow into further centuries!

Part I addresses the nature of the phenomenon – its theories in [Chapter 1](#), its processes in [Chapter 2](#), its relationship with technology in [Chapter 3](#), translations made by the author of the initial text themselves in [Chapter 4](#) and the nature of translated text in [Chapter 5](#).

[Chapter 1](#), 'Theories of Translation', by Jeremy Munday, discusses the nature of theory, how theory can be applied and the interaction between theories. The last issue is especially important for a discipline like translation studies, which interacts in a variety of ways with other disciplines, as [Part III](#) highlights. The chapter takes us from St Jerome in his study at the end of the fourth decade of the Christian Era, when he was commissioned by Pope Damasus to revise the existing Latin translation of the Old Testament, through early and towards contemporary theories of the translation endeavour, and towards the terminology that has been developed

along the way, to pinpoint the discipline's important concepts, considerations and approaches.

**Chapter 2**, 'The Translation Process', by Fabio Alves and Arnt Lykke Jakobsen, tackles aspects of cognitive processing that can be observed in the course of a translation task, from the moment a translator begins to read a text-to-be-translated until the translation has been finalized. It begins by recording the historical development of research into the translation process and how the task of translation has been modelled. It moves on to examining how advances in methodological approaches have contributed to the development of early models, providing empirical evidence from verbal reports, keylogging and eye tracking. Contemporary translation process research focuses on text reading, segmentation and production; and advances in computational linguistics have enhanced descriptions and identification of translation units, attention, production and alignment.

**Chapter 3**, 'Translation and Technology', by Akiko Sakamoto, describes major advances in translation technologies and explains how these have influenced our understanding of translation, particularly the concept of translation quality and the translation production process. Sakamoto argues that these changes have created a rift between translation studies theories and a new notion of translation circulating in the industry. The chapter identifies new trends in translation studies research which seek to develop new knowledge to address this rift.

**Chapter 4**, 'Self-Translation', by Anthony Cordingley, argues that self-translators are not bound by the same professional code that typically constrains translators. The chapter examines how self-translators balance the need to represent their source accurately and the freedom to recreate it. It describes the differences between self-translation and other forms of bilingual writing and explains how self-translation has been categorized with respect to a range of literary, geopolitical and commercial influences and motivations. Finally, it considers how the metaphor of self-translation is used within literary and translation studies.

The last in **Part I, Chapter 5**, 'Translated Text', by Bergljot Behrens, discusses claims that different norms govern translation and the nature of translated text in different temporal and geographical contexts, and that translated texts differ from first-written texts. It considers the troubled relationship between the notions of norms and translation universals, and addresses the question of what constitutes a translation 'proper', and what characterizes the task a translator takes on when translating a piece of literature. It gives an account of the variety of approaches and attitudes taken to this task since ancient Roman times, through to the work of Gideon Toury on translation laws and later developments that this has inspired, including work on norms, the nature of translated text, and translation universals. Translations and re-translations into English of Henrik Ibsen's plays are used for purposes of illustration.

**Part II** moves from the nature of translation as such to considering the role of translation in society. In **Chapter 6**, ‘Translation and Translanguaging in (Post)multilingual Societies’, Tong King Lee addresses the complex, multifaceted relationship between translation and society in general, before discussing translation in the context of multilingual societies. He examines translation in connection with translanguaging in the contexts of superdiversity and metrolingualism, drawing on findings of the AHRC-funded project, ‘Translation and Translanguaging: Investigating Linguistic and Cultural Transformations in Superdiverse Wards in Four UK Cities’, arguing that translation should be seen as part of assemblages that constitute the discursive and semiotic character of multilingual societies.

In **Chapter 7**, ‘Less Translated Languages’, Albert Branchadell considers languages that are less translated from and into than other languages. Focusing on institutional translation, he examines the translation regimes of the United Nations, the European Union, selected multilingual states and selected multilingual regions within or without multilingual states, focusing, in the first case, on Spanish with respect to English and French in the UN system; in the second case, on translation in several EU institutions; in the third case, on the asymmetric interpreting regime of the Spanish Senate, in which Spain’s minority languages may be translated from but not into, and there is no translation at all *between* minority languages; and, in the fourth case, on multilingual regions like Catalonia and South Tyrol.

In **Chapter 8**, ‘The Translation Professions’, Rakefet Sela-Sheffy addresses the question of how and to what extent translation practices have become professions. In sociology, a profession is understood as an occupation that has been formally established, with boundaries determined by a canonized body of knowledge and formulated ethics, methods and technologies and recognition and authority given by the state. In contrast, translation occupations mostly form a heteronomous field that lacks formalized standards and controls. She argues that this reflects a tension between professionalization as defined in sociology and ‘the rules of art’ or ‘the intellectual field’ as described by Bourdieu. In the latter, norms and value-scales depend on practitioners’ ethos and images rather than on institutional parameters.

Nevertheless, relationships do exist between translation and public policy. These are addressed in **Chapter 9**, ‘Translation Studies and Public Policy’, by Gabriel González Núñez. When challenges of organizing public spaces involve the use of more than one language, translation is often employed, and, in such circumstances, translation may serve a variety of functions, including the deployment of language policies alongside other policy aims such as the promotion of human rights or multiculturalism. The chapter explores this link between public policy and translation, presenting a survey of insights that have been provided by scholars, and suggesting areas where scholarship can provide further

understandings. These insights are important, given the continuing multilingualism and diversity of societies.

The last in [Part II, Chapter 10](#), ‘Translator Associations and Networks’, by Julie McDonough Dolmaya, begins by addressing the differences between the two groupings, associations and networks. It divides these into four categories, profession-oriented, practice-oriented, education-oriented and research-oriented, and presents examples of each type of grouping. It examines the activities that translator associations and networks typically engage in, focusing in particular on advocacy efforts, training and certification, and social and professional networking. The chapter also introduces the codes of ethics and codes of practice that guide translation professionals.

In [Part III](#), relationships that obtain between translation and other disciplines are in focus. In [Chapter 11](#), ‘Translation and Comparative Literature’, Xiaofan Amy Li offers historical reflections on the role that translation has played in comparative literature as a discipline in Europe and in East Asia. She examines current scholarship to cast light on the relationship between translation and comparative literature and the polemics that this relationship has sparked. She argues for a diversified view of translation and comparative literature that acknowledges not one but many conceptualizations of their interrelations.

In [Chapter 12](#), ‘Translation and Linguistics’, Hanting Pan and Meifang Zhang trace the role of linguistics within translation studies back to Roman Jakobson’s ‘On Linguistic Aspects of Translation’ of 1959. To illustrate how linguistic theories and concepts have developed and contributed to translation studies, they present a map drawn up on the basis of a bibliometric survey, focusing on three major stages, pure linguistics, discourse analysis and multimodality. In light of the way in which the relationship has developed between translation studies and aspects of linguistics that have been applied to translation research, in particular multimodal discourse analysis, they suggest how the relationship might continue to develop in the future.

In [Chapter 13](#), ‘Translation and Philosophy’, Duncan Large argues for the central importance of translation to philosophy, which is ‘born translated’ and constantly renews itself through translation. He considers leading philosophical accounts of translation, focusing on the question of untranslatability, before addressing complementary ways in which translation studies as a discipline has been exercised by philosophical questions, especially concerning translation equivalence and the ethical duty of the translator. Finally, he examines some of the purposes met by translations of philosophical texts, and some of the practical issues involved in translating philosophical texts by canonical German philosophers into English.

Moving from translation’s relationships with the intellectual pursuits of linguistics and philosophy, the discipline’s relationship with the less



ethereal (though, of course, no less theorized) notions of gender and sexuality, and education, respectively, is addressed in the last two chapters in [Part III, Chapters 14 and 15](#).

[Chapter 14](#), ‘Translation, Gender and Sexuality’, by Brian James Baer, addresses the relationships between translation and gender and sexuality which began to be discussed in translation studies in the 1980s by scholars often informed by feminist theory and by the minority rights and independence movements of the time. The chapter deals with translation and gender and with sexuality and translation in separate sections, to reflect the fact that gender identity and sexual orientation are not mutually determining. It surveys current research within those discrete but intersecting categories, before discussing emerging themes and future directions.

[Chapter 15](#), ‘Translation and Education’, by Sara Laviosa, highlights the shared concerns of translation scholars and teachers that derive from the recognition that communities and people are increasingly multilingual. Scholars increasingly favour a model of education that privileges mutual exchange and co-construction of knowledge between teacher and students and which fosters translanguaging as a pedagogical model in bilingual education and in a variety of educational contexts where the school language and the learners’ languages do not coincide. The chapter examines the principles embraced by the multilingual turn in educational linguistics and explains how these tenets underpin novel translation teaching approaches and methods in higher education.

The chapter by Laviosa completes [Part III](#) of the volume and is an apt transitional chapter between the volume’s generally theory-focused first half and the application and practice-focused [Parts IV](#) and [V](#).

[Part IV](#) begins with Maeve Olohan’s [Chapter 16](#), ‘Translating Technical Texts’. Given the problematic concept of ‘text’ in the context of technical content, and of what is ‘technical’, for that matter, Olohan focuses on practices in which technical content figures. Technical translation is closely connected to technical authoring, and the two activities share some of the materials that are used, the competences that are required, the motivations that drive them, and their ultimate purposes of producing technical content that will enable users to achieve their goals. Drawing on work in genre analysis, she suggests that it would be useful for translation studies to research professional contexts in which translated technical content is focal in, for example, software development and industrial manufacturing, in laboratories and research centres, and in diverse installation and operation settings.

In [Chapter 17](#), ‘Translating Academic Texts’, Krisztina Károly highlights how translation studies’ interaction with genre analysis, register studies, critical language study, contrastive rhetoric and the study of languages for special purposes relates to the translation of academic texts. Most investigations contrast English with languages such as French, Spanish,

Portuguese, German, Russian, Chinese, Arabic, Slovene, Hungarian, Finnish and Danish, and the foci of analyses relate to a wide range of topics, such as translation strategies, style and register, terminology, and culture-specific discourse conventions. Károly identifies the challenges that the field faces and the areas where further research is needed.

In the case of medical and legal text translation, the expert–lay divide often presents particular challenges for translators, as the authors of [Chapters 18](#) and [19](#) show.

In [Chapter 18](#) on ‘Translating Medical Texts’, Karen Korning Zethsen and Vicent Montalt chart the history of medical translation, and developments in the field. They introduce the main genres and target groups and discuss important challenges that medical translators face. A shift from the biomedical paradigm to patient-centredness and patient empowerment means that people want to understand information involving their own health, so that intralingual translation is often required for expert–lay medical translation. The chapter discusses the challenges that such intralingual translation presents, especially when coupled with interlingual translation. The importance of medical ethics in medical translation is also highlighted.

The second genre in which the lay–expert divide can be challenging is the translation of legal texts, which Lucja Biel discusses in [Chapter 19](#), ‘Translating Legal Texts’. The chapter maps the field of legal translation practice, research and training, beginning with an overview of the history of legal translation and its reorientation from literalness towards functional, receiver-oriented approaches which ensure equivalent effects, and which perceive legal translation as an act of legal communication. The chapter identifies the key characteristics of legal translation, both inter-systemic and institutional, and discusses attempts to standardize legal translation by way of an ISO standard. The chapter also reviews key research trends and methods in legal translation studies, and outlines the competencies that legal translators need to acquire, suggesting how these can be developed.

In contrast to the two genres that are the foci of [Chapters 18](#) and [19](#), ‘Translating News’, the focus of [Chapter 20](#) by Lucile Davier, is generally meant for a broad, mainly lay audience. The challenge here is less a divide between lay and expert text user, and more the fact that news translation tends to be undertaken by non-professional translators, namely journalists themselves. This particularity makes news translation an integral part of non-professional translation. The organizations that translate news are discussed, and the chapter outlines the stages of text production at which translation occurs. Finally, it offers a glimpse into the past to the beginning of news translation with the birth of newswires, and suggests a view of the future of news translation.

The chapter on news translation completes the first of the two parts of the volume that focus on practices of translation, in this case factual genres.

The practical focus continues in Part V, although the genres under scrutiny here are largely art texts, beginning, in [Chapter 21](#), by Geraldine Brodie, with ‘Translating for the Theatre’. Theatre translation has connections with literary and poetry translation but is always focused on a performed text and its users. Readers of translated theatrical texts include theatre practitioners engaged in the design and development of performance, and actors who reproduce the text as dialogue and movement. The chapter contrasts direct translation by a specialist translator with the frequent practice of commissioning an expert linguist to make a literal translation to be used by a theatre practitioner to create a text for performance. It considers the role of the translator in the theatrical environment, and concludes with a discussion of the implications for theatre translation of relevant theories from the wider translation arena.

In [Chapter 22](#) on ‘Audiovisual Translation’, Serenella Zanotti offers an overview of the field focusing on both established and emerging modalities, from traditional transfer modes such as dubbing, subtitling and voice-over, to modes that provide accessibility for people with sensory impairment, such as subtitling for the deaf and hard-of-hearing, audio description, live-subtitling and sign language. Non-professional translation practices such as fansubbing, fandubbing and film remakes are also discussed. For each mode, the chapter illustrates the associated medium-specific constraints and creative possibilities, highlighting the power of audiovisuals to contribute to meaning in ways that lend themselves to manipulation during the translation process.

[Chapter 23](#), ‘Translating Literary Prose’, by Karen Seago, focuses on a broad genre that ranges among children’s literature, genre fiction, and literary and lyrical fiction. Each subgenre presents different primary foci, from style to plot, but each tends towards a narrative core of characters, setting and process. Translators of literary prose face textual and contextual practical challenges in catching the cadence, rhythm and music of a text, since stylistic variation can be crucial in characterization and plot development. Figurative language, selectional restrictions, humour, allusions and quotations tend to be culturally specific and to add to the challenges presented by indeterminacy, ambiguity, inference and implicatures, all of which rely on contextual understanding and may need to be explicated in a translation.

In [Chapter 24](#), ‘Translating Poetry’, Paschalis Nikolaou and Cecilia Rossi provide a history of thought on poetry translation ranging from the Roman poets translating Greek, to the experiments of Louis and Celia Zukovsky. They explore how poetic forms, for example the haiku and the sonnet, have been introduced to literary systems beyond their origins through translation, and how the poetry of the classical world has been reanimated through modernism’s shifts in practices and views of translation. They discuss the ‘translation’ of texts in a literary context by poets and versioners who may or may not read the source languages concerned.

Throughout, the emphasis is on exemplification and on the connection between theoretical perspectives and paratextual reflection.

The [final chapter](#) in Part V on the translation of art texts is [Chapter 25](#), ‘Translating the Texts of Songs and Other Vocal Music’, by Peter Low. Translations of songs may be required for various purposes – for singers to sing, for announcers to speak, for CD listeners to read, for singing students to study, and for display as surtitles at a performance. Since no translation is ideal for every purpose, translators need to choose strategies and options that best suit the end-users. Particularly complex is the ‘singable translation’ (singable in the target language) which is intended to fit a pre-existing melody – here translators are subject to unusual constraints, such as the need to achieve the right number of syllables and a workable rhythm. Often, a singable translation may include so many changes that the term ‘adaptation’ is more accurate than the term ‘translation’.

In [Part VI](#), the *Handbook* turns its attention to translation in history – not the history of translation so much as the roles of translation in different temporal periods, from the pre-Christian era until our own millennium.

In [Chapter 26](#), ‘Translation before the Christian Era’, Roberto A. Valdeón discusses the role of translation in the years before the birth of Christ in Ancient Egypt, the Near and Middle East, Ancient Greece and Rome, and China. Despite the difficulties of finding texts in translated form stemming from a time when writing was generally limited to stone inscriptions and papyri, many of which have been lost, discoveries made since the 1900s in areas such as Egypt or the Iranian plateau have demonstrated that the practice of translation was not unknown. These discoveries show that the aims of translating into foreign languages were the same as those of modern times: conquest, trade, dissemination of religious beliefs, and literary appropriation or adaptation.

Documentation concerning translation activity in the first millennium is less hard to come by, and [Chapter 27](#), ‘Translation in the First Millennium’, by Denise Merkle, covers the period from the beginning of the Christian Era to the advent of the Renaissance. The Eastern Roman and Byzantine, (Holy) Roman, Umayyad and Abbasid as well as Chinese empires, in addition to the Indian subcontinent, documented translation and interpreting activity during the millennium when expansionist empires and kingdoms rose and fell, and Silk Road trade flourished. Classical Greek, Latin, Persian, Sanskrit and Arabic texts were revered and much translated, as were the texts of two religions founded during the period, Christianity and Islam. The Chinese invention of paper early in the second century reduced the cost of producing translations.

The [second chapter](#) authored by Denise Merkle, [Chapter 28](#), ‘Translation in the Second Millennium’, presents an overview of translation and interpreting activity through the second millennium in Africa, the Americas (the ‘New World’), Asia (China, India, Japan, Turkey) and the Old World. The chapter concludes with a section on the twentieth century that links

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the professionalization of translation, terminology and interpretation with the development of transnational organizations like UNESCO and supranational unions like the European Union in the aftermath of World War II, along with continued globalization and technological progress.

The *final chapter* in the volume, *Chapter 29*, by Moritz Schaeffer, entitled ‘Translation in the Third Millennium’, completes the account of translation in history as well as the volume itself. As Schaeffer points out, to predict what will happen over the course of a millennium is reckless; but observing the current state of affairs of technological development relating to translation studies and assuming that future developments will follow a linear path, he argues that the impact of technology on translation is likely to play a significant role in how translators and consumers of translations will experience translation itself in this millennium. He predicts that we will achieve a better understanding of the brain, and that technology will become more integrated with humans; this will have a revolutionary influence on how translation is conceptualized, practised and used. The concept of the original would be turned on its head, so to speak, and global connectivity would acquire a new meaning if brains were to be connected the way we are currently connected via machines external to our bodies. In these circumstances, translation would be central in the endeavour to build an interface between individuals.

And so, the volume comes to its conclusion. It has charted a complex, multifaceted field of study, practice and theorization which – my own prediction here – will continue to fascinate for the foreseeable future.



# **Part I**

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## The Nature of Translation





# 1

# Theories of Translation

Jeremy Munday

## 1.1 Introduction

Along with other performance-based disciplines, translation has both a theoretical and a practical core. There is an unresolved friction between theoreticians and practitioners. Translation is taught as an academic or professional competence at undergraduate and postgraduate level, while translation studies encompasses the research and theoretical investigation of the subject. The theory of translation, or translation theory, previously the denomination of the whole field, is now usually a subset of the discipline. Multiple theories have evolved, and there is no formal consensus. Each theory reflects a different approach to the practice and study of translation.

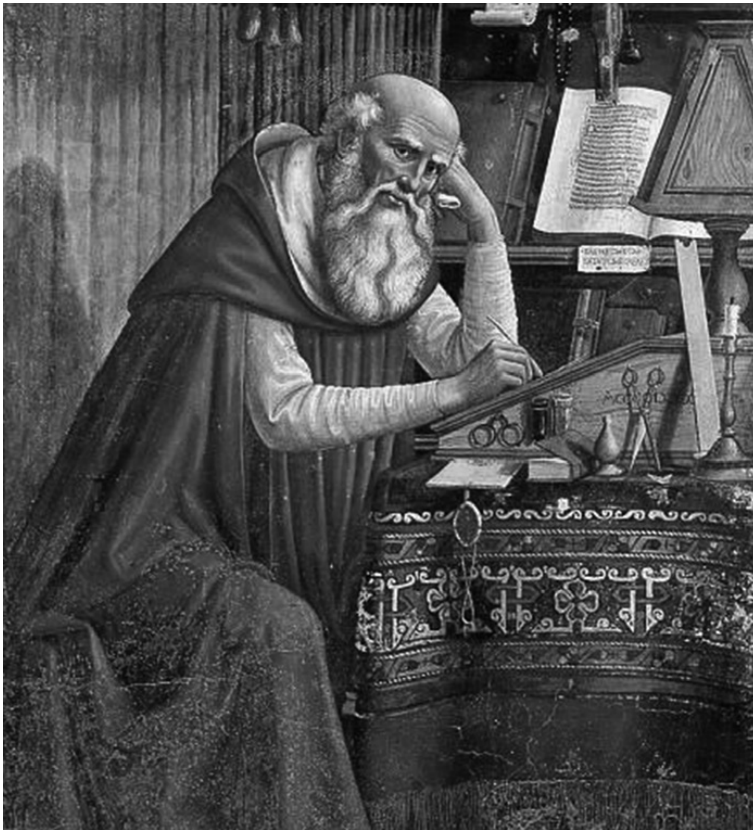
Questions of theory delve into the fundamentals of a field: what a theory of it is, how theory can be applied and how different theories interact. Translation of some sort must have been in existence since the invention of language, yet until the middle of the twentieth century relatively few translators had received formal training. In such circumstances, what ‘formal’ theory existed was generally limited to impressionistic, philosophical or religious commentary located in some paratext of the translation, in a preface or other foreword or afterword. Even attempts at more systematic writings, such as [Dryden’s \(1680\)](#) or [Tytler’s \(1797\)](#), did not go much further than identifying certain translation strategies and selecting various translation solutions. The nineteenth-century German Romantics such as Goethe, Schlegel and Schleiermacher trod a different path through the hermeneutic world, [Schleiermacher \(\[1813\] 1992\)](#) devoting a public lecture in 1813 to discussing different methods of translation.

## 1.2 Classic Depiction of the Translator

Let us start with the classic depiction of the translator in Western civilization, Domenico Ghirlandaio's fresco *St Jerome in His Study* (see [Figure 1.1](#)), painted for the All Saints Church in Florence in 1480.

The church retains both this and its companion piece of another translator, St Augustine, painted by Botticelli.

Jerome was commissioned in CE 390 by Pope Damasus to revise the existing Latin translation of the Old Testament using the Hebrew Bible and the Greek Septuagint as a basis. The justification for the revision was concern in the Church about discrepancies among the existing translations; it was felt that the time had come to publish a 'standard' translation to ensure that, literally, everyone was reading from or listening to the same hymn sheet. Ghirlandaio's painting reinforces a stereotype that persisted until the end of the twentieth century: translation as a solitary occupation in which the translator works like an artist or artisan, surrounded by the tools of the trade, books and papers, manipulating a quill/



**Figure 1.1** Domenico Ghirlandaio, *St Jerome in His Study* (1480)

pen and, more recently, a computer/computer-assisted translation (CAT) tool.

St Jerome is the Catholic saint of translators, celebrated on 30 September, International Translation Day. Jerome's contribution to theory rests on brief comments in a letter, where he defends himself from attacks from those who were unhappy with his translation of the Bible. Jerome emphasized his opinion that the better translation is normally 'sense-for-sense' rather than 'word-for-word': 'Now I not only admit but freely announce that in translating from the Greek – except of course in the case of the Holy Scripture, where even the syntax contains a mystery – **I render not word-for-word but sense-for-sense**' (St Jerome, Letter to Pammachius, 395 CE). The brief clause, highlighted in bold in the example, earns Jerome a place in the translation theory books. Preceding this point in the text, Jerome makes a useful comment on a facet of translation that may depend on contextual features of the situation. Thus, he says that his preference is for sense translation *except* in the case of the Bible, where 'even the syntax contains a mystery'. In such cases literal translation is to be preferred because of the peculiar character of the source text and the special properties of sacred language. The underlying theory of translation expressed by Jerome may be explicitly articulated as follows: there are two translation strategies available, one focused on the (form of the) word and the other on recreating the sense. For most translation, the sense-focused strategy is the default, but the word-focused strategy is more appropriate for sensitive, high-status religious texts.

### 1.3 Early Theories

In a major edited volume published in 1997, Douglas Robinson brought together a collection of the best-known historical writing on translation theory from a Western perspective. The subtitle of the book shows the breadth of the writers and the collection: from Herodotus in the fifth century BCE to Nietzsche in the nineteenth century CE. This was a remarkable endeavour, but Robinson notes some important limitations in his editor's preface. The first is that much of the material was relatively inaccessible and dependent upon the quasi-archaeological excavation of previous anthologies or was enhanced by new translations for those texts written in French, German and Greek principally. Secondly, Robinson points out that anthologies of the time were rapidly becoming outdated because they often ended up regurgitating the same texts and ideas. It was a time when elsewhere Robinson was writing on the then novel theory of translation as empire, the poetics of imperialism and post-colonialism and the growing field of gender studies in translation. A schism in the field was pitching linguistics-oriented writing, such as the anthology *Readings in*

*Translation Theory* (Chesterman, 1989), against the rapidly expanding studies coming from a cultural angle.

The scope of the so-called ‘linguistic theories’ of translation covered in Chesterman’s (1989) volume was greater than previously contemplated. It ranges from Dryden and Walter Benjamin to then cutting-edge research in machine translation and Skopos theory. This gives the lie to the description by Robinson (1997, p. xviii) of linguistic theories as being ‘concerned . . . specifically with a fairly narrow range of sense-for-sense, word-for-word, and “free” translation – the field as it has long been defined’. Robinson’s dismissal of linguistics because it is concerned with translation in its most practical sense shows the theoretical battleground defining this study.

## 1.4 Definition of the Term ‘Translation Theory’

Following Christensen (2002, p. 2), the word *theory* in English has a visual origin and is said to come from the Greek *theoria* (‘seeing’ or ‘observing’) and *theoros* (‘spectator’). According to the *Oxford English Dictionary* (OED, n. d.), the term was first used in English in the late sixteenth century as ‘a mental scheme of something to be done’. It is given with six modern senses, of which the following are of most relevance to us:

- 1.a The conceptual basis of a subject or area of study. Contrasted with *practice*.
2. [Without article.] Abstract knowledge or principles, as opposed to practical experience or activity: theorising, theoretical speculation.
- ...
- 6.a An explanation of a phenomenon arrived at through examination and contemplation of the relevant facts; a statement of one or more laws or principles which are generally held as describing an essential property of something.

The visual nature of the process (the spectator who observes) joins with the reasoning element (examination/speculation) as the essence of the term. Senses 1.a and 2 both stress the contrast of theory with ‘practice’; it is a classic distinction for translation and will be discussed in Section 1.5. Sense 6.a centres on the visual observation leading to the identification of laws or principles of behaviour. This will be crucial in the later discussion of descriptive translation studies (DTS).

Theories may be abstract, but they do not exist in a vacuum. First published in 1962, Thomas Kuhn’s *The Structure of Scientific Revolutions* remains a seminal philosophical text to understand the history and flow of ideas. In Kuhn’s account, a scientific status quo or ‘paradigm’ is maintained until a situation arises that cannot be resolved or explained using the normal methods. New approaches are tested, and when one is

successful, it becomes a new paradigm for future studies or practice. In the introduction to his book *Exploring Translation Theories*, Anthony Pym ([2010] 2014, p. 1) points out that there is terminological overlap among ‘theory’, ‘model’ and ‘paradigm’. He follows Kuhn in defining paradigms as configurations of principles that support different groups of theories. The translation paradigms proposed by Pym are: equivalence, purpose, description, uncertainty, localization and cultural translation. We shall discuss several of these, but it should be acknowledged that there is no general agreement among translation theorists about the number and content of such paradigms.

Then comes the question concerning how theory is used. Pym claims reasonably that translators are theorizing all the time: they identify translation problems, generate possible solutions and then choose between the candidate equivalents. In similar fashion, discussing the relation of theory and practice in translation, Boase-Beier (2010, p. 26) contends that ‘everyone needs theory, because any act which is not a reflex or purely the result of intuition (and perhaps even then) must be based on a theory, which is simply a way of looking at the world’. However, that word *simply* underplays the complexity of language. It is as a guide through that complexity that theory may assist a translator to translate better. It also allows translators conceptual tools to defend their choices, underpinned by argumentation that is more solid than simply saying ‘it sounds better’.

## 1.5 Metalanguage

As translation theory has developed, so research has become more systematic. Or vice versa. The area of metalanguage is one where innovation and the weight of theory are most evident. Since the 1950s, there have been numerous attempts to classify the small changes or ‘shifts’ that occur in the move from source to target text. Considered from the standpoint of the translator, these are variously known as translation techniques / procedures / methods / solutions / tactics. Perhaps the earliest taxonomy of this type was constructed in Canada by Vinay and Darbelnet in 1958, a comparative stylistics of French and English designed to function as a manual of translation. The taxonomy they produced included seven ‘procedures’ (borrowing, calque, literal translation, transposition, modulation, equivalence and adaptation) at three levels (lexicon, syntax, message) and with an overall orientation that was either ‘direct’ or ‘oblique’ translation. The advantage of such a systematic approach is that it is evidence-based and the precision of the terminology allows for easy reference and comprehension: hopefully, everyone knows what they are referring to and hopefully it is to the same thing. The disadvantage is that the metalanguage used may clash with the metalanguage coined by another scholar and this may cause confusion. For instance, the term ‘equivalence’

in the above list of procedures denotes an idiomatic rendering of a source text element (e.g., a proverb, onomatopoeia); this is different from the concept called ‘equivalence of meaning’ that is central to the work of Nida and others.

An added complexity, inherent to their function, is that these taxonomies were published based on different language pairs. They would circulate with inconsistent renderings of newly coined terms years before an official translation was made. Thus, Vinay and Darbelnet’s categorization of methods existed in French for nearly four decades before it was translated into English, during which time the specific method of *emprunt* had been variously translated as *borrowing* or *loan*. Similarly, [Reiss and Vermeer’s 1984](#) monograph existed in German and its Spanish translation for three decades before appearing in English, the language which, for better or worse, has become the lingua franca of academia, including contemporary translation theory.

## 1.6 Theory and Practice

More than half a century has passed since Eugene Nida and Charles Taber published their classic *The Theory and Practice of Translation* ([Nida and Taber, 1969](#)). This was one of a series of publications based on Eugene Nida’s experience of training Bible translators working into a myriad languages, some of which had no previously written form. Nida and Taber discuss the effect of the translation on the receptor and the necessity of seeking ‘equivalent effect’. This is linked to the choice of overall translation strategy. For Nida and Taber it is achieved through what they call ‘dynamic equivalence’ (later ‘functional equivalence’), defined as the ‘quality of a translation in which the message of the original text has been so transported into the receptor language that the response of the receptor is essentially like that of the original receptors’ ([Nida and Taber, 1969](#), p. 200). This frequently requires adaptation of the form of the source text in order to preserve the message.

Dynamic equivalence should be considered in opposition to the strategy of formal correspondence, which, in its severest form, ‘mechanically reproduces the form of the source text leading to a distortion of the message’ ([Nida and Taber, 1969](#), p. 201). The binary distinction of two types of translation strategy was a theoretically more advanced extension of the old ‘literal versus free’ distinction. It brought in new concepts from generative grammar to underpin a more systematic analysis. Over the following thirty years a number of other translation theorists proposed their own binary. In many cases the binary hides a cline, because translation is rarely completely systematic. Some of the more prominent classifications can be seen in [Table 1.1](#).

Table 1.1 *Binary terminology of translation strategies (adapted from Munday, 2016, p. 311)*

Theorist	Orientation Strategy	
Friedrich Schleiermacher	Naturalizing translation	Alienating translation
Eugene Nida	Dynamic equivalence (later called 'functional equivalence')	Formal equivalence (later called 'formal correspondence')
Peter Newmark	Communicative translation	Semantic translation
Jean-Paul Vinay and Jean Darbelnet	Oblique translation	Direct translation
Christiane Nord	Instrumental translation	Documentary translation
Juliane House	Covert translation	Overt translation
Gideon Toury	Acceptability	Adequacy
Theo Hermans	Target-oriented	Source-oriented
Lawrence Venuti	Domestication	Foreignization

The list in Table 1.1 is far from being fully comprehensive. One of the difficulties is the inconsistency in terminology. Each of the theorists in the left-hand column has approached the question from a slightly different angle (see Munday, 2016 for a summary of these differences). In essence, each pair of terms in columns 2 and 3 may be distilled into a distinction between a translation that is oriented linguistically and one that is oriented culturally towards, in column 2, the values of the source culture or, in column 3, the values of the lingua-culture.

Then there is the thorny question of whether theory is actually needed at all. It is a question that needs to be confronted. First, we must note that it is sometimes possible to translate well without studying translation. Translation and interpreting have been carried out for centuries during which time there was little or no training available. Today, although the number of translator training institutes has grown widely and it is no longer possible to land a secure translator/interpreter's post at an international organization such as the European Union or the United Nations without an advanced qualification, which normally requires the study of translation theory, the argument about theory and practice continues.

One of the pithiest examples of the differentiation between theory and practice and their mutual commensurability is found in the essay by the linguist Michael Halliday (2001) in a collection that draws on his contribution to the 25th Systemic Functional Linguistics conference in Cardiff in 1998 in which Halliday made a distinction between the purpose of translation theory for practitioners (the translators) and that for linguists (for whom we can read 'translation studies scholars'):

**For a linguist, translation theory is the study of how things are:**  
what is the nature of the translation process and the relation between

texts in translation. **For a translator, translation theory is the study of how things ought to be:** what constitutes good or effective translation and what can help to achieve a better or more effective product . . . . (Halliday, 2001, p. 13, bold highlight added)

Here Halliday makes clear academics' interest in understanding how the translation comes into being (the process) as well as what changes occur in the move from source to target text (the product in comparison with the starting text). By contrast, the professional translator will more often than not be focused on identifying specific equivalents that will function appropriately in the specific context of the time-sensitive translation task at hand.

Theory provides valuable concepts that allow translators to use their wide linguistic store and repertoire of responses in order to find solutions consistently rather than relying on intuition or luck of the draw. There are comparable situations in other disciplines, for example music or art. It is possible to play an instrument without knowledge of theory much in the way that an untrained translator may work. The translator draws on linguistic competence acquired or learned of both source and target languages and a finely tuned instinct (if untrained, or from theory if trained) about what makes a good translation; the untrained musician may have an innate ability to create or reproduce music, an ability that can be expanded by exposure to theory. It should be stressed that an individual without a theoretical background may still be capable of intuitively arriving at a solution endorsed by theory.

Music theory has a much longer formal history than translation theory but faces a similar hierarchical divide between theory and practice. For music, this hierarchy has shifted over time and expanded to encompass music analysis, as described in the survey of the field that begins the *Cambridge History of Western Music Theory* (Christensen, 2002).

## 1.7 The Study of Translation Theory

Until late into the twentieth century, the concept of the theory of translation was still firmly attached to literary texts and to an eclectic series of readings from mostly well-known and mostly male authors who happened to have written something about translation. For example, in 1992 the University of Chicago Press published a volume edited by Rainer Schulte and John Biguenet of the prestigious Center for Translation Studies at the University of Texas at Dallas. Entitled *Theories of Translation* (Schulte and Biguenet, 1992), the volume brought together in English a collection of twenty Western language texts by almost exclusively male writers from the nineteenth and twentieth



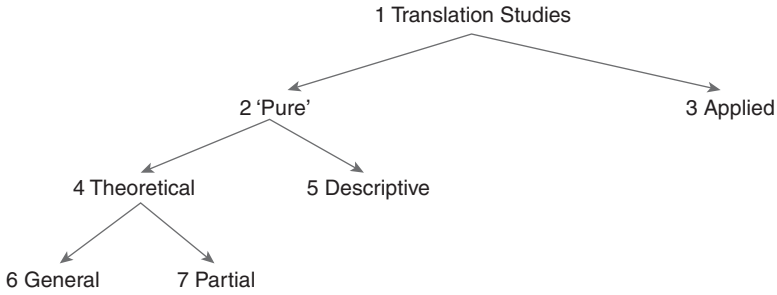
centuries. The aim of the volume was expressed in a very clear statement: ‘A study of the various theoretical concepts that are drawn from or brought to the **practice** of translation can provide entrance into the mechanisms that, through the **art** of translation, make cross-cultural communication and understanding possible’ (Schulte and Biguenet, 1992, p. 1, bold highlight added). The field is here construed very much in terms of literary translation and creative writing, and with a philosophical underpinning that explores the transfer of the foreign content to the target text. Translation is also seen to be an energizing force for the target language (Schulte and Biguenet, 1992, p. 9). But how this actually works is left to interpretation and is not best served by being described as an art or craft, as in the quote earlier in this section. However, the volume affords some space to more systematic analysis. For example, one of the readings is Roman Jakobson’s (1959) still seminal ‘On Linguistic Aspects of Translation’, in which he puts forward the definition of three types of translation: intralingual, interlingual and intersemiotic. In their introduction, Schulte and Biguenet (1992) also discuss the links between research and practice and assert that research into translation theory is about reconstructing the process by analysing the product alongside the source text. It is about analysing choices open to the translator and deducing reasons for the selections made. This concentration on process as well as product chimes with the approach proposed by James S. Holmes (1988) in a paper that was to revolutionize research in translation studies.

## 1.8 Holmes and Translation Theory

Holmes (1924–86) was a Dutch-American poet, translator and lecturer in the Netherlands. His seminal article ‘The Name and Nature of Translation Studies’ (Holmes, 1988) coined the English name for this discipline. Subsequently, Gideon Toury ([1995] 2012) made use of Holmes’s structure when he put together a visual representation of the field.

The famous map can be seen in Figure 1.2. Translation studies (that is, the field as a whole) is subdivided into a ‘pure’ (theoretical) and an ‘applied’ (practical) side. The ‘applied translation’ branch was, at that time, very much the junior partner. Our interest in the theoretical side of translation studies will centre on the triangle formed by ‘**pure**’ and its subordinates, ‘**theoretical**’ (**general** or **partial**) and ‘**descriptive**’ (later differentiated, according to ‘**product**’, ‘**process**’ and ‘**function**’). Let us consider each of these overarching terms and how each subdivision serves to construct that part of the field of translation theory.

‘Pure’ [2] is an epithet designed to put translation studies [1] on a par with systematic scientific investigation. For Holmes, the theoretical side encompasses both [4] and [5]. Further, [4] is subdivided between ‘general



**Figure 1.2** Holmes’s/Toury’s ‘map’, adapted  
 Source: Toury [1995] 2012, p. 10.

theory’ [6] and ‘partial theory’ [7]; in line with this, [6] should be reserved for theory that is applicable across the board, while [7] may be limited to a specific language pair, a certain domain of knowledge or a particular translation problem. However, although some texts, including introductory textbooks, lay claim to being applicable *generally*, it behoves us to question to what extent a feature is really ‘general’, that is, relevant for all contexts and situations.

The concept of observing or viewing inherent in the definition of ‘theory’ is very much in tune with the approach adopted by DTS, number [5] in Figure 1.2. The positioning and interaction of theory with the other forms of translation research is important. Toury ([1995] 2012, p. 15) emphasizes that ‘one of the aims of translation studies should definitely be to bring the results of descriptive-explanatory studies executed within DTS to bear on the theoretical branch’. This advancement of DTS as a necessary counter to the often-prescriptive nature of more practical volumes is reinforced by following an approach that privileges description, explanation and prediction.

Holmes (1988) discusses six relevant factors that prevent a general theoretical statement being made for translation. These subdivisions, or ‘restrictions’, mark important distinctions in translation theory research that are still valid. The six are:

1. **Medium-restricted.** Written translation may still be the norm, but the range of forms encompassed by the general term ‘translation’ is far greater and more sophisticated than in Holmes’s time: interpreting, audio-visual translation including video-game localization, machine translation (full or human-assisted) and CAT, among others.
2. **Area-restricted.** This includes phenomena such as language-specific pairs, and different language or cultural groups within the same geographical area. It is important to recognize that there is an overlap between language-specific pairs and contrastive linguistics; however, while translation theory is centred on identifying solutions to translation problems in the two languages, contrastive linguistics has the primary goal of assisting language learning.

3. **Rank-restricted.** When Holmes wrote, the linguistic category of rank was most often applied to the individual word, phrase or sentence. It was an important element in Catford's prominent book on linguistic approaches to translation (Catford, 1965). Subsequently, rank has been superseded by whole text analysis and by discourse analysis using systemic functional linguistics, which sees function in choice.
4. **Text-type restricted.** This relates to questions of translating specific text types and genres, which may have different formal or pragmatic conventions in the two lingua-cultures. An example would be formal business correspondence in French, which has strict conventions about the language used for opening and closing a letter.
5. **Time-restricted.** Translation is dependent on its historical context. It changes over time and descriptive studies are necessarily located in a particular time frame; hence, for example, studies devoted to translations of Latin American fiction into English in the 1960s and 1970s.
6. **Problem-restricted.** The focus is placed on one feature. Holmes gives the examples of the translation of metaphor and of proper names.

All these restrictions constrain the scope of the findings. Furthermore, Holmes accepts that theories can be restricted in more than one way. The translation of metaphor and of proper names necessarily depends on narrowing down the categories of text type (would a name be translated the same whether it appears in a novel or a newspaper report?) and time (names of places can be subject to change for political reasons, such as Salisbury, Rhodesia, which on independence became Harare, Zimbabwe). Current translation studies, priding itself on its interdisciplinarity and its openness, has moved towards the collaborative investigation of such questions.

## 1.9 Descriptive Laws, Probabilities and Universals

The advance of the descriptive translation paradigm by Gideon Toury and others represented a landmark in the theorization of the field. Before Toury ([1995] 2012), much descriptive research was constituted by one-off, isolated studies of a particular source and target text pair. Without the systematic and rigorous assemblage of DTS, there would be no formal way in which to properly evaluate the significance of each new study. What the DTS structure permitted was the comparison and discussion of the new findings within a replicable research framework that overtly builds on prior research.

What Toury was leading to in his more scientific methods was a more solid means of seeing the bigger picture. Individual studies, however brilliant, will always remain one tree in the dense wood and, on their

own, will not be able to answer some larger questions, for instance about the consistency of a translation method at a given time or by a given translator (or group of translators) in given genres or languages. It is only by comparing the findings to similar studies of similar/different genres or the same/different translators, etc. that the single study may be contextualized. Only thus may descriptive research escape isolation and succeed in contributing to the greater understanding as well as theorization of the case.

For [Toury \(\[1995\] 2012, p. 267ff.\)](#), the ‘bigger picture’ meant the identification of probabilistic ‘laws’ of translation: 1) the **law of growing standardization** and 2) the **law of interference**. That is to say, translations would tend in 1) to be less diverse than the source texts (they would be more standard in the choice of lexis and syntax and so on) and in 2) to show the effect of the source text on the target text composition. Thus, we can interpret Toury’s words as meaning both that

- 1) the vocabulary and structures in translations will be less varied compared with the source (for example, a ‘grubby railway station’ may be translated as ‘dirty . . .’) and that
- 2) the translation is constrained by the features of the source (in effect, ‘dirty’ in the source text would be more likely to be translated as ‘dirty’ in the target text even if that were an unnatural or infrequent collocation in the target language).

These two points seem to be contradictory and have been challenged. [Pym \(2008\)](#) suggested that the coexistence of the two laws depends on a range of ‘conditioning factors’ (the need to deal with an ambiguous source text, for example) that allow the translator to manage risk (by choosing the standard term or borrowing a source text term). In addition, the more popular choices in target texts may reflect the specific cultural, sociological and historical circumstances in which the translation took place. Therefore, the patterns that we see may better be considered as ‘tendencies’ or ‘trends’ rather than ‘laws’ or ‘universals’. ‘Universals’ would suggest a feature that occurs in every translation, and [Toury \(\[1995\] 2012, p. 80\)](#) acknowledged that this would be something so general (such as ‘translation shifts occur’) that it would be unable to say anything very useful.

## 1.10 Functional Theories of Translation

Of course, there have been other attempts to formulate a general theory of translation. Early work in the Soviet Union by Andrey [Fedorov \(1953/2021\)](#) produced a monograph in Russian entitled *An Introduction to the Theory of Translation*. As [Vasserman \(forthcoming\)](#) describes, it was first published in 1953 with subsequent editions up to the posthumous fifth in 2002. Targeted mainly at literary translation, it nevertheless reveals a network

of academics working on translation theory across the Eastern and Western blocs. This included Roman Jakobson and Jiří Levý (2011) in the then Czechoslovakia and Edmond Carey and Georges Mounin in Switzerland and France. We should remember that, ironically for a discipline of translation studies, one of the impediments to knowledge transfer was the range of languages in which academics were writing at the time: Fedorov's use of Russian was a significant indicator of power in the Soviet sphere, but it did mean that the audience for his work was restricted among academics in the West. Finally, in 2021, Fedorov's major book appeared in English translation, supported by funding from the European Society for Translation Studies.

Fedorov's work on functional equivalence was a forerunner for theoretical advances in the 1970s and 1980s in Germany (West and East), major centres for translation-based research. The work of Katharina Reiss and Hans Vermeer was geared towards providing what they explicitly termed 'Foundation of a general theory of Translation': *Grundlegung einer allgemeinen Translationstheorie*. This was based on Reiss's work on text type and genre together with the later Skopos theory developed by her student Vermeer. Text type describes the text according to its rhetorical function (arguing, informing, persuading ...); as the textual manifestation of a social process, genre would be considered at the level of, for example, 'health-care information leaflet' rather than a superordinate such as 'health communication'. Admittedly, it is possible to provide a more delicate description of the genre; thus, the health-care information leaflet could be restricted to specific areas of health, such as cancer, which itself can be subdivided into the varieties of the illness (skin, bowel, etc.). One crucial claim of Reiss and Vermeer's theory is that the text type and genre determine to a great extent the form of the translation. So, an informing text type (such as the health-care information leaflet) would require a translation that privileges the transfer of information through 'straight-forward', unambiguous language, while a denser text translated for health-care experts would tolerate (and even demand) that the subject-specific terminology be retained.

Just as importantly, however, Skopos, or purpose, indicates the success of the operation. Fulfilling the translation 'commission', or 'brief', is central to achieving a satisfactory result. The question then arises as to the status of the source text. If, for example, the purpose of the dense information leaflet was to alert a young public to the measures to be taken in the event of a future pandemic, would it be satisfactory, in seeking to achieve its Skopos, to produce a heavily adapted text based on pictures? Indeed, what theoretical limits are there to the manipulation of the text to meet translation instructions? Vermeer (1989) himself spoke of the 'dethroning' of the source text since it was no longer the gold standard against which deviation was to be measured. In view of the consequences of this theoretical question, another German functionalist, Christiane

Nord (2003), proposed a solution of ‘functionality plus loyalty’: that is, fulfilling the functional instructions given to the translator and at the same time remaining ‘loyal’ to the source text author’s intention. However, such theoretical terms themselves are problematic. The whole area of loyalty/fidelity/faithfulness harks back to the times of what were known in France as *les belles infidèles*, a sexist trope that described translations as beautiful or faithful but never both. The author’s intention is another problematic concept: if we see each new reading as different, how can we be sure to know the author’s intention, and what should the translator do if there are multiple interpretations possible? Linguistic expressions of loyalty to the author, unless conveyed in very clear terms, are subject to just the same reservations as Nida and Taber’s (1969) notion of equivalent effect. That is, how do we measure it reliably? This is the main reason why functionalism initially placed most emphasis on the nature of the target text: if the target text fulfilled the purpose for which it was commissioned, then the translation brief was deemed to have been achieved. In the case of a specialized technical text such as the manufacturer’s details or the global warranty of a product, the success of the translation may be measured by whether or not the target text users were able to understand how to contact the manufacturer or how to claim under the guarantee. The measure of success is whether it functions in the real world. Functionalism, therefore, has a socio-cultural perspective; translation succeeds if the target text works in the target culture, which may be more important than a close relation to the source text. This was central to subsequent developments in translation theory.

One direction, which began in the 1990s and continues today, is the move from text analysis to discourse analysis. Whereas work on the functionalist paradigms mainly involved the application of a model of text analysis that examined a detailed list of both intra-textual and extra-textual factors when planning a translation or when judging its efficacy, new moves subsequently came in the direction of discourse analysis. Two models of analysis have been especially popular within translation studies: systemic functional linguistics (SFL), following the tradition of Halliday (1985) and Halliday and Matthiessen (2014), and a specialist off-shoot version designed for the analysis of political texts, namely critical discourse analysis (Fairclough, 1989; Fairclough and Fairclough, 2012).

The development of ‘linguistic’ translation theory is highly intricate and revealing of the interdisciplinary nature of translation studies. Thus, the pedagogical origins of Halliday’s research in the 1960s underpinned the work of Juliane House in the 1970s in her model of Translation Quality Assessment (most recently, House, 2015), perhaps the first comprehensive use of register analysis for the study of translation. Halliday’s later work was incorporated into the discourse analytic models of Hatim and Mason (1990, 1997) and Steiner (2004). It has continued to prosper in more recent volumes devoted to the application of specific discourse elements for the

analysis of translation (e.g., [Munday, 2012](#); [Munday and Zhang, 2015](#); [Kim et al., 2021](#)).

There are two key theoretical points here: one is that it is not easy to establish the specific cause and effect links between lexico-grammatical choices and the wider context of culture. The second point is the feasibility and desirability of importing a theoretical model from another discipline (here, linguistics) with the expectation that it will work for the analysis of a source text–target text pair. Sometimes there is a certain disconnect between imported theory and translated data. This may manifest itself by a mismatch made vivid by the attempted classification of phenomena into categories originally devised for the study of monolingual material. For example, the application of the appraisal framework to the study of political discourse in translation ([Munday, 2012](#)) leads to the identification of a series of translation shifts in intensification and explicitation. Yet a full classification of the two texts based on monolingual text features may not be the most effective methodology when, in reality, many of the phenomena display translation shifts only when there is a clash in the value system between the source and the target lingua-cultures.

This is indeed the question that should be asked of translation theories in general: why is translation studies so dependent on the importation of basic ideas from other disciplines? While the trend may be explained by chronology, since theories of linguistics have preceded those of translation studies, some (e.g., [Gutt, 2000](#)) have argued that relevance theory already covers communication, including translation, and therefore no separate theory of translation is required to supplement it. The response would be that theoretical concepts from linguistics may be imported initially, but that translation theory soon develops through its own pathways. This can be seen in translation-specific theoretical notions such as ‘loss’, ‘gain’, ‘compensation’, ‘explicitation’, ‘shifts’ and so on.

## 1.11 Current Translation Theory Expands the Definition of Translation

The ‘one small step for a translator but one giant leap for translation theory’ moment was the ‘cultural turn’ ushered in by the members of the so-called Manipulation School ([Hermans, 1985](#)), prominent being Gideon Toury, Susan Bassnett and André Lefevere. For [Bassnett and Lefevere \(1990\)](#), the aim was to move the discipline away from its reliance on sometimes superficial linguistic analysis towards a consideration of the socio-cultural, historical and other contexts in which communication takes place. Although this turn may disregard linguistic theories, as soon as it is accepted that linguistics alone cannot account for all observations in translation, the field opens up to the cultural and other paradigms.

The cultural and other ‘turns’ in translation studies have been reflected in the abundance of new theories, imported from other disciplines (cultural theory, deconstruction, post-colonial theory, feminist theory, gender theory, film theory and so on). This has been particularly evident in the desire to shift the focus of translational research onto new ground, such as narrative theory (Baker, 2006), the sociological approach (using the work of Bourdieu (1991) and others), the historical approach and the translatorial approach. The last investigates the figure of the translator/interpreter, ironically almost completely overlooked by Holmes and Toury.

Another key element since the new millennium is the rise of China as a player in translation studies. The resulting research has promoted a greater understanding of the Chinese tradition in translation, which goes back beyond the translation projects of the Buddhist sutras; it encompasses the meeting or clash of cultures in locations where treaties and commercial papers were drafted in two or more languages for the regulation of activities between China and a foreign power. There has also been greater understanding and critical appreciation of the work of Yán Fù (1854–1921), whose predominant pronouncements on translation are to be found in the foreword he wrote to his translation of Thomas Henry Huxley’s *Evolution and Ethics* (see Hsu, 1973). His three principles of translation – *xìn*, *dá* and *yǎ*, which broadly equate to faithfulness, accessibility and elegance – became central to Chinese translation theory throughout the twentieth century.

The dissemination of these principles is illustrative of the obstacles encountered by non-Western and especially non-anglophone concepts. Yán Fù’s three terms are by no means translated consistently when they are discussed in Western translation theory (Hermans, 2003). Yán Fù was a leading figure in cultural and intellectual circles, which may explain why he maintained his status as the major Chinese translation theorist into the twenty-first century (Chan, 2004). It was only then that younger Chinese scholars, who had studied modern linguistic theories, emerged onto the national stage, and adopted a more systematic and rigorous methodology especially for the study of the translation process.

The emergence of China as a major player in research has been accompanied by a concerted effort to develop theories of translation originating in China. This can be seen in the interest in Chinese discourse in translation, richly displayed by Martha Cheung’s (2006) publications; this pioneering project was left unfinished at her death in 2013 but was continued by her colleagues at Hong Kong Baptist University. Another, very different example is Gengshen Hu’s development of ‘eco-translatology’, a fusion of translation theory (going by the ‘scientific’ name of ‘translatology’) and ecology; the key concept is that translation is an organic system, ever-shifting in nature through evolution, adaptation, natural selection and extinction. It was first promoted at a conference in China in 2006 and consolidated by the publication of



a monograph *Eco-Translatology: Towards an Eco-paradigm of Translation Studies* (Hu, 2020). The success that this paradigm has received can be gauged by the fact that the 7th IATIS conference in Barcelona in 2021 had at its main theme *The Cultural Ecology of Translation*. Likewise, it is testament to the many years of research into translation and ecology, as well as translation and globalization, by Michael Cronin (2016).

Another point to bear in mind is the link being forged by translation theorists working on broader, interdisciplinary research into cultural and social aspects of the field. One excellent example, from South Africa, is the work of Kobus Marais on translation and development and on biosemiotics (Marais, 2014, 2018).

## 1.12 The Technological and Digital Revolution

Among theoretical developments since Holmes are those which affect what he would have called the ‘medium’, and what now is more commonly known as ‘mode’. This is, above all, audio-visual translation: the subtitling, dubbing or voice-over of films, documentaries, video games and similar. This field has developed into the major player in research in the twenty-first century. New technological developments go hand-in-hand with new theories of communication, notably theories of multimodality (Kress and van Leeuwen, 2021; Bateman, 2008). Underlying this development is the absolute conviction that visual and other multimodal products be viewed as an integral part of a semiotic code and not as a mere appendage to the communication. Where once film and TV were relegated to a remote outpost on the boundaries of academia, in current translation studies research they are central to the evolution of new theories of meaning and translation (see Thomas, 2020; Adami and Ramos-Pinto, forthcoming).

There are several consequences. One is the relationship between medium/mode and theory. Is it possible to devise a theory of translation that encompasses both conventional written translation and audio-visual translation, or are these best retained as separate beasts? Not to mention the other elephant in the room, which is interpreting. The distinction between (written) translation and (spoken) interpreting is now justifiably considered to be unreliable since the two may coexist in many situations. Instances might include a politician who reads aloud a written speech for simultaneous interpreting and for later written translation, and the combination in a film or documentary of spoken dialogue and on-screen writing (a series of SMS or WhatsApp messages, for example) translated intersemiotically into written subtitles or spoken voice-over/dubbing. These increasingly blurred distinctions between modes accompany more sophisticated information technology in the translation workplace. Audio-visual translators also now have at their disposal freely available subtitling software which allows

subtitles to be entered and recorded by fansubbers working from the comfort of the home.

The equivalence paradigm (Pym, [2010] 2014) has also been extended and challenged with the development of the digital apparatus of localization. The rapid deployment of CAT tools and project management software has revolutionized not only the work station and working processes but also the very form of research and the theory underpinning it. For example, the automatic segmentation of the source text into word, phrase, clause and sentence often determines the rank at which equivalence is to be sought. And the largest segment is never more than the sentence. At the same time, the use of translation memories aims to ensure consistency of terminology both within a text and intertextually throughout the database.

Much effort has also been invested in developing empirical research methods to investigate the translation process, using brain scans, eye tracking, keystroke logging, think-aloud protocols and so on (Saldanha and O'Brien, 2014). In the same vein, the improved production of fully automatic machine translation and human-assisted machine translation, along with research which makes use of corpus linguistic methods, fits into a more objective and measurable research methodology compared to earlier more subjective and intuitive work. For the present, the reality is that translation cannot be an exact science. There is too much variation, and too many extenuating circumstances and extratextual factors affect the process and the product. For translation theory in the future, it may be that technological and digital change will prove to be the harbingers of consistency that will wage war with translation's many contextual constraints and variables over the fate of 'true' universals, as well as transforming (and perhaps disrupting) the working practice of translators themselves.

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# 2

## The Translation Process

Fabio Alves and Arnt Lykke Jakobsen

### 2.1 Introduction

Within translation studies (TS), the term *translation process* usually refers to the process by which a translator produces a translation of a text. This process is physical, behavioural and mental. There is a material text representation, there is body movement involved in reading and writing text, and there is thinking. Translation process research (TPR) has not been much concerned with the material aspects; rather, it has mostly focused on how inferences about cognitive processes could be reliably made from observations of translators' behaviour as they translate. Particular attention has been given to translators' finger movements on a keyboard and their eye movements across a computer screen on which are displayed both the text-to-be-translated and the emerging translation. Inferences about cognition can also be made from other measurable activity in the body such as changes in heart rate, blood pressure and other symptoms of affect and cognitive strain or relaxation. Finally, a translator's brain activity can be measured with electroencephalography (EEG), brain imaging technology like positron emission tomography (PET) or functional magnetic resonance imaging (fMRI) scanning. Such technologies provide information about what areas of the brain are particularly active during translation. Information about neuronal activity is hypothesized to provide particularly important evidence of the nature of cognitive processes.

When reading a translation, we can sometimes guess why a certain phrase was translated in a particular way, especially if it has been translated awkwardly, but in most cases we cannot know how the translator arrived at a certain solution or what earlier versions existed. Recording and studying how a translation comes into being, in addition to studying the end product, gives us insight into the thought processes that underlie the final version of a translation. This insight is important from a pedagogical

perspective as well as for understanding how the human mind handles meaning when it has to cross a language border.

The translation process is typically studied from the moment a translator begins to read a text-to-be-translated, a source text, until the translation has been finalized as a target text. Regarded in this manner, the translation process is really three interrelated processes: (1) reading the source text, (2) meaning translation and (3) writing the target text. The means by which the translation process is studied include direct observation, recordings of verbalizations either during concurrent think aloud or in retrospective interviews, questionnaires and other experimental procedures like video/audio recording, keylogging, eye tracking and various neuroscientific methods (EEG, fMRI and others). Different combinations of these methods, yielding both subjective qualitative and technology-recorded quantitative data, are often used in so-called multi-method approaches. Empirical data elicited by these means are analysed statistically to identify significant findings, often in a process of data triangulation.

The translation process thus described is strongly focused on what has been called the translation *act* following Holmes's map of TS which fore-saw a special branch of TS dealing with 'the process or act of translation itself' (Holmes, 1972, p. 177). Toury (2012) and Chesterman (2013) distinguished between the cognitive act and the observable *event*, the event being everything that happens in the situation, including what happens in the translator's body. By this distinction, translation process research may be said to be aimed at inferring knowledge about the translation act from evidence in the translation event.

In some research, the translation process is construed as the entire social and economic sequence of transactional processes, including the cognitive processes and ergonomic conditions involved, from when a client orders a translation from a translation agency to when the agency delivers the translation to the client. Here, the focus may be on the social status of translators, their interaction in the workplace with colleagues, translation tools and other 'agents', and how all of this affects their cognition. An even wider perspective includes study of the socio-cultural processes by which texts are selected for translation (e.g., in majority or minority cultures), how translations are disseminated, and their impact in recipient cultures. In research of this kind, the methods used are sociological, cultural or anthropological.

Our main focus in the present account is on what happens behaviourally and cognitively in the bodies and minds of translators when they translate.

## 2.2 Modelling the Translation Process

As far as models of the translation process are concerned, Seleskovitch (1968) can be considered a point of departure. This work is based on

theoretical considerations and intuitive experience that drew attention to the specificities of the translation process. Seleskovitch (1968) and later Seleskovitch and Lederer (1984) built on the phases of understanding and re-expression but also explored the idea of an intermediate phase of de-verbalization between understanding and re-expression.

Their innovative research paved the way for attempts to model the translation process from an empirical perspective. In the beginning, empirically oriented approaches to investigating the translation process drew heavily on think-aloud protocols (TAPs) (Gerloff, 1988; Séguinot, 1989; Jääskeläinen, 1990; Tirkkonen-Condit, 1991). As research evolved, several models of the translation process were developed from the mid-1980s to the mid-1990s, particularly at German universities. Arising as an alternative to the German functional tradition in TS (Reiß and Vermeer, 1984), German scholars used TAPs (Ericsson and Simon, 1980) to try to investigate the translation process in real time. In Section 2.3, we present a chronological overview of some of the most important models of the translations process from the mid-1980s to the present and offer brief descriptions of their main features.

### 2.3 A Chronological Overview of Models of the Translation Process

The models of the translation process developed at German universities from 1986 to 1995 used think-aloud data to analyse cognitive processing and flow charts to display traits of the translation process. All of these models drew on the information-processing paradigm, included top-down and bottom-up features, and examined the use of strategies and instances of problem solving and decision making.

Krings (1986) used TAPs to look at translations performed by students of French. He designed a model of the translation process in the form of a flow chart with several intermediate steps which require yes/no answers. The point of departure is the source text and the end point the target text. The first question asked is whether there is a translation problem. If not, a solution is transferred into the target text. If there is a problem, the next step is problem identification, which leads to another question on the nature of that identification. Krings proposes a series of strategic steps to help with problem solving and decision making. When the problem is solved in terms of understanding it, the process moves into a phase of strategic decisions which lead to equivalent renderings being established for the target text. Several alternative procedures are suggested to achieve equivalence between source text problems and target text items. Finally, there is a phase of strategic assessment before the original translation problem is solved and the solution transferred into the target text.



Königs (1987) also used TAPs to examine translations rendered from Spanish into German by novice translators. He proposed a three-step model involving automatic and reflexive processes. It is displayed in the form of a simple flow chart with few intermediate steps but a detailed description of what these steps entail. On the one hand are automatic processes which are part of the *Adhoc Block* containing previously established correspondences between source and target text items. On the other hand are reflexive processes which occur in the *Rest Block*; these require you to search for adequate strategies to solve a given translation problem. *Adhoc Block* processes constitute a default procedure in the search for 1:1 equivalences between source and target text segments. Such equivalences often arise from internalized decisions based on previous experience. They are processed automatically by translators and are resistant to revision even when they fail to provide adequate renderings. Whenever the default procedure fails to be implemented, translators resort to *Rest Block* procedures where strategies of internal and external support are used to implement problem-solving and decision-making mechanisms. Finally, a third block leads to revision of interim decisions, and translators are given a chance to improve their work.

Hönig (1988) used verbal reports by students working from German into English. He presented a model which builds on assumptions formulated by functional approaches to translation to assess the performance of translation students during the translation of several informative texts, describing a series of behavioural patterns. For Hönig, the translation process is a monitored process in which translators employ macro- and micro-strategies to broadly understand the source text and produce a target text which fits the purpose of the translation task, to the expectations of the target text readership and to other external factors.

Lörscher (1991) also used verbal reports from students working from German into English to design a model of the translation process in the form of a flow chart of translational problem-solving. He analyses verbalizations by novice translators with a focus on reconstructing the translation strategies which underlie their translation performance, assuming that such underlying strategies steer the unfolding of the translation process but are not accessible to direct inspection. Lörscher's model consists of two hierarchical levels, namely a lower level containing elements of translation strategies (i.e., discrete problem-solving steps) and a higher level that captures the manifestations of translation strategies. For Lörscher, interim versions captured during translation task execution can comprise several strategies and are intra- or inter-strategic phenomena.

Kiraly (1995) used think-aloud data from novice and professional translators between English and German to model the translation process as a communicative and social activity as well as a cognitive activity. The model is graphically displayed as dual: a social model and a cognitive model. From a communicative and social perspective, Kiraly's model

looks at the social implications of the communicative act of translation and the contextual features related to the source and target texts as well as the translator. From a cognitive perspective, the model portrays the translator's mind as part of an information processing system which interacts with relatively uncontrolled and relatively controlled processes. Kiraly distinguished between a subconscious workspace and a controlled processing centre and suggested the existence of an intuitive workspace (which is relatively uncontrolled). When automatic processing does not yield provisional solutions, translation problems move into the intuitive workspace and are processed in the controlled processing centre until a strategy is selected and applied. For Kiraly, strategies alone do not solve translation problems but they do contribute in the attempt to solve them.

Alves (1995) used TAPs to assess the performance of bilinguals, professional and novice translators and translation students working from German into Portuguese. He presented a psycholinguistically oriented model of the translation process that draws on the relevance-theoretic approach to translation proposed by Gutt (1991). Alves (1995) built on Königs's (1987) model and designed a graphic display in the form of a flow chart with both top-down and bottom-up processes interacting recursively. The entry point of Alves's model was the translation unit which, for him, is dependent on the translator's focus of attention on the source text. A given translation unit is first processed automatically in the *Adhoc Block* as a default procedure; it moves into the *Rest Block* only when a solution cannot be found. As in other models at the time, yes/no questions indicate several steps in the process. In the *Rest Block*, mechanisms of external and internal support interact recursively. Alves's model also focuses on the principle of relevance (Sperber and Wilson, 1986) as a mediating factor between processing effort and cognitive effects, suggesting that additional cognitive processing is unnecessary when there is nothing to gain from the generation of new cognitive effects. Throughout the process, the principle of relevance guides translators in their problem-solving and decision-making processes. The search for interpretive resemblance is considered to be the driving force behind the translation process and its ultimate goal.

For several years after the 1990s, there were no novel attempts at modelling the translation process. When new attempts emerged in the early 2000s, the focus on graphic modelling had changed towards more robust theoretical and methodological considerations. In the following paragraphs, we will focus on three models of the translation process which try to provide some theoretical grounding for their formulation and aim at creating the necessary conditions for empirical validation. Instead of only describing the models, we will also examine their impact on future work.

Halverson (2003) investigates a possible cognitive basis for the patterns and processes that have been referred to in TS as simplification/generalization,

normalization, standardization, sanitization and exaggeration of target language features. She uses cognitive grammar to suggest that these patterns mostly arise from the existence of asymmetries in the cognitive organization of semantic information. Halverson uses the term 'gravitational pull' to offer an explanation for some general features of translated language and for the fact that frequent patterns in the source language tend to lead translators to choose literal renderings in the target language.

Halverson (2017) revisits her original assumptions related to cognitive asymmetries to suggest that highly salient linguistic items are more prone to be chosen in a 'gravitational pull' model. Therefore, they end up being over-represented in translational corpus data. If put to empirical test, she argues, the 'gravitational pull' hypothesis could develop into a cognitive-linguistic model of the translation process, incorporating salience phenomena in source and target texts as well as the effects of entrenched links between translated segments.

Halverson (2019) elaborates on the concept of 'default' translation as a specific phase of translation production, characterized by rapid, relatively uninterrupted production involving primarily bilingual linguistic knowledge, including communication norms. It also comprises metalinguistic knowledge and a specific understanding of the translation task. Her modelling of 'default translation' places the concept relative to the idea of 'literal translation'. Although her work is theoretical in nature, Halverson also suggests a means of identifying the phase of 'default translation' in translation process data.

Tirkkonen-Condit's (2005) monitor model is primarily theoretical, but it is supported by empirical evidence provided by keylogged data. She draws on Ivir (1981) to elaborate on the translator's search for equivalence and endorses Toury's (1995, pp. 191–2) statement that 'only when the identical-meaning formal correspondent is either not available or not able to ensure equivalence' do translators 'resort to formal correspondents with not-quite-identical meanings or to structural and semantic shifts which destroy formal correspondence altogether'. Building on the notion of a monitor model to inquire into translators' monitoring skills and self-awareness, Tirkkonen-Condit (2005) claims that translators resort to literal translation as a sort of default translation procedure. She argues that there is a tendency to translate literally, word by word, until the translator is interrupted by a monitor that points to a problem in rendering a particular text segment. The monitor interrupts the automatic unfolding of the translation process and triggers conscious strategies of problem solving and decision making to handle the problem.

Tirkkonen-Condit's (2005) monitor model was put to an empirical test by Carl and Dragsted (2012). They proposed an extended version of the monitor model in which comprehension and production are processed in parallel by the default procedure. Carl and Dragsted (2012, p. 127) hypothesize that 'the monitor supervises text production processes, and triggers

disintegration of the translation activity into chunks of sequential reading and writing behavior'. To corroborate their hypothesis, they compare copying tasks with translation tasks, assuming that copying represents a typical literal default rendering procedure. Both tasks entail decoding, retrieval and encoding of text segments. However, translation tasks require an additional transfer phase into another language. Using key-logged and eye-tracking data, [Carl and Dragsted \(2012\)](#) observed many similarities in the two tasks pointing to similarities in the underlying cognitive processes. The need for effortful text understanding forces both copyists and translators to deviate from automatized procedures and to engage in monitoring the processes for the sake of understanding what they are copying or translating. Both copyists and translators also engage in sequential reading and writing patterns until target text production problems trigger the monitor and lead them into monitoring activities for the sake of solving problems and making decisions.

[Schaeffer and Carl \(2015\)](#) also revisit the monitor model to investigate automated processing during translation. The analysis of translation-process data provides evidence that translation involves strong activation of lexico-semantic and syntactical representations which share cognitive representations of both source and target language items. [Schaeffer and Carl \(2015\)](#) argue that activation of shared representations leads to automated processing which is interrupted when a monitor is triggered. This leads to a recursive model of translation.

Altogether, [Carl and Dragsted \(2012\)](#) and [Schaeffer and Carl \(2015\)](#) managed to provide robust empirical evidence to substantiate [Tirkkonen-Condit's \(2005\)](#) claims and validate the monitor model empirically.

Subsequently, [Carl and Schaeffer \(2017a\)](#) built on [Shannon and Weaver's \(1949\)](#) model of communication to propose a noisy channel model of the translation process. The noisy channel model conceptualizes communication as a problem of decoding a message sent through a noisy communication channel by a receiver who receives a noisy signal encoding a version of the original message. It is a probabilistic model which indicates the probability of the original message and the conditional probability of the message received. [Carl and Schaeffer \(2017a\)](#) consider the translation processes a temporal sequence of translational events, which may be segmented into coherent chunks or behavioural units, including pauses in the process. They assume that translation processes and behavioural observations are probabilistic in nature and suggest a probabilistic framework to assess and integrate empirical findings. Similar to connectionist networks, the translation process is modelled as a network of hidden states which implement the actual translation processes.

It is interesting that the notion of monitoring has been present in all models of the translation process presented over the decades. In addition, the notions of translation units, segmentation, inferencing mechanisms,

problem solving and decision making have always been included when modelling the translation process. The tools and techniques to achieve that end have changed over the years, and we describe them in more detail in [Section 2.4](#).

## 2.4 Methodological Development of TPR

The translation process has been investigated methodologically in ways that have strongly marked the development of the field. Starting in the mid-1980s with only one technique, think-aloud protocols, TPR has seen developments arising from the combined use of keylogging, eye tracking and, more recently, biometric and neuroimaging techniques. In this section, we look at the development of each technique and comment on the main implications concerning their use.

### 2.4.1 Think Aloud

The interest in cognitive science that has developed at US universities since 1956 ([Miller, 2003](#), p. 142) brought with it an interest in cognitive processes like learning and decision making. [Flower and Hayes \(1981\)](#) wrote about the act of putting organized ideas into writing as a cognitive process of translation. [Ericsson and Simon \(1980\)](#) went on to publish their *Protocol Analysis: Verbal Reports as Data (1984)*, which offered a detailed, new methodology for gaining access to information in the ‘black box’ of the human mind. Their TAP method was enthusiastically received by the first generation of researchers interested in studying the translation process in addition to studying translation products. From the mid-1980s and for almost twenty years, think aloud was the preferred method in process-oriented TS. After training a translator in the think-aloud technique, the researcher would ask the translator to translate while concurrently speaking her/his mind, thereby producing the ‘verbal data’ the researcher would record and subsequently transcribe in a protocol. Here the data was annotated with codes and analysed as evidence of cognitive processes in the translator’s mind. Among the early users of the method for studying translation were [Dechert and Sandrock, Gerloff, Königs, Krings, and Lörscher, all in 1986](#). A wave of further studies followed, including [Tirkkonen-Condit \(1987, 1989\)](#), [Jääskeläinen \(1987, 1989\)](#), [Gerloff \(1987, 1988\)](#), [Königs \(1987\)](#), [Krings \(1987\)](#), [Séguinot \(1989, 1991\)](#) and [Lörscher \(1991\)](#), resulting in some of the models described above in [Section 2.1](#). (See further [Jääskeläinen \(2002\)](#).)

The focus of attention of this research was process-oriented and cognitive as reflected in the titles of some of the key publications: *The Translation Process (Séguinot, 1989)*, *Was beim Übersetzen passiert (What happens in translation) (Königs, 1987)*, *Was in den Köpfen von Übersetzern vorgeht (What*

goes on in the heads of translators) (Krings, 1986). As apparent from the various models of the translation process, including those described in Section 2.1, the translation process was generally understood as a three-phase (reading, translating, writing) problem-solving and decision-making strategic process with multiple sub-processes. With the emerging interest in computing, the presumptive processes inferred from the verbal data were often represented in flow charts with binary choice options and recursive loops.

Language is our main instrument for sharing personal thoughts and emotions, and the idea of accessing the mind through verbal utterances is fundamentally attractive. Think aloud is an effective method for collecting and categorizing verbal data and also for identifying problem triggers, but analysing the data beyond categorization is fraught with problems. In particular, problems concerning completeness, consistency, reliability and attitude have been identified. It is often difficult to determine if a translator is indeed verbalizing thoughts or is constructing a report. The degree to which the entire method of concurrent think aloud might itself distort the process under investigation (the 'reactivity' issue) has also been much debated (Bowles, 2010), but, despite much criticism, it is fair to say that TAP methodology and the studies inspired by it laid the foundation for the development of TPR.

According to think-aloud theory, only information available in verbal form in short-term memory can be verbalized. This means that translators can report only on instances of non-automatic translation requiring conscious decision making, not on unconscious or routinized processes. As it is generally assumed that translation can be quite extensively automatized (Jääskeläinen and Tirkkonen-Conditt, 1991, p. 89; cf. also Ericsson and Simon, 1993 [1984], pp. 15, 90), this is a serious problem, which the keylogging program Translog, invented in 1995 (Jakobsen and Schou, 1999; Jakobsen, 2006), was an attempt to address.

### **2.4.2 Keylogging**

The most characteristic activity a translator performs when translating is moving the eyes to read and moving the hand and fingers to write. These are actions which can be video recorded for study but are now mostly recorded with specialist technologies: keylogging and eye tracking. Video is used in research where it is important to have access to information about facial expressions, gestures and other body movements, as well as information about events in the situational context that might have had an impact on other recorded data.

A keylogging program records ('logs') a translator's every keystroke on a keyboard and thereby provides evidence of all the editing the target text undergoes during production and the temporal rhythm by which this happens. It shows the entire textual transformation of the source text

into a target text. Such a program makes no distinction between automatic and non-automatic text production or between problematic and non-problematic production. It therefore offered a new opportunity to obtain behavioural information about a translator's typing process, regardless of what kind of processing was involved and who the translator or the researcher was. Everything the program recorded, including words typed and deleted, typos, corrections made, as well as the dynamic timing of it all was interpreted as evidence of the translator's cognitive process. Pauses, in particular, stood out as important indicators of cognitive ease or difficulty, depending on their duration (Goldman-Eisler, 1972; Schilperoord, 1996).

Keylogging changed the course of TPR in more ways than by offering a new technology for recording a translator's typing activity. It opened up the possibility of triangulating observations and findings based on qualitative data from interviews, questionnaires and TAPs with observations and findings based on quantitative keystroke data (Alves, 2003). Altogether, TPR developed a stronger computational orientation, and with it came increased awareness of the importance of methodological and experimental rigour and greater awareness of the importance of statistical analysis.

Keylogging made it possible to compare translation tasks performed with concurrent think aloud with identical or similar tasks performed without think aloud (Jakobsen, 2003). As it appeared that concurrent think aloud affected the translation process negatively by forcing translators to work in smaller segments, the preferred methodology for combining qualitative and quantitative data elicitation now became to collect qualitative data from post-translation-task sessions where the translator observed a replay of her/his typing process while saying what s/he recollected thinking about at the time ('cued retrospection'). Cued retrospection avoided some of the issues with think aloud, and yielded very rich data that often helped in interpreting the keystroke behaviour, but problems remained. Translation students were often very vociferous about what thinking had guided their production, while expert translators either had poor recollection or were less willing to speak their thoughts. Obviously, there was no straightforward relationship between processes in the mind and what was verbalized.

The production rhythm of bursts alternating with pauses of a second or more (for discussions of segment boundary criteria, see Alves and Vale, 2009; Dragsted, 2004; O'Brien, 2006) was visually obvious from the dynamic replay of the keystrokes, indicating the size of production units, which in turn indicated what segments of source text words and associated units of meaning had previously been processed to enable a burst. Pauses of diminishing duration could be seen to occur at sentence, clause, phrase and word boundaries, indicating overall correlation between grammatical and cognitive syntax. Systematic pause distribution was also found at morpheme and syllable levels and even between

keystrokes (Immonen, 2006; Immonen and Mäkisalo, 2010). This overall, predictable rhythm was observed to be often randomly broken by very long pauses triggered by local comprehension, meaning construction or formulation problems requiring extra cognitive effort or external help. The so-called linear representation of keystrokes showed a clear distinction between typing/pausing behaviour during the three main phases of the translation process, thus supporting this construal.

Keystroke-based studies also investigated differences caused by different external conditions: different levels of time constraint (Jensen, 2000), availability or not of external resources (Livbjerg and Mees, 1999, 2003) and effects on segmentation of different types of source text (Dragsted, 2005). There were also studies of differences caused by directionality (Lorenzo, 1999; Pavlović, 2007; Pokorn, 2005) and of revision behaviour (Breedveld, 2002). Although most studies of keystrokes were targeted at exploring the topics just mentioned, often without explicit theoretical grounding, attempts were also made to situate TPR in the context of relevance theory (Alves, 2007; Alves and Gonçalves, 2003, 2015).

Keylogging has one serious drawback in that it records only activity coming at the end of the translation process when the source-text reading and probably most of the thinking about how to render the construed meaning in the target language have been done. As is clear from frequent ‘online’ revisions in the drafting phase, a lot of thinking still takes place as the translation is being typed and also after, but earlier processing is at best only very indirectly reflected in a keylog. A log file shows that the typing process is not nicely sequential from reading and comprehension via translation to representation in the target text. The overall direction of the process is linear from beginning to end, but along the way many wrong garden paths are often taken and better solutions are suddenly thought of, indicating both that the process is far from straightforwardly linear and that meaning processing does not stop once a translation has been typed. Depending on the translator’s typing skill, more or less ‘technical effort’ (Krings, 2001) may be required, but technical effort, measured as time delay, is generally slight in comparison with the delay caused by the efforts required to ‘interpret’ the source text and to find a good way of representing the interpreted meaning in the target language.

Thus, with keystroke data alone, much can be known, for example about overall phases of translation, units of segmentation, distribution of pauses in the typing process, occurrences of problem triggers, and revision behaviour, but knowing in specific instances if a typing pause was occasioned by a source text comprehension problem, a formulation problem, a planning activity or by evaluation of an earlier portion of translation is not really possible. By adding eye tracking to keylogging, a much stronger basis for hypothesizing about such things could be obtained.



### 2.4.3 Eye Tracking

An eye tracker provides detailed evidence of what words, in a text displayed on a computer monitor, a translator looks at, and for how long, while producing the translation. Unlike the translator's fingers, the eyes rarely pause. They mostly provide uninterrupted data about gaze activity all through the production process. Eye-movement data therefore importantly complement keylogging data in which there are frequent pauses showing no activity (no data).

The amount of visual attention given to the source text and the emerging target text varies considerably. Most translators spend more time looking at their translation than at the source text (Hvelplund, 2011). This is particularly noticeable in translators who visually track the result of their typing on-screen as they type or immediately after. The behavioural gaze pattern that appears again supports the division of the process into three phases: (1) initial orientation, (2) reading of the source text and production of the translation and (3) final checking and revision. The combination of gaze and keystroke data further sharpens the definition of the (mostly phrase-level) units from which a translator works.

Most reading research has targeted adult reading of text in the reader's first language. Rayner and Pollatsek (1989) and others have described how such reading progresses in an overall linear succession of fixations and saccades (short movements of the eyes between fixations), but with frequent regressions when meaning construction fails or attention lapses. However, reading differs according to its purpose. This was pointed out by Buswell (1935) and documented experimentally by Yarbus (1967). Jakobsen and Jensen (2008) illustrated how fixation count and average duration differed depending on whether readers expected to be asked to translate a text or not. The different gaze behaviour indicated that if readers expected to be asked to translate the text they were reading, they engaged in mental acts of pre-translation in addition to reading for comprehension.

What mainly distinguishes translational reading from other kinds of reading is that when translating, most translators are reading two texts in parallel, with visual and cognitive attention constantly shifting between them. This slows down the process considerably, for, with every shift, time is spent retrieving the earlier reading point. Translators who dictate their translation or translators who touch-type do not need to attend visually to their emerging text or to the keyboard, so they can devote unbroken visual attention to the source text, but even they read it differently. Experiments with sight translation show considerably increased visual attention to the source text compared to reading for comprehension. This is probably caused by the need to co-ordinate fast eye movements with relatively slow vocal production (or typing). In a post-editing situation, the strain