Maureen Ehrensberger-Dow and Birgitta Englund Dimitrova (eds.)

Exploring the Situational Interface of Translation and Cognition

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Exploring the Situational Interface of Translation and Cognition
Edited by Maureen Ehrensberger-Dow and Birgitta Englund Dimitrova
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Exploring the Situational Interface of Translation and Cognition

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Cognitive space:
Exploring the situational interface

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1. Introduction

Until relatively recently, there has been an invisible line in translation and inter-preting (T&I) studies between cognitive research (e.g., into mental processes, attitudes) and sociological research (e.g., concerning organization, status, insti-tutions). The guest editors of this volume both have a background in cognitive, process-oriented studies of translation and interpreting (e.g., Ehrensberger-Dow 2014; Ehrensberger-Dow and Massey 2013; Englund Dimitrova and Hyltenstam 2000; Englund Dimitrova 2005), but the question of the situatedness of the cog-nitive act of translation has come increasingly into focus in our own work and research in recent years. In the collection of articles edited by Ehrensberger-Dow et al. (2013/2015), these aspects were addressed, albeit with more weight on the cognitive side. In the present volume, the balance is shifted to a greater concern for situational aspects.[1]

Most of the chapters of this volume are situated within the domain of pro-fessional translation, whose practices have undergone profound changes during the last decades.[2] In the traditional view, a translator did her work — most were women — in a solitary fashion, often in domestic settings, emerging after a long

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[1] This volume is the result of a panel at the IATIS conference in Belo Horizonte, Brazil, in July 2015 and of a subsequent call for papers addressing theoretical, methodological, and/or empiri-cal questions at the interface between the cognitive and situational levels of translation.

[2] Of course, the many kinds of non-professional translation and interpreting (e.g., volunteers, fan-subbing, etc.) are equally relevant and important to study from the cognitive and situational perspectives. For discussions of non-professional translation and interpreting, see Angelelli (2014), Antonini (2010), O'Hagan (2011), or Susam-Saraeva and Pérez (2012).

time from her desk (or kitchen table) with a finished translation in hand. The most commonly used aids were dictionaries in the form of books. Contacts and collaboration with the outer world in the work process were limited to the moments when translation commissions were received and delivered, and to any consultations with domain-specific experts that were deemed necessary in order to solve problems, such as terminology, whose solutions could not be found in the written documentation that was readily available.

The picture today is quite different and, in this introduction, we will present some background on recent developments in professional translation and interpreting which have potential impacts on both the cognitive and situational levels. To provide an appropriate context for the contributions in this volume, our introduction focuses in particular on three different perspectives: the introduction of information and communication technology (ICT) into the workflow, the overall organization of translation and interpreting work, and the work situation for individual translators and interpreters.

2.   Impact of ICT on translation and interpreting activities

The claim has been made that ICT has fundamentally changed the cognitive activity of translation (e.g., Pym 2011), just as it has changed the way that translators (not to mention most knowledge workers and the rest of the world; see Palvalin, Lönnqvist, and Vuolle 2013) interact with their clients, employers, and colleagues (e.g., Eurofound 2015; UN 2011). In fact, the impact of technology on translation activities began with the development of writing and continued through manual, electric, and electronic typewriters to text editing programs on personal computers, which in turn led to the plethora of tools available to professionals (for an overview, see García 2009 or Enríquez 2013). Technology has become so entrenched in the practice that it is hard to imagine translation without it, as explained below.

> Technology is not an option in today's professional world; it is a necessity. Years ago one talked about Computer-Aided Translation (CAT). That now seems a redundancy. Virtually all translating is aided by computers. Further, the most revolutionary tools are quite probably the everyday ones that are not specific to translation: Internet search engines, spell checkers, search and replace functions, and revision tools have had a huge impact on all forms of written communication.
> (Biau and Pym 2006, 17)

Consecutive interpreting has long relied on manual note-taking, which now exists in parallel with mobile devices such as tablets and digital tools (e.g., the smart pen; see Orlando 2014). The development of radio, telephony, microphones, and

headphones at the beginning of the 20th century ushered in the era of simultaneous and conference interpreting as we know them (e.g., Chernov 2016). With respect to equipment and conditions, international standards have long been in place for simultaneous interpreting (ISO 2603:1998 for built-in and ISO 4043:1998 for mobile booths). For logistical and economic reasons, however, pressure is growing for interpreting to be provided remotely through video and Internet links.

The past couple of decades have seen an explosion in language technology along with concomitant pressure for translators and interpreters to acquire advanced ICT skills. Tools related to terminology management, computer-assisted translation (CAT), translation memories (TM), translation environment (TEnT; see Zetsche 2007), machine translation (MT), and also computer-assisted interpreting (CAI; see Costa, Corpas, and Durán 2014) are available to aid T&I activities, and professionals are expected to be familiar with them. This has been made explicit in the European standard for translation services (EN 15038:2006) as well as in the newer international standard (ISO 17100:2015), which specifies that language technology tools and information resources are an integral part of the professional translation process. Gouadec (2007/2010, 156) has gone as far as to claim, on the basis of a survey of job ads, that ICT skills might take precedence over language skills for some employers.

The impact of this increased use of technology has become the focus of discussion in translation studies and the subject of recent empirical research about cognitive effort. For example, Pym (2011, 1) claims that translation technologies "are altering the very nature of the translator's cognitive activity, social relations, and professional standing". One of the most obvious ways that this is happening is the extension or outsourcing of memory that terminology and TM systems essentially provide interpreters and translators with. Pym (2011, 2) warns, however, that this might "undercut intuition" and be at the cost of increasing complexity for decision-making since the systems offer various choices that then have to be evaluated and rejected or accepted as appropriate.

A more optimistic view of the cognitive benefits of ICT is presented by O'Brien (2012, 107) in her discussion of translation as a form of human-computer interaction: relief from the tedium of re-translating repetitive content, of having to remember the approved terminology, and of checking for consistency (see also Austermühl 2001; 2011 or Risku 2007). Nevertheless, there can be cognitive costs in the form of having to correct machine-induced errors and ensuring cohesion and coherence. Risku (2007) argues that the latter is beyond the scope of language technology in the foreseeable future because it relies on creativity to choose the best solution from alternatives, which has always been the 'added value' of human translation. She points out that the profile of professional translation is changing

along with technological innovation and that new opportunities are opening up, but that translators need to be properly prepared for these (see also Pym 2013).

The importance of training is highlighted by research suggesting that language technology such as TM can influence translators by making them more likely to translate sentence by sentence (cf. Bowker 2005; Dragsted 2006; Jiménez 2009; Torres et al. 2010). This forms part of the growing body of evidence that translators adjust their cognitive processes to fit the constraints of the language technology instead of the converse. This has been demonstrated by many researchers with respect to the use of TM (e.g., Alves and Liparini Campos 2009; Christensen 2011; Christensen and Schjoldager 2010; Ehrensberger-Dow and Massey 2014; Elimam 2007; LeBlanc 2013; O'Brien, O'Hagan, and Flanagan 2010; Screen 2016) as well as to post-editing MT (Mesa 2014; Moorkens and O'Brien 2013), integration of MT in TM (Teixeira 2014), and to the usability of tools in general (Hansen-Schirra 2012; Taravella and Villeneuve 2013). In a recent international survey of 1,850 translators (Ehrensberger-Dow et al., 2016), almost all of the respondents who used at least one CAT tool found them helpful at least some of the time. Yet more than half of those respondents seemed to have adjusted to their tools, using the default settings instead of availing themselves of the possibilities to customize them, despite almost 60% of them saying that they found things about their CAT tools irritating.

This irritation with the intensive human-computer interactions that characterize modern translation has parallels in the stress associated with various forms of professional interpreting that involve heavy use of technology, such as conference (e.g., Kurz 2002), remote (e.g., Roziner and Shlesinger 2010), and video relay service interpreting (e.g., Bower 2015). Problems with technology, such as delays in computer responsiveness, can negatively affect task performance in various domains and potentially contribute to stress (e.g., Chevalier and Kicka 2006; Szameitat et al. 2009; Tuch et al. 2009). The sheer proliferation of tools can also contribute to cognitive overload or disorientation and affect cognitive flow (see Ehrensberger-Dow and O'Brien 2015 for a discussion).

The most recent European language industry report (Elia 2016) highlights the importance of technology tools at the modern translation workplace: 93% of the 445 language service providers from 35 countries that responded to the survey use CAT tools, and 84% use some kind of workflow management system. To a lesser extent, some form of MT (41%), quality control automation (38%), and voice recognition (10%) are also part of the translation workflow. Despite Gambier's (2016, 890) observation that translation is "going digital", there are clearly still large differences in the degree of technologization and the workflows of various workplaces. The socio-technical systems that translators and interpreters are embedded in can be considered an interface between the cognitive and situational aspects of their professional activity.

Interpreting has long been identified as a socially-situated activity (e.g., Angelelli 2004; Berk Seligson 1990; Wadensjö 1998), and this conceptualization is becoming increasingly dominant in understanding translation as well. Risku (2002) points out that notions of situated translation can be traced to Hönig and Kussmaul (1982), Reiss and Vermeer (1984), and Holz-Mänttäri (1984) and that they differ from language-oriented and text-oriented understanding of translation in their focus on the situational function, action, and pragmatics. According to Risku (2002, 525), "[t]ranslators create a means of communicating in a specific target situation." In more recent work, Risku (2010; 2014) and her colleagues (e.g., Risku and Dickinson 2009; Risku and Windhager 2013/2015; Risku, Rogl and Pein-Weber 2016) have been exploring translation work as an example of situated, extended cognition within a complex, dynamic network and socio-cultural context. From their perspective, language technology is an important element of both. Alonso and Calvo (2015, 152) go even farther and formulate what they refer to as a "trans-human translation hypothesis" — an extreme view of the impact of ICT on translation — in which there is a "mutual interplay between human translators and their tools" and a merging of situated cognition with ubiquitous computing.

3.   Organization of translation and interpreting work

Translation and interpreting work is performed in various types of organizations. Specialized companies, usually referred to as *language service providers* (LSPs), have the main purpose of providing translation, interpreting, and other language-related services such as localization. They sell their products and services to two types of customers: on the one hand, to those traditionally viewed as the end users — ranging from large governmental agencies, business firms, and public agencies to private persons in need of translation of documents — and, on the other hand, to other LSP firms, in which case the seller has been subcontracted. One and the same LSP firm can also have both kinds of customers. LSP companies are of varying size, in terms of number of employees and revenue, from one-person businesses to large companies with thousands of employees, often in various offices in many different countries (see Kelly and DePalma 2012). To ensure good practices, standards have been introduced for translation services (e.g., EN 15038:2006, now superseded by ISO 17100:2015). At the time of writing, an international standard is in place for community interpreting (ISO 13611:2014) but one for interpreting service providers is still under consideration by the various stakeholders.[3]

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3. A draft can be viewed at http://www.fit-ift.org/wp-content/uploads/2014/12/isotc37sc5_
N0125_CD18841-1_Interpreting-General-requirements-and-recommendations-Part-1-
Overview-terms-and-definitions.pdf.

Translation and interpreting work is also done in organizations, companies, and institutions whose core activity is something other than providing language services, but which have their own service to cater for their internal needs. Examples include the European Commission, the United Nations, and government agencies in countries with official bi- or multilingualism as well as corporations all over the world.

The translation industry at large is characterized by a high degree of subcontracting or outsourcing of the actual translation work (see Kuznik and Verd 2010). For example, the most recent report by the Common Sense Advisory (DePalma et al. 2015) predicted that the market for outsourced language services and related technogologies would reach over USD 38 billion in 2015. Translation and interpreting is outsourced not only by LSPs, as indicated above, but also by some large language services. Lafeber (2012, 3; quoting DGT 2011 and DGACM 2011) says that about 28% of translation work of the European Commission is done by external contractors and that for the UN the corresponding figure is about 20%. The situation seems quite similar for interpreting in the institutions, since the most recent statistics from the European Commission's Directorate General for Interpretation indicate that it has 529 staff interpreters and over 3,000 accredited freelancers who worked at least 10 days for them in the previous year (DGI 2016). The sub-contractors can be either individuals, working through their own one-person businesses as freelancers, or other LSP firms (see above). Dunne (2012, 145) provides a three-tier illustration of this organizational structure, which he calls the "the language industry subcontracting chain", with the three elements *Client* (translation buyer/end user), *LSP,* and *Freelancer* (individual translator, single language vendors, specialized providers; see Figure 1).
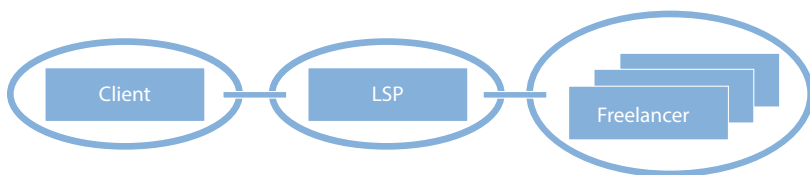
Figure 1. The language industry subcontracting chain (from Dunne 2012, 145)

Englund Dimitrova (2015a) pointed out that the LSP part of this chain can be divided into several subsequent steps by further outsourcing in a hierarchical fashion, until the job finally reaches the actual translator or interpreter.

From an organizational perspective, a picture of hierarchical relations emerges. End users can cater for their translation needs basically in one of two ways: by organizing a translation and/or interpreting department within the organization and hiring the appropriately trained employees; or by buying the service from one

or several language service providers. In the latter case, it can be assumed that the buyer will prefer an LSP that can cater for all needs in terms of language combinations, text types, special services (e.g., terminology management), etc.

Translation and interpreting require specialized knowledge, but it is in the commercial interest of any LSP to be able to offer a maximally wide range of services within its chosen field of activity at the lowest possible cost. Hiring translators and interpreters to cope with all possible domains, text types, and language combinations would be an expensive business model. It would also be connected with high risk-taking, since the demand for a particular type of translation and language combination may suddenly drop, rendering the translators and interpreters who have been hired to do it less useful for the company. Outsourcing translation and interpreting tasks by subcontracting other companies and/or freelancers to do them provides access to the competence required for a given task with no long-term commitment to the individuals providing the service.

4.   The work situation of individuals

From the preceding overview, it can be concluded that individual translators and interpreters can be either employed as staff — in an LSP or an in-house language service — or be self-employed, as freelancers or with their own businesses. It is often claimed that freelance work predominates in translation today, but it is difficult to pinpoint the exact extent of this compared to in-house translation. After reviewing a number of studies from different countries, Pym et al. (2012, 89) conclude that "[t]he weighted average of the above figures [from the quoted studies] suggests that the general proportion of freelancers is around 78.4 percent." This figure is the same as the proportion of respondents to a more recent international survey about the ergonomics of translation who reported that they were freelancers (see Ehrensberger-Dow et al., 2016).

There were no studies from Sweden among those reviewed by Pym et al. (2012), but responses to a recent questionnaire among non-literary translators in Sweden and reported in Englund Dimitrova (2015b, 14–15) revealed even higher figures.[4] Results showed that as many as 84% of the state-authorized and 90% of

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4. The questionnaire was designed to elicit translators' views on the present system of translator authorization in Sweden, but background data, such as on the form of employment and the extent of translation work, were also collected. The authorized translators (N=219) were contacted directly via email, with a response rate of 56.7%. The non-authorized translators (N=245) were contacted through the webpage of the professional organization of non-literary translators, which has about 1,100 members.

the non-authorized translators do translation work as part of their own registered businesses, but also that many of them do their translation work within more than one form of employment (e.g., on their own account or for an LSP, depending on the assignment). Only 7% of the authorized and 4% of the non-authorized translators responding to this questionnaire do translation work as in-house translators (e.g., in translation agencies/LSPs or in the DGT).[5]

A consequence of outsourcing and freelancing is often part-time work. Indeed, regarding the extent of part-time translation work, Pym et al. conclude:

> We might thus surmise that the level of part-time remunerated translation activity is about 60 percent in general, although this figure can be much lower (or higher) depending on the market segment surveyed or the kinds of questions asked.
>
> (Pym et al. 2012, 88)

Once again, figures from the Swedish questionnaire show a similar tendency (see Englund Dimitrova 2015b, 14). Among authorized translators, 41% report working with translation half-time or less, whereas only 26% of the non-authorized translators report working half-time or less. Thus, interestingly, translation is more clearly a main professional occupation among the non-authorized translators.

For the individual translator, especially if she is a freelancer, the system of outsourcing has the consequence that a number of decisions regarding work conditions, pay, and quality assessment are taken by a mediating body (i.e., the agency or LSP). It also means that there is usually no direct contact with the end user of the translation, since everything is channeled through the agency or LSP (see Olohan and Davitti 2015, 7; Risku et al. 2016, 14). Dunne (2012) discusses the possible negative consequences of the lack of direct contact with the translation buyer (including the lack of any direct feedback) for the development of the translator's competence and, ultimately, attainment of expertise.

It can be assumed that the task(s) of the translator in the modern translation industry depend to a large extent upon where she finds herself in the organizational structure outlined above. If she is at the last node in the hierarchy (e.g., in her own one-person business), it is more likely that her main, or only, task is translating texts. If she is at a higher node in the hierarchy, such as in an LSP firm, her job

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5. The mode of distribution might have precluded accurate representation of the in-house translators, however. Official information from the European Commission (DGT 2014) available at the time mentions that of the 2,255 employed translators, 80 were of Swedish nationality. There is of course no one-to-one correspondence between nationality and combination of working languages. Some of the 100 translators of Finnish nationality can be assumed to have Swedish as one of their working languages, and among other nationalities, there are most certainly a number of translators with Swedish in their working combination.

may consist of a mixture of different tasks, not only translating but also revising or reviewing others' translations, project management, etc.

Clearly, the situational level of professional translation has undergone very important changes in a short time. Regarding organizational development, it could be argued that the changed position of the individual translator disproves some of the tenets of Skopos theory. Although Reiss and Vermeer (1984) acknowledged the existence of other actors in the process, they were very explicit in stressing the translator was the expert in the process (quoted here from the English translation):

> [...] the translator's role in the process of translational action: he is the one who *ultimately* decides what is translated or interpreted, when and how, on the basis of his knowledge of the source and target cultures and languages.
>
> <div align="right">(Reiss and Vermeer 2013, 78; our emphasis)</div>

The fact that, as specified in the EN 15038:2006 and ISO 17100:2015 standards, translations are now as a rule revised by someone other than the translator makes the validity of the above claim doubtful. Kinnunen draws a similar conclusion regarding the relevance of Holz-Mäntääri's (1984) concept of the coordinating role of translators:

> Many translators today cannot plan their activities in cooperation with the initiator or commissioner, so are unable to act in the coordinating role of an expert with their own responsibilities.   (Kinnunen 2013, 84; our translation)[6]

Jääskeläinen, Kujamäki, and Mäkisalo (2011, 153) attribute this change to the translation industry, which they claim has limited the translator's freedom of action by "assigning translators [...] the role of language decoders (e.g., localisation) or exploited mass-producers of text (e.g., subtitling)."

The image of the solitary translator can be said to have been supported and confirmed by much of the early research on the translation process. One reason for this is that the earliest process-oriented studies were done at a time when ICT was not as developed or as readily deployed in translation work as it is today. Indeed, the "lonely translator" is still found in much of the current cognitively-oriented research on the translation process. This can be attributed to the experimental nature of much of that research, which necessitates research designs without confounding variables — to the extent that this is even possible — and where the question of ecological validity is sometimes of secondary importance (see Gile 2016 for an overview). This image may still be true to some degree today, but perhaps mainly for students or the exceptional case of translators working entirely on

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6. Original: "Viele Translatoren können heute ihre Tätigkeiten nicht in Kooperation mit dem Initiator oder dem Auftraggeber planen und damit in der koordinierenden Rolle eines Experten mit eigener Verantwortung handeln." (Kinnunen 2013, 84)

their own account. In light of the changes to the organization of translation and interpreting work outlined in Section 3, considering both the cognitive and social levels has become a research imperative. Hence, some caution is advisable in generalizing from experimental studies in a laboratory setting to the specificities of professionals' situated cognitive processing in the workplace.

5.   Acts and events — a combined perspective on the cognitive and situational levels?

In conceptualizing the cognitive and situational levels of translation and interpreting, we have found the notions of 'act' and 'event' useful for exploring the interface between the levels. Initially introduced into Translation Studies by Toury (1995, 249; 2012, 67–68) and further expanded upon by Chesterman (2013, 155–157; 2015, 7–9), these terms can be applied to the objects of study of two research directions that have often been considered quite separate: the cognitive and the sociological. The translation act can be considered what happens in the human brain, the cognitive processes as reflected in observable practices, which has been the focus of much of the translation process research done in the past 20 years. The translation event, by contrast, is seen to involve not only the individual translators and interpreters, but also the agents, artefacts and organizations that impinge on their situated activities.

The study of translation or interpreting *in situ* involves a number of challenges (see also Ehrensberger-Dow 2014). A description of a given situation (e.g., a workplace) and its prominent features and work processes are clearly of value for enhancing our knowledge of new translation situations. The research reported in the first six chapters in this volume, drawing on different theoretical and methodological frameworks, reflect various approaches to collecting data in a diverse range of workplace settings far removed from the experimental conditions of much cognitively-based translation process research.

The first chapter of this volume, by **García Izquierdo**, is a good example of how 'acts' and 'events' can be used as conceptual tools to delimit and define objects of study. It is interesting with respect to the interface for several reasons. For example, the contribution has both descriptive and applied aims (see Holmes 1972/2000). The descriptive parts demonstrate the importance of taking into account the perspectives and knowledge of the various participants (professional experts in medicine, patients in need of information) when analyzing a given communicative situation with a multi-method design. Its applied components provide an example of how Translation Studies can help to meet pressing societal and community needs, in this case within the healthcare system, by suggesting appropriate

information formats for patients and by designing terminological tools to assist translators in this type of work.

From a very different culture and domain, the second chapter explores the temporal and spatial boundaries of the translation 'event'. In his contribution, **Zhong** describes the activist translation practice of a Chinese translator dedicated to spreading information on *Robert's Rules of Order* and promoting, in a Chinese village, knowledge about these rules. The on-site introduction to the villagers is referred to by the author of the chapter as 'live translation', and involves what can be seen as a presentation and continued work on a text that was previously translated by him and had already been published. However, the presentation by the translator is in oral form and is very strongly influenced by his audience's reactions. In adapting the existing translation, the translator together with his audience engage in shaping new knowledge.

The chapter by **Van de Geuchte** and **Van Vaerenbergh** considers the role of translators in multilingual text production in institutions by tracing the revision process in the DGT, the translation service of the European Commission. The question is, more specifically, the mutual dependency between the different versions of the source text and the target text(s) in a long process of text creation and translation, calling into question the boundaries between the translation 'act' and 'event'. Multilingual texts are seen as the result of complex distributed cognitive processes that are influenced by the context the text creators are working in. Translation is shown to form a part of a cooperative system of (both original and translated) text creation, to a large extent determined by the institution's policies and rules but also allowing some freedom of influence for translators.

In their chapter, **Hokkanen** and **Koskinen** present three case studies from different institutional settings, each involving the psychological-physiological concept of affect. They focus on individuals' perceptions and narratives to uncover the dialogue between the cognitive-personal and the social-interpersonal and to demonstrate how cognitive and social dimensions of translation and interpreting can be studied. Their main methodological framework, ethnography, necessarily involves the researchers themselves, as a research instrument. This becomes particularly evident in the last of the authors' three case studies, where the researcher herself is also the research object (auto-ethnography). Through the presentation of three different studies as examples, this chapter highlights the potential of different research methods for studying the cognitive and situational interface.

In their ethnographic study of an interpreting agency and public service interpreters, **Dong** and **Turner** show the strong impact of the agency's decisions and policies on both the working conditions of the interpreters and on the interpreting situation as such. They claim that some of the organizational practices have tightened the control over individuals' autonomy and even put the interpreters at risk.

Measures to enhance knowledge exchange and communication are identified as good practices, but there is room for improvement in meeting the ergonomic needs of the interpreters. Their findings support other research in indicating that the managerial imperative of standardizing work procedures has an impact upon people's behavior, by tightening control over planning and decision-making, thereby reducing interpreters' scope to adapt their activities to the demands of the situation.

Over-standardization can extend to the choice of technology by language service providers. Central procurement offices far removed from translators' daily reality as well as sharing offices with others may preclude translators from deploying tools that have the potential to free up cognitive resources. **Ciobanu** discusses one such tool, Automatic Speech Recognition (ASR), and evaluates its current use for dictating translations directly into CAT tools on the basis of questionnaire and observational experimental data. His study indicates that translation with speech recognition might increase cognitive load during drafting and require more thorough revision processes. It also shows the complexities involved in integrating new tools into the workflow, since they are not always compatible or adapted to existing tools. Hence, in spite of their potential for increasing productivity and mitigating ergonomic issues at traditionally deskbound professional translation, such tools are not (yet) widely used.

Returning to the distinction between the act and the event, **Muñoz** takes a completely different stand in his chapter, offering a critical discussion of the two concepts and questioning their theoretical underpinnings. Proceeding from Chesterman's (2013/2015) paper, Muñoz argues that the distinction between the two 'levels' is actually non-existent and that they are indistinguishable, since one is impossible without the other (and vice versa). He contends that the distinction made in some of the models discussed is misleading because it is based on a narrow cognitive view of thought as rational, disembodied, decontextualized, and isolated rather than as a socially-situated phenomenon. Hence he claims that entirely new models are necessary in order to do justice to understanding the complexity of the translation process and to continue to make progress in the field.

6.   Concluding remarks

The recent and continuing developments in translation and interpreting practices, some of which are outlined in Sections 2 and 3, clearly pose important challenges to Translation Studies. Studying a changing reality requires a reassessment of viable theoretical perspectives and methodologies as well as the potential introduction of new research methods. The chapters in this volume all aim to contribute to this. Common to most of them is that the theoretical frameworks are drawn from

a variety of disciplines and the core of Translation Studies plays a less dominant role. Reflecting recent developments in Translation Studies and related disciplines, though, the empirical contributions all employ more than one research method or data collection method to capture the complexity of their research object. By offering insights into diverse translation and interpreting situations and their consequences for individual and collective cognition, we hope that this republication[7] of a special issue of Translation Spaces (5.1) will inspire many more researchers to explore the dynamics of the interface between the cognitive and situational levels in translation and interpreting.

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At the cognitive and situational interface

Translation in healthcare settings

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Characteristics such as interdisciplinarity and dynamism make both written medical communication and medical translation particularly complex. In order to address this complexity, researchers need to adopt an interdisciplinary perspective (involving discourse analysis, sociology of professions, knowledge communication, etc.) and to approach the communicative process as a complex and comprehensive chain of cause and effect interactions at three levels: cognitive (the translation act), situational (the translation event) and socio-cultural (norms, initiator, etc.). The purpose of this chapter is to present the results of a research project concerned with communication in the highly sensitive area of cancer patients in two Spanish hospitals, to outline the methodological proposal of the Gentt Group, which advocates for flexibility in the approach (quantitative and qualitative methods) and for the use of the notion of *genre* as a conceptual tool for research purposes. The concept of genre combines linguistic, cognitive and contextual aspects, and it allows for links with translation studies theory.

Keywords: written medical communication, medical translation, patient information, causal model, cognitive level, situational level, document management system

1. Introduction

This chapter presents the design and initial results of a research project conducted by the research group "Textual Genres for Translation" (Gentt, Spanish acronym) on information requirements for cancer patients. The main motivation for this project was the need to respond to issues identified by the socio-professional community of oncologists — specifically, by the Oncology services at the Hospital Clínico de Valencia and the Hospital Provincial de Castellón, which collaborated in the study. Patients and their relatives have easy access to a large volume of online, unofficial and unreliable information, sometimes with undesirable results.

The professionals from these hospitals highlighted the pressing need for written materials drafted by experts, to support oral explanations. They are mostly internal documents that, in the last 4–5 years, physicians and very often nurses have found themselves in the need to draft and/or translate for patients. Their texts have usually been modelled after comparable written genres from English-speaking countries, which have very different contextual characteristics. Having documents supervised by specialists and reviewed by linguists would substantially improve health-care communication.[1]

This interdisciplinary study focuses specifically on the 'Patient Guide' genre. Conceptually, it was structured around a complex notion of genre, built upon the principles of systemic functional linguistics (Halliday and Hasan 1985), genre theory applied to translation (Hatim and Mason 1990), and genre studies in the field of LSP (Swales 1990; 2004; Bhatia 1993; 2002). It was also supplemented by notions from the sociology of professions (Katan 2009) and from knowledge communication (Katsberg 2009). Genres stand at the interface between the cognitive and situational levels of communication, as explained below. A combination of quantitative methods (corpora, readability formulae, questionnaires) and qualitative methods (interviews, focus groups) were used, with the aim of obtaining data from various sources on the object of study. Once cross-referenced, these sources enabled us to achieve a more complete analysis of the cognitive and contextual issues Gentt is interested in addressing, as explained in the following sections.

This chapter has two goals: (1) to establish a relationship between the models proposed in translation theory and the model proposed in our research — which, as mentioned above, is structured on the basis of genre theory. In line with Chesterman (2000, 16), the word "[…] 'model' is used in a sense that combines its theoretical aspect and its methodological aspect". Specifically, as explained in Section 2, our proposed line of research is based on this relationship at the cognitive level (the act) and at the contextual or situational level (the event). And (2), this chapter also presents the design and initial results of the research project carried out by the Gentt group on writing and translating cancer Patient Guides in Spain.

In what follows, I will briefly reflect on the complexity that characterises the medical field, as a point of departure to analyse the concepts of *act* and *event* in this context. Afterwards, I will put forward a specific methodological proposal which combines qualitative and quantitative methods and may provide a suitable response to the complexity of the field. Finally, I will present some results of the project carried out by the Gentt group and outline the next steps to be taken.

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2. Translation as an act and translation as an event: The case of the medical field

Before addressing the question of how the concepts of act and event are manifested in medical communication and translation (see below), it is important to describe the complexity of this field, so as to underline that it is important to combine linguistic, cognitive, and situational (or contextual) views in order to properly understand it.

Certain characteristics of written medical communication and medical translation make them particularly complex. First, they involve many agents from different disciplines, such as health professionals (doctors and nurses), translation and languages experts, and professionals from communication technologies — they are all involved in the process. Second, these communications take place in a dynamic context, for they need to meet social needs (Montalt and García Izquierdo 2016), especially concerning communication, which can be interlingual, intercultural, and also unequal (such as expert-to-layman communication). Written medical communication is situated somewhere on a continuum that ranges from popularisation (genres written by experts and addressed to lay people, which sometimes need intergeneric — intra- and interlingual — translations) to the highest degree of specialisation (expert-to-expert communication), in which equifunctional or equigeneric translation prevails (García Izquierdo and Montalt 2013).

The breadth and complexity of this subject area are such that there are different ways of conceptualising the same reality and the terminology is not uniform. In this chapter, for explanatory purposes, following Montalt and González (2007), I shall use *medical translation* as a hyperonym and *healthcare translation* as a specific type of medical translation. Medical translation will therefore include the whole continuum, from research genres to those of a more popularising nature (such as the one we are concerned with here), whereas healthcare translation will include translation in healthcare situations (hospitals, health centres, healthcare institutions, etc.). The research on patient information genres addressed in this chapter falls into the second category.

The complexity of medical translation, as "the most universal and oldest form of scientific translation" (Fischbach 1998, 1–2), has often been highlighted. In the preface to his study, Fischbach (1998, 1) mentions some of the problems, ranging from "differences in scientific terminology or deceptive lexical equivalence" to "misconceived readership level or misjudged translation expectations". Indeed, Montalt and González (2007, 19–23) acknowledge that medical translation shares some features with other areas of specialised translation, while they also think it involves certain peculiarities, such as the need to handle the knowledge generated in very different specialities, the range of situations and communicative sectors in

which a medical translation may be required, the special complexity of medical terminology, the wide spectrum of genres (ranging from the highest degree of specialisation to popularisation), the quality of some medical texts (sometimes medical authors are not professional writers), and the fact that medical originals and translations are affected by ethical issues (concerning access to care, addressing end-of-life issues, patient welfare or organ donation) and entail certain responsibilities, since they affect people's health, and even their lives. This same idea is taken up with slight modifications by Muñoz (2014, 21), who argues that a further point to add to those identified by Montalt and González (2007) is the interdisciplinary nature of the field, due to its close relationship with related sciences, and the need, therefore, to "determine the conceptual cores of the discipline" (Muñoz 2014, 41), and also certain social issues, mainly related to the diversity of social standards, healthcare systems, and beliefs about health.

García Izquierdo (2016) emphasises the wide variation in the degree of technicality in medical texts, ranging from the highest degree of specialisation to popularisation and giving rise to specific asymmetries related both to the genres through which medical knowledge is conveyed and to the expectations and literacy level of the audience. Thus, whereas in most cases translators are dealing with equifunctional or *equigeneric* translation, with medical genres we often face translations that are heterofunctional or *intergeneric*, and even intralinguistic,[2] to which less consideration was traditionally given in Translation Studies (primarily concerned as it was with equifunctional and interlingual translation; Zethsen 2009).

Finally, medical written communication (and by the same token medical translation) have to respond to the needs of a dynamic and changing social context in ways more obvious than those of other kinds of communication — not only in respect to advances in medicine, but also because of changes and inequalities in conditions of access to health and to information on health for different types of patients and in different healthcare contexts (Montalt and García Izquierdo 2016). This is specifically true of patient information genres, the focus of the next section, because a good understanding of information can be important for proper adherence to treatments.

To address the complexity of this interdisciplinary, interlingual, and multi-oriented (lay people and experts) context, researchers need to use both qualitative methods (interviews, focus groups, questionnaires, etc.) and quantitative methods (corpora, expert knowledge management systems, etc.), involving all the participants in the communicative process. This makes it possible to triangulate results from different sources and to respond to all the demands that medical

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2. García Izquierdo and Montalt (2013) explores the asymmetries in the medical field and the importance of intralinguistic translation in this area.

communication and translation place at both the cognitive and situational levels, as acts and as events (Chesterman 2000).

One approach to understanding how the process unfolds in the complex field of medical communication is by analysing the concepts of acts and events involved in it. The communicative process in the written medical field can be conceived as a dynamic chain of causes and effects, in line with the causal model put forward by Chesterman (2000). Chesterman (2000) addresses the question of how to carry out research in Translation Studies and proposes distinguishing between the *comparative model* (which aims to discover rules of translation between language pairs and universal rules of translation, among other things), the *process model* (sequential relations between different phases of the translation process) and the *causal model*. The first two "help us to describe the translation product and its relation with the source text, but they do not help us to explain why the translation looks the way it does, or what effects it causes" (2000, 19). Chesterman (2000, 21) argues for the causal model as the most fertile of all three, since it actually embraces the other two. The causal model is suggested by Chesterman (2000, 20) to consist of a non-continuous, complex, comprehensive sequence of causes (socio-cultural conditions, translation event, translation act, translation profile) and effects (cognitive effects, behavioural effects, and socio-cultural effects), in which it is not always easy to discern which is the first cause or the last effect. On the basis of this proposal, he highlights three fundamental levels: the cognitive (the translation act), the situational (the translation event) and the socio-cultural (norms, initiator, etc.).

A correspondence exists between Chesterman's proposal and genre as a conceptual tool used by the Gentt research group, which proposes an eclectic concept of *text genre* based on systemic functional linguistics, the theory of genre as applied to translation and the sociology of professions (García Izquierdo 2005). In line with Hatim and Mason (1990), genre is thought to include formal aspects *(conventionalised forms),* socio-cultural aspects *(social occasions)* and cognitive aspects *(purposes of the participants).* This idea of three dimensions is extremely important in enabling us to understand the complexity of genres in different languages and cultures (Borja, García Izquierdo, and Montalt 2009, 68). Genre is therefore a multifaceted concept that can be of significant assistance for a comprehensive analysis of the object of study (specialised healthcare communication and translation, in the case we are considering). In the view of Borja et al.:

> It is essential to consider the object of study as a single unit in order to be able to address its analysis with some guarantee of success, with no dispersions that fragment the research and lead to biased results. Now, there are two possible ways to achieve this: by simplifying (and therefore only analysing part of) the problem, or by searching for a unifying system that enables us to get an overall view of the problem. And,

> in our opinion, the concept of *text genre* (with its three formal, communicative and cognitive dimensions) can help us to significantly improve this problem.
>
> (Borja et al. 2009, 67)

There is clearly a similarity between the cognitive, situational and socio-cultural levels of Chesterman's causal model and the cognitive and socio-cultural aspects included in the definition of genre. Furthermore, Williams and Chesterman (2002) offer an overview of twelve research areas in Translation Studies to help students identify a topic and one of them is "translating genres". Thus, the analogy between the conceptual tool used by the Gentt group and Chesterman's causal model for attaining a fuller understanding of specialised communication and translation can be appreciated more fully.

Gentt's approach, however, does not totally coincide with the approach of Chesterman (2000), because it does not make any attempt to explain the state of research in TS. We simply draw on the distinction he makes between the concepts of event (linked to the contextual dimension) and act (linked to the cognitive dimension).[3] Of greater interest for the purposes of this study is the proposal put forward by Saldanha and O'Brien (2013, 6), who offer a model inspired by Chesterman's causal model (2000), but concentrate particularly on the focus of the research. [4]

In the opinion of Saldanha and O'Brien (2013), when conducting research investigators may focus their observations, for explanatory purposes, on the process, the product, the participants, or the context. The authors highlight the correspondences between Chesterman's (2000) three models and the many types of methodology they propose in their book. Thus, on a superficial level:

– Product-oriented methodologies correspond to the comparative model
– Process-oriented methodologies correspond to the cognitive model
– Context-oriented methodologies correspond to the causal model
– Participant-oriented methodologies might be mapped onto either a cognitive or a causal model.

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3. In the model proposed here, though, the socio-cultural and situational dimensions could be regarded as part of the event.

4. Saldanha and O'Brien (2013) also draw from Marco (2009), who builds on the distinction by Chesterman (2000, 15) between the concepts of theory and model to suggest four research models in Translation Studies: textual-descriptivist, cognitive, culturalist and sociological — "[a] classification which posited a close connection between research method, on the one hand, and underlying theoretical approach(es), conceptual tools and attendant disciplines on the other […]" (Marco 2009, 15).

However, they prefer to establish the connection with Chesterman's scheme in a more comprehensive manner and acknowledge that theirs could be regarded as an entirely causal model:

> […] an underlying assumption of our approach is that there cannot be purely descriptive (comparative or procedural) research, because any (good) research necessarily takes into account possible explanations, and descriptions are never neutral. Therefore, another way of mapping our model onto Chesterman's three types would be to classify it in its entirety as a causal model that recognises three different dimensions of causality (linguistic, cognitive and contextual).
>
> (Saldanha and O'Brien 2013: 6)

The ideas proposed by Saldanha and O'Brien (2013) fit in very well with Gentt's research, since the latter involves addressing issues related to all three dimensions of the communication process in the medical field: the linguistic (formal questions of patient information genres, primarily in terms of their production/cause), the cognitive (knowledge of the specialist field, documentation, in terms of cause; and comprehensibility, readability and legibility, in terms of effect) and the contextual (in terms of both knowledge of the context on the part of writers and translators — rules, beliefs, legislation, etc. — and of the particular communicative situation and relationship between participants in the communication process). Indeed, it could be said that our research focuses particularly on the participants and the context (which does not mean that we ignore the process, and especially the product), and is therefore essentially in line with a causal model. By taking account of Saldanha and O'Brien's (2013) proposal, which involves a complex approach to causality that includes linguistic, cognitive and contextual aspects, our research aims to improve not only the writing and translation of healthcare texts (the linguistic dimension) but also how writers and translators work, by enhancing their knowledge of the field and providing them with documentary tools (the cognitive dimension, the act), and, in a broader sense, the processes of written communication in Spanish healthcare settings (the contextual dimension, the event).

Nevertheless, tackling this complexity requires approaching the analysis of medical communication and translation from a broad perspective, with hypotheses of different kinds and a combination of methodologies, as explained in the next section.

3.   Gentt's methodological approach

As outlined above, Chesterman (2000, 21) highlights the advantages of using a causal model in order to be able to put forward hypotheses on the causes and

effects of certain aspects of the communicative process. This enables translation studies researchers to address questions such as: Why is this translation the way it is? Why did this translator write that? How do translations affect cultures? What causal conditions give rise to translations that people like/do not like? [5]

Saldanha and O'Brien (2013) argue that researchers begin their studies with a series of theoretical assumptions, and "our choice of methodology depends on those assumptions as well as on our research question and/or hypothesis" (2013, 7). Like these authors, Gentt favours flexibility in research, and favors a combination of methods and theories. By the same token, we advocate for interdisciplinarity in Translation Studies, and agree with Díaz (2014) when he says — with reference to the relationship between Translation Studies and Communication Studies — that

> […] the distinction between Humanities and Social Sciences (in which Translation Studies and Communication Studies, respectively, are usually included) does not seem to be as clear-cut as an uninformed observer might suppose. There are some signs that point to similar ways of proceeding […]
>
> (Díaz 2014, 242; my translation)[6]

For this reason, Gentt's research necessarily draws on Translation Studies, because it is the field of primary interest for medical translation, but combines the textual-descriptive model with the cognitively-oriented and the sociological models (Marco 2009, 15). To put it another way, our research is influenced not only by applied linguistics and discourse analysis (corpus linguistics), but also by the sociology of professions and knowledge communication, among other disciplines which are collectively deemed to belong to the Social Sciences. Having recognised the eclectic and interdisciplinary nature of the research, the essential task is to define and circumscribe its objectives and hypotheses.

With regard to the kinds of hypotheses, following Chesterman (2000), this project combines descriptive hypotheses with explanatory and predictive hypotheses. Thus, the starting point was a descriptive hypothesis, formulated in the following terms:

1. In the task of informing cancer patients, public hospitals do not have models or templates for genres approved by the whole socio-professional community

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5. These questions are equally applicable to the process of specialised writing. As indicated above, our line of thinking focuses on complex process of communication, writing and translating, i.e., both interlingual and intralingual.

6. "En buena medida, la distinción entre Humanidades y Ciencias Sociales (en las que suelen incluirse, respectivamente, los Estudios de Traducción y los estudios sobre la Comunicación) no parece ser tan nítida como pudiera suponer un observador desinformado. Existen algunos indicios que apuntan a comportamientos semejantes […]".

and produced by experts, either for writing or for translation. The information patients receive is delivered orally, and it is insufficient.

Three secondary hypotheses were proposed:

2. The little information that does exist does not take into account the needs of users (patients and relatives) and it is essentially based on standards established by institutions, publications, etc., in the American healthcare system. **Explanatory hypothesis**.
3. An analysis by means of questionnaires and readability experiments administered to the Spanish target population paves the way to achieve a significant improvement in patient information genres, both in terms of conceptual aspects and with regard to the use of languages other than Spanish. **Predictive hypothesis**.
4. Assessment of current patient information genres by language experts, translators and information professionals, together with the results of the studies administered to the target population, will yield information for genre templates that can be used in other similar healthcare contexts. **Predictive hypothesis**.

The overall aim of the study was to improve the writing of Patient Guides, and to draft approved models that could be used for writing and translating this genre, with the goal of satisfying the information needs of cancer patients and their relatives. However, during the course of the research this aim widened to include the design of web material for medical writers and translators of patient information genres.

This dual goal of our research corresponds to the nature of communication (and specialised communication) as a cognitive act and as an event. Taking these concepts as complementary or as two sides of the same phenomenon, rather than separate phenomena, the act is really part of or a concrete manifestation of the event and can only be understood in close relationship to it. Bearing in mind this relationship of complementarity, then, our aim was:

a. with regard to the event, to improve written communication aimed at Spanish and foreign patients in the Spanish context (especially hospitals), and thus to improve social interaction between providers and patients, and
b. with regard to the act, to provide medical writers and (English-Spanish) translators with useful resources by means of an expert document management system (Borja and García Izquierdo 2015). These resources are expected to enable translators to improve production of the genres involved in the new context.

This dual aim is necessarily operationalised, as described below, through the use of mixed (quantitative and qualitative) methodological approaches (see Figure 1).
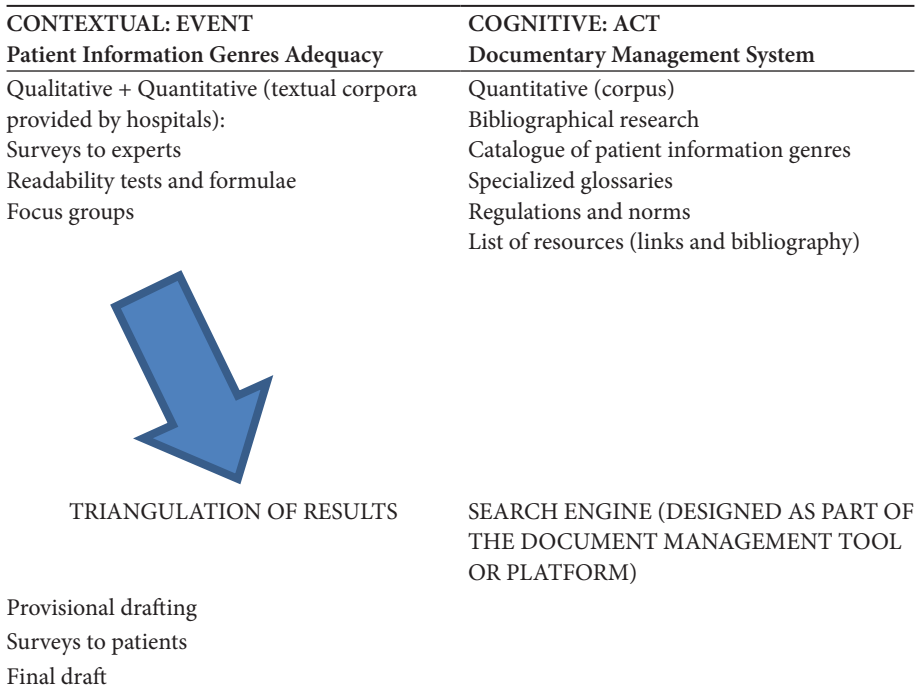
CONTEXTUAL: EVENT	COGNITIVE: ACT
Patient Information Genres Adequacy	**Documentary Management System**
Qualitative + Quantitative (textual corpora provided by hospitals):	Quantitative (corpus)
	Bibliographical research
Surveys to experts	Catalogue of patient information genres
Readability tests and formulae	Specialized glossaries
Focus groups	Regulations and norms
	List of resources (links and bibliography)

TRIANGULATION OF RESULTS	SEARCH ENGINE (DESIGNED AS PART OF THE DOCUMENT MANAGEMENT TOOL OR PLATFORM)
Provisional drafting	
Surveys to patients	
Final draft	

Figure 1. Gentt's methodological approach

To achieve the first of these aims, a combination of qualitative and quantitative methodologies was necessary. On the one hand, the project required a multidisciplinary approach that would take into account the opinions not only of experts in specialised communication and translation but also of medical professionals (doctors, nurses, and psychologists) and patients.

Thus, a research study was designed using questionnaires administered to doctors at the two hospitals selected in the Valencian Community (Spain): the Hospital Clínico Universitario of Valencia and the Hospital Provincial of Castellón. These questionnaires focused on the profiles of the patients, the nature of the flow of communication in the hospital, the written material available and its suitability (structurally, thematically, and so on), the possible benefits, in the respondent's opinion, of producing new patient guides and the need for translation into certain languages. Those questionnaires also provided an initial view of what the normal flow of information for patients was in these hospital settings and which aspects they thought could be improved. From that point on, the study proceeded in parallel in two directions:

1.   In the first stage, the experts in communication and translation carried out an (essentially formal, quantitative) analysis of the texts in two corpora of patient

information provided by the hospitals participating in the study (containing a total of 27 texts: 14 from the Hospital Clínico and 13 from the Hospital Provincial). In addition, a readability analysis (quantitative) of the texts was performed, using a combination of Inflesz formulae and Word 2000 correlation.[7]

2. In the second stage, four focus groups, two with medical professionals (doctors, nurses and psycho-oncologists) and two with patients (14 in all) were gathered in order to obtain qualitative data. Data included opinions on the importance of communication with patients (including immigrant patients and the potential need to use languages other than Spanish or Catalan (the regional language of the Valencian Community), the appropriateness of the current communication processes and the possible improvements that should be introduced into the texts from a formal and conceptual point of view.

The results of the two initial stages were triangulated and, on the basis of these results, we proceeded to improve the writing and design of the texts in the corpus in a third stage. This task, which constituted the first drafting, was performed by the members of the research team, who are experts in specialised writing and translation. Questionnaires were designed for the patients with the help of psychologists, who are experts in qualitative research, in which questions could be asked about the two corpora of texts: the original and the one that had been improved on the basis of the triangulated data (García Izquierdo and Muñoz 2015; Montalt and García Izquierdo 2016).

In the fourth stage of Gentt's present study, we have already pilot-tested the questionnaire and have administered a final version to the patients at the Hospital Provincial, with the help of the cancer patients' association AFAPOC, and with the patients at the Hospital Clínico, with the collaboration, in this case, of the association to aid cancer patients and their families, CARENA. Then, we incorporated the patients' opinions into the drafting of the final versions of the guides. These revised guides have been written based on the opinions of experts and users, and should, in our view, satisfy the expectations of the latter much better. In addition, the new version should significantly improve the current written information process in the hospital contexts analysed. Moreover, as a final step in the study, the guides have been translated into Catalan and into French and Romanian (the languages most commonly used by immigrants in this area) and into English, as the *lingua franca*.

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7. Inflesz is a program for measuring the readability of texts in Spanish. Use of the Flesch formula spread following its inclusion as a utility in Microsoft Word (Flesch Grade Level — FGL). Through the "Word Correlation" command, Inflesz calculates the FGL that would have been given by Microsoft Office 2000 on activating the Readability Statistics. This computer tool is very popular to analyse readability in Spanish, so it is appropriate to keep using it until another equally convenient, rapid and reliable method becomes at least as popular, to ensure comparability.

To achieve the second aim, that is, to provide medical writers and (English-Spanish) translators with useful resources through an expert document management system, we used an essentially quantitative methodology to design a resource and document management platform for writers and translators of patient information genres. As explained by Borja and García Izquierdo (2015, 199–200), resources that were particularly relevant for specialised translators were integrated into a single platform with the same web architecture as other Gentt platforms. García Izquierdo (2016) specifically examines the MedGentt Patient Information sub-platform, which comprises four main blocks:

I.   A catalogue of the patient information genres with genre info sheets in English and Spanish (a) indicates whether that specific genre has subgenres, and their possible names; (b) describes the communicative situation in which it is used (addresser, possible addressees, consequences of its use, if appropriate, etc.); (c) sketches the usual macrostructure in the two working languages; and (d) provides links to models and examples of such documents in the field of oncology.

II. Specialised glossaries created by Gentt on the basis of terminological extraction from the documents available on the platform.[8] The specialised cancer patient information glossary currently has some 1900 entries, including synonyms and acronyms, but we expect the final glossary to reach circa 3000 entries.

III. National regulations governing the field and the genres analysed (Spain, United Kingdom, United States, and other countries). Also, international regulations (EU and international law) that can significantly assist translators and writers of patient information genres to understand the context and the legal conditions in which they occur.

IV. A list of resources, mainly links and bibliography (organised into categories such as style guides, journals, databases and corpora, dictionaries and glossaries, web portals, search engines, directories, etc.), which contribute to enhancing the translator's generic competence.

An important additional feature is a search engine that Gentt has incorporated into the document management system. This search engine retrieves information from any part of the platform, helping to scale up the specific information included in each of these sections.

The main difference between this platform, MedGentt, and the specialised platform in the legal field designed so far by Gentt (JudGentt), lies in the different

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8. Although the final results of the research project will include translations of Patient Guides from Spanish into Catalan, English, French, and Romanian, to meet the needs of the population, as explained above, the document management platforms currently include only Spanish and English as working languages.

genres in the patient information field, which mostly tend towards popularisation, or towards a relatively low level of specialisation, and therefore require particular considerations relative to heterofunctional translation, since in many cases writers and translators will have to construct the popularising genre from an existing specialised genre. [9] In addition, significant variations in register may occur because of the ultimate target audience, which, depending on the specific context, may be very diverse (in literacy level, age, etc.). For this reason, in the case of MedGentt, we have include two levels in both the glossaries and the regulations and resources sections: specialised and popularising, so that users can select whichever they consider more appropriate according to the genre and the specific context they have to translate or write (see Figure 2; García Izquierdo 2016).

Figure 2. MedGentt management system

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9. For a detailed analysis of the platforms, see Borja and García Izquierdo (2015).

4.   Some preliminary results

As explained in the preceding section, this research project by Gentt focuses on specialised medical communication and, specifically on patient information in the field of oncology. A core factor in the project is translation, whether equifunctional, heterofunctional, interlingual, and intralingual. Back to the classification proposed by Saldanha and O'Brien (2013), we may describe the latter as *participant-oriented* — since the Gentt group has managed to get a range of participants involved, from specialised writers and translators to medical professionals (doctors, nurses and psychologists), patients and patients' associations — and also *context-oriented*, for the group has analysed a specific real patient information context (public hospitals in the Valencian Community in Spain), with particular socio-cultural features.

As for the act of writing and translating as an event, the preliminary conclusions of our study indicate that patient information texts, at least in the health care context, do not meet patients' expectations, either in terms of content or of formal configuration (syntactic and lexical complexity, format, typography, etc.).[10] There is a consensus that in this medical context, which is particularly sensitive for patients (and their families), written information is a welcome and necessary supplement to the oral information provided by doctors and nurses. However, currently written information in the hospitals is scarce, and the standards that should be applied to writing and translating these genres are not officially regulated. Finally, regarding interlingual translation, in the Valencian Community there is no evidence of specific policies for having patient information genres translated even into Catalan, which co-official in the Valencian Community, with the consequent lack of information that may affect elderly native patients whose usual language is Catalan.

In our study, Gentt also found that in most cases patient information genres are written by nurses at public hospitals, who have expert knowledge of the field but are not experts in linguistics, translation, or communication. Moreover, the topics they deal with are limited to specific treatments or side effects of medications, with the result that many questions patients regard as necessary in their treatment are not addressed (sexual relations, diet, alternative treatments, etc.; see García Izquierdo and Muñoz 2015).

As for the quantitative research, undertaken to address the communicative act of medical writing and medical translating as an act, we have faced two main difficulties when designing the patient information platform. The first has been

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10. With regard to the qualitative study, its main limitation lies in the volume of the corpus, so the results must be interpreted with caution (see also García Izquierdo 2016).

determining which genres can be deemed representative of the field of patient information. In this regard, after conducting bibliographical studies and comparing our proposal with the views of specialists (doctors and translators), we decided to include eight genres: *Patient Guide*, *Factsheet*, *Comic*, *Poster*, *Children's story*, *Informed consent for clinical studies*, *Informed consent for treatment* and *Patient information leaflet*.[11]

The second difficulty has been that the results of this quantitative research has demonstrated the existence of different levels of specialisation in these genres. This had to be necessarily reflected in the information to be provided to the translator or writer on the documentation platform, by introducing different levels of complexity (specialisation) in the glossary entries — for example, both for the definition and, of course, for the contexts of use. This difference in levels is also reflected in the resources section, for translators will have to consult sources with a greater or lesser level of specialisation depending on the specific context where the communication will take place and the particular *purpose* of the translation.

The main results of the study are presented in schematic form in Figure 3:

EVENT	ACT
– Texts do not meet expectations (either in terms of form or of content)	– Difficulties in selecting Patient Information genres, which may entail problems for the translator.
– In general, little information is provided	
– There is a lack of uniformity and of standards for drafting these genres	– Different levels of specialisation that are to be reflected in all sections of the document management system (levels of complexity)
– No clear translation policies are applied	
Texts in English are used as models for drafting these genres	
– The range of topics dealt with is narrow (García-Izquierdo and Muñoz 2015)	

Figure 3. Results of Gentt's research

5. Final remarks

The research project reported here has demonstrated the need for a multidisciplinary approach to the study of specialised medical communication (writing and translation), especially in healthcare settings. Our research is at the interface of situational and cognitive approaches but does not diminish the importance of the

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11. The first five could really be considered subgenres of the Patient Guide genre (see García Izquierdo 2016). However, we preferred to consider them independently here for explanatory purposes.

linguistic dimension on our account. The preliminary results lead us to consider that the dual aim of improving communication in the hospital setting (the contextual dimension) and providing writers and translators with specific tools that will enable them to save time when searching for resources or making decisions (the cognitive dimension) has been fulfilled.

The next step in our research will be to expand both the corpus of texts in the patient information genre and the geographical coverage within the Valencian Community, in order to check whether the results of our study are contextually determined, since the hospitals analysed (Castellón and Valencia) may not compare to the hospitals in the third of the provinces that make up the Valencian Community. This southern province is Alicante, and it receives a very different flow of immigrants, both in terms of the volume of people and of their purchasing power and, in most cases, literacy. Immigrants to Alicante tend to be British, German and Russian, with high purchasing power and presumably higher levels of literacy than those in immigrants in the hospitals already analysed. In addition, given the origin of a large proportion of the immigrants in the Valencian Community, the possibility of including other languages in addition to English and Spanish in the document management platform will have to be considered.

We acknowledge the possible limitations of the corpus and the population analysed, although we think that the preliminary results presented here clearly show that a research study combining quantitative and qualitative methodologies, such as that conducted by Gentt, can provide an appropriate response to the communicative needs of a field as complex as patient information — in particular in sensitive specialities such as oncology. For this reason, we argue in favour of continuing to pursue research in this area.

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Translate live to generate new knowledge

A case study of an activist translation project

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This chapter discusses findings of an investigation into the real-life practice of Yuan Tianpeng, a new-generation translator whose work, based on Robert's *Rules of Order,* involved translating live as well as publishing a translation. This investigation adopted a qualitative method and analyzed both first-hand and second-hand data, focusing on how Yuan delivered live translation, what strategies he used, and especially how he and his target audiences engaged in the co-production of new knowledge required to drive urgently needed social changes in China. The investigation found that Yuan's practice constituted a distinct new mode of translation, which is called 'live translation' in this chapter. In the light of recent development of translation theories, this new mode of translation constitutes an interesting case study for exploring the interface between cognitive and situational levels of translation.

Keywords: live translation, situational translation, translation act, translation event, intersemiotic translation, Yuan Tianpeng, rules of order

1. Introduction

This chapter presents the findings of a case study designed to analyze and map out the real-life practice undertaken by Yuan Tianpeng, referred to as 'live translation' in this chapter. The chapter begins with a brief introduction to the subject matter, including the translator, existing Chinese assembly orders, the book translated by him, and a village by the name of Nantang, where the live translation took place.

1.1 Yuan Tianpeng

At the time of the fieldwork of this study (2011–2012), Yuan was in his thirties and resided in Beijing, China. He had graduated from Beijing Post and Communication University in 1998 before going overseas to study at the University of Alaska.

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Before completing an MA degree there, however, he moved on to the corporate world of Sprint PCS, a telecommunication company where he was employed as a project manager. During his American studies, Yuan actively participated in student council activities, where he became interested in the order of council assemblies. He returned to China in 2003 to start up his own business in the form of a consulting firm and to devote his life to the cause of promoting *Robert's Rules of Order* in China (see 1.3). He co-translated the book into Chinese and had it published in 2008. He stated in his blog[1]:

> I am Yuan Tianpeng, co-translator of the latest edition (2000, 10th edition) of *Robert's Rules of Order*. I can be reached at dinglitri@163.com (email and MSN) and 13381119777 (cell phone). I welcome all requests for advice as I devote myself to the cause of promoting *Robert's Rules of Order* in China by providing consulting and training services.

Devotion to the cause expanded his involvement with the book far beyond an isolated book project — completing one translation project and then seeking another one has been the pursuit of almost all typical translators. He founded a consulting firm to provide training to social and commercial institutions wishing to implement a new set of rules for assemblies. It was this extended involvement which brought him to the village of Nantang (described in more detail in Section 1.4).

His work apparently earned much social recognition, as evidenced by *Nanfeng Chuang*'s (an influential bi-weekly magazine with nation-wide circulation) nomination of Yuan as a leader of national public interest in 2007. His activities were followed with interest on TV (e.g., *China Sun Cable TV)* and print media — e.g., Chinese State publications such as *Half-Monthly Discussions* and publications of national influence such as *Nanfang Weekend*, *Law Daily* and *21st Century Economics Report* — until the recent tightening of media freedom ca. 2013 under the new state leadership. In fact, it was a feature article in *Nanfang Weekend* that prompted me to study Yuan as an atypical translator. That article was entitled 'Robert's rules of order trialed in Nantang — Helping villagers study Robert's rules of order and learn to debate and vote democratically' (Zhai 2009, A4).[2]

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1. http://t.qq.com/yuantianpeng/, translated into English by me.

2. In Chinese, book titles are usually marked in print with double angle brackets, but in this news story *Robert's Rules of Order* was not given any special punctuation, probably reflecting that Yuan did not merely aim to translate the book into Chinese for the villagers but rather sought to represent the wisdom in Robert's book for the villagers to use and to adapt selectively. This informed the present investigator's claim that translation could be conceptually guided and delivered live.

1.2   Chinese assemblies and order

In societies such as those of the USA and Australia there are two broad types of assemblies. The first type involves representatives of a population, and the second type involves all or almost all members of a population. The former are often known as 'board or committee meetings' and the latter as 'rallies'. When compared to most other societies, China is perhaps different in that there are far more frequent rallies of the second type — especially at the grass-root level of organizations, including communities, schools, villages, factories and corporations. Both types of Chinese assemblies are structured to uphold a hierarchical order, by strictly positioning a person or group of persons as the central speaker and decision-maker and all others as listeners and recipients of decisions. Yuan's campaign to introduce Robert's wisdom in China was intended to reform the order of both types of assemblies but his live translation in Nantang Village specifically targeted the second type, because rallies in the village were seen as ineffective and inefficient (see 1.4).

1.3   *Robert's Rules of Order*

Robert's Rules of Order is the short title of *Pocket Manual of Rules of Order for Deliberative Assemblies.* The book was authored by the then US Army major Henry Martyn Robert (1837–1923) and first published in 1876; the 10th edition was published in 2000. Different newer editions of the work, including *Robert's Rules of Order Newly Revised,* i.e., the one translated by Yuan, have also been published (Robert 2000). This version claims to be a codification of general parliamentary law, i.e., procedures used in the US House of Representatives, with provisions not applicable to outside legislative bodies omitted and with such other adaptations as Robert saw fit for use in ordinary societies. These procedures have been identified as the most commonly adopted assembly rules among societies in the United States, used by approximately 85% of all organizations in that country (Slaughter 2005).[3]

The influence of Robert's assembly rules also reached China, where the rule of a person or persons has prevailed over the rule of law throughout the dynasties and until now, even though its impact has been anything but obvious or well documented. Dr Sun Yat-Sen, founder of the nationalist Republic of China, compiled his own manual, entitled *Elementary People's Rights* (民权初步), which had been modeled after *Robert's Rules of Order* and also informed by Shattuck's (1891) *The Women's Manual of Parliamentary Law.* Dr Sun had reportedly intended to use this

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3. See the entry on 'Robert's Rules of Order' in *Wikipedia*.

practical manual to 'teach people a method and logic of democracy' (He 2008). At the end of the last century, Robert's book was translated into Chinese a few more times, including a version by Wang (Robert 1995) and another one by Yuan and Sun (Robert 2008). Also, Sun and Zheng (2007) published a book which borrowed much of the insights and knowledge from Robert's book. However, there was little available evidence with regard to the impact of the publications. I conducted an informal survey in May 2009 of over 30 undergraduate and postgraduate students of translation who had just arrived from China in a university in Sydney, Australia. None of them seemed to know or to have heard anything about Henry Martyn Robert, *Robert's Rules of Order,* or any Chinese translations of the book. There appeared to be few obvious signs showing that democratic, orderly rules of assembly are widely practiced or well known in China.

1.4 Nantang village and villagers

Nantang is a village located in Anhui, one of the underdeveloped Chinese inland provinces. Its population numbers are disputable: the Hong Kong-based Sunrise Foundation estimates set them at 1,800 residents.[4] *Baidu Encyclopedia,* however, sets the figure at 3,094.[5] The variation may be attributed to the demographic composition and migration. General farming and husbandry can barely sustain livelihood and, worse still, produce prices have steadily decreased as the cost of production (e.g., fertilizers) and animal diseases drastically increased in recent years. As a result, over 70% of the population — including over 90% of the able-bodied prime-age men and women — make a living by selling their labor outside the village, and often outside the province (Nantangdiaochatuan 2014). Most of the people who stay in the village are illiterate, the so-called 'left-behind' kids and old people who, according to Shang and Katz (2014) and Zhong (2014a), are also commonly found in many other Chinese underdeveloped rural areas.

The demographic composition of the Nantang Village hints that orderly assemblies would be even more difficult to hold. As quoted in Zhai (2009), Yang Yunbiao, head of Nantang Agricultural Development Cooperative (NADC), has had first-hand experiences of three common major difficulties. The first difficulty is 'off-course topics' — i.e., discussions running everywhere without targeting any one particular issue. The second is the domination of meetings by 'one voice' (i.e., the speaker usually being a village leader or veteran). The third is 'quarrels' and even 'physical altercations', which can be ignited by the use of a single offensive

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4. http://www.ngocn.org/?action-viewnews-itemid-2268

5. http://baike.baidu.com/view/1925168.htm#1

word. It was for the purpose of overcoming such difficulties and organizing orderly and efficient assemblies that Yang Yunbiao invited Yuan Tianpeng to come and introduce Robert's rules (Zhai 2009, A4).

2.   Research methods

Motivated by a desire to understand and discuss the atypical translation practice as performed by Yuan Tianpeng, this case study adopted three research questions as listed below:

a.   What was Yuan's translation practice at Nantang Village like?
b.   Did Yuan's translation practice make a lasting impact on the way assemblies are held at Nantang?
c.   Did Yuan's translation practice constitute a new mode of translation?

I explored opportunities to observe Yuan's practice in Nantang Village or a comparable context where his live translation, as it would later be categorized as a result of the present investigation, seemed most needed and had proved most effective. Regrettably, Yuan's involvement with Nantang had concluded before this investigation started and it was not possible to use any of the few opportunities available at other locations for the intended data collection. Yuan Tianpeng provided services more often and more regularly to staff employed by institutions, including government departments, multinational companies and social organizations, for whom typical translation plus regular style presentations were equally viable and even more efficient and therefore not of relevance to the present investigation. Accordingly, a decision was made to stay with the Nantang sample and to study Yuan's practice there in retrospect. Once this decision was made, the following fieldwork methods were adopted.

2.1   First-hand data

Two methods were used to collect first-hand data, both of which had been informed by Morrissey's (1998) oral history interviewing methods and by Kottak's (1994) and Monaghan and Just's (2000) cultural anthropological methods. The first method involved the investigator sitting in and conducting observation of assemblies held in 2011 and 2012. Regrettably, this method produced only limited data (see 3.3.1). The second method involved interviewing thirteen people who had participated in Yuan's translation sessions, including two former assistants/associates of Yuan, one former volunteer teacher, one village administrator, and nine villagers. The semi-structured interviews were based on a set of core questions but expanded

to other questions as the investigator saw fit. The responses to the core and other questions were used to contrast findings made through the first method. Below you will find the core questions, where (a)–(d) focused on the procedures of Yuan's practice at Nantang, and (e)–(h), on efficacy/impact of his translation project:

a. What is your general memory of Yuan Tianpeng? Did you like him? Did you like what he said? If you liked (or disliked) him (or what he said), why?

b. Do you remember anything of what Yuan Tianpeng did when he was working with you? If you do, can you give me some details? Can you show me how he did it?

c. What language did he use? How did he explain a difficult idea or a way of doing things when people could not understand him? Can you show me how he did it?

d. Were you able to understand him, follow him and make him understand you? What did he do when you had difficulty understanding him?

e. Do you remember any of the Nantang 13 Rules?[6] How many do you remember? Can you retell this (or that) rule to me please? What does this (or that) rule mean to you?

f. Are those rules still used in assemblies held now? If any rule has dropped out of use, why and since when?

g. Did assemblies become better after Yuan's workshop? More efficient? More productive?

h. Do you attend village assemblies? Do you attend village assemblies more often now? Or less often? Why?

2.2 Second-hand data

The investigator collected second-hand data by mainly analyzing two sources of documentary-style materials (i.e., videos and print media) about Yuan Tianpeng's activities in Nantang. The videos included clips made at the time of his translation sessions that were available on Chinese web portals (e.g., Youku, Iqiyi and Tudou) or collected and provided by the two former assistants of Yuan and the volunteer teacher.[7] According to the assistants, many of Yuan's translation sessions had been

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6. Details of the rules are provided in the Appendix.

7. Including the following videos:
– 学开会 *(Learning to Assemble)*, still accessible April 8, 2016, on: http://v.youku.com/v_show/id_XNDg2MjM4ODMy.html/;
– 袁天鹏讲罗伯特议事规则 *(Yuan Tianpeng On Robert's Rules)*, still accessible April 8, 2016, on: http://v.youku.com/v_show/id_XMjYwNTU1MDI4.html/;
– and公共事务议事规则 *(Public Assembly Rules)*, still accessible April 8, 2016, on: http://www.tudou.com/listplay/EnvuqjAh2gI/9_a2R3pgWTE.html/.

taped for the purposes of documenting his work, providing education materials for a wider public, and generating training materials for new activists aspiring to join Yuan's cause as well as promoting and marketing Yuan's activities. A total of 160 minutes of videos were made available and evaluated as a valid source of data. The print media materials included mainly full-length investigative reports published by serious national newspapers including Chen (2007) and Zhai (2009), quoted in this chapter. The second-hand data were used to complement and contrast observations based on first-hand data.

As fieldwork data were collected, they were inspected critically against the research questions listed in 2. Observations made on the basis of the inspection were then codified and analyzed to generate findings, which are discussed below.

3.   Analyzing Yuan Tianpeng's translation practice

The three research questions regarding Yuan's translation practice at Nantang are addressed in this section, i.e., what it was like, whether it made a lasting impact on how assemblies were organized at Nantang, and whether it was distinct enough to constitute a new mode of translation.

3.1   Yuan's live translation at Nantang village

As an invited translator from Beijing, Yuan came to Nantang, in the poor province of Anhui, with the aim to introduce Robert's rules to the villagers in order to make their assemblies more orderly and efficient. Over a period of two weeks, he and his team worked together with the villagers in a series of sessions that comprised presentations, discussions, workshops and mock assemblies. In the beginning, his delivery methods included primarily lecturing (i.e., reading extracts from his own translation, providing sight translation of the Robert's rules, reading out loud from Robert's book, and explaining how the rules worked) and involved little of what was to be identified as live translation by this investigation. But he quickly became aware that the lecturing, including sight translation, was not working vis-à-vis a population with inadequate schooling (see 1.4) and little exposure to alternative ways of doing things. He started using different strategies, including adapting, simplifying and downsizing Robert's rules to present them to the villagers through sight-translation and demonstrations. He continued to experiment with various delivery methods until he ended up with a blended, converged method of delivery where I see a new mode of translation, which I call 'live translation', to be discussed in detail in Section 4.

This new mode involves primarily concept-guided translation, i.e., creation of knowledge and procedure based on and informed by a new concept which already exists in another language and culture as articulated through a foreign author, with less focus on matching the linguistic form of the source. It is delivered live, usually through an interaction of the translator's thorough command of the existing foreign knowledge, facilitated by excellent presentation and communication skills, and the active engagement of the audience in the co-production of new knowledge and procedure. It is thus distinct from other modes of translation (including sight translation) and interpreting (including chuchotage, dubbing and audio-description), which are usually based on text or speech and possibly anchored in principles of equivalence, albeit on different levels (i.e., word, sentence, paragraph, or entire passages). In the case of Yuan's translation practice, live translation is about recreating a set of orderly and democratic rules of order, informed by Robert's rules and applicable to the Chinese reality. There are more specific characteristics of live translation, which will be presented next in 3.2 when research question no. 1 is addressed.

3.2   Characteristics of Yuan's live translation

Inspired by Robert's book, Yuan interacted with his target readers (3.2.1) but was also driven by his own agenda (3.2.2). He developed a very personal style (3.2.3) and was committed to co-producing a body of new wisdom by engaging his readers in the production process (3.2.4), and by using a wide range of media (3.2.5) selectively and purposely.

3.2.1   *Delivered live and direct to the audience*
First of all, Yuan's translation in Nantang Village was literally live (i.e., delivered in person directly to his target audience). He translated live in the presence of the villagers, 80% of whom were aged 60 and above. He interacted with them as he co-authored a new order of assembly with their active collaboration. This could be compared to interpreting or sight translation, except for the fact that Yuan was interacting with his mastery of Robert's rules and was working together with his audience to create a new procedure, whereas interpreters and sight translators would usually work with a text and negotiate meanings with the source text or source speaker without active and dedicated engagement of audience and readers. It was especially distinct from typical translation, which is usually a solo indoor quiet activity, conducted in isolation, in a sedentary posture, in the absence of readers, handwritten or word-processed on a desktop on the basis of a tangible source text.

Yuan worked and interacted directly face-to-face with his audience. Prior to the project, he would have been informed of their social, cultural and cognitive

conditions and would have conducted purposeful preparation and formulated a delivery plan before the translation sessions. But the actual interactions with the audience provided opportunities for him to better appreciate their immediate and individual conditions and to respond meaningfully to their difficulties, needs and aspirations. It also enabled him to continuously fine-tune his objectives, adjust his strategies, and guide and facilitate the dynamic co-production of new wisdom (see 3.2.3 and 3.2.4). In short, what Yuan did at Nantang was not merely translate an English book into a Chinese book. It was not even re-writing, considering the new wisdom produced and its live delivery. Rather it was a live exercise intended to open a new vision, to facilitate badly needed social change, to generate new wisdom, and to engage the audience in coproduction of a new way of assembly informed by Robert's rules.

3.2.2 *A goal-driven activist*

Yuan's translation sessions were part of his activist campaign of achieving social change and promoting a democratic orderly way of assembly in China. When he came to Nantang, his primary agenda was to introduce and implement a new set of assembly rules. Compared to this agenda, the exact rules conveyed by the language printed in Robert's original text were of secondary importance. Indeed, the production of a faithful or equivalent Chinese translation did not seem to matter to him too much. In comparison, this sense of having an agenda, an activist program focused on generating tangible changes, is usually not found in other translators, especially in those whose primary concern is matching a source text and a target text 'faithfully' or 'equivalently'.

Yuan planned each translation session so as to make sure that there would be progress towards accomplishing his activist agenda. He was able to repeatedly refine his delivery plan for each session, including fine-tuning the objectives and adjusting the strategies. For example, he had planned to deliver the content mainly through presentations and discussions intended for the villagers to understand Robert's rules. However, as the translation sessions proceeded — and as he acquired a better appreciation of the cognitive, intellectual, and cultural capacities of the villagers — he was able to adapt the plan to better accomplish his agenda. He reprioritized the co-production of new wisdom over the translation of Robert's wisdom and started using more participatory and interactive strategies including role-plays, demonstrations, mini-dramas, and workshops.

3.2.3 *Dynamic, fluid, inventive, and improvisational*

Yuan's translation sessions at Nantang were a dynamic, fluid, and inventive process with regard to the methods and the outcomes. For example, he had started by trying to communicate to the villagers the content of Robert's book (802 pages

in the 10th English edition and 582 pages in Yuan's published Chinese transla-
tion). As it became clear that the Robert's wisdom was not easily accessible to the
villagers, Yuan rendered the content of the book into 50 rules, apparently for the
purpose of easy learning, memorization, and implementation. When the 50 rules
still proved to be too much and difficult to access by the audience, Yuan decided
to change course by engaging the villagers in co-authoring new rules, culminating
with the production of the so-called *Nantang 13 Rules* (see Appendix).

Many of the individual translation sessions conducted by Yuan were full of
unpredictable turns, twists, and improvisations, and clearly differed from typical
translation procedures, which are usually anchored on a source text and are there-
fore more predictable. Yuan had to continuously watch for real-time feedback and
for signs of any difficulty in being understood, on the basis of which he fine-tuned
his objectives, adjusted his presentation style, changed to more suitable media and
worked out other contingent solutions. For example, when the villagers appeared
unwilling to interact with him standing at the front, he re-seated them around
him in a horseshoe-shaped arrangement. When the villagers appeared baffled by
the concepts of 'to motion' and 'to second (a motion)' — essential to Robert's rules
but completely foreign to the average Chinese, especially to Nantang villagers —
he again responded immediately to the difficulty. Typical translators might have
chosen to use equivalents sourced from a scholarly Chinese dictionary, such as 动
议 for 'to motion' and 附议 for 'to second', neither of which would be meaningful
to most Chinese. More considerate translators might have resorted to using a foot-
note, e.g., by listing the six essential elements of motioning (time, place, person,
method, outcome, and funding). In any case, neither of them would ever know
first-hand to what extent their rendition was to be accessible to their intended
readers. Yuan, on the other hand, knew immediately, and responded by discuss-
ing the concepts in greater detail, focusing on six essential elements. When the
elaboration failed to make sense to the villagers, he was again attentive to their
reactions and changed his tactics in real-time. He and his associates staged a role-
play in which a village head held a meeting and asked the villagers to discuss an
instruction from the municipal government about 'going all out to promote spiri-
tual civilization'. 'That is just a slogan" — shouted the villagers, signaling that they
could now better appreciate what a motion was, complete with the six elements.

3.2.4   *Engagement of the villagers in co-production of new wisdom*

The way Yuan delivered his translation enabled the readers to be actively engaged
and to make real-time contributions to the co-production of new wisdom. The
new knowledge included new assembly procedures derived on the basis of incor-
porating Robert's wisdom, Yuan's own interpretation of Robert's wisdom and local
wisdom. On one occasion, for example, Yuan and his assistants were discussing a

range of attitudes and behaviors commonly associated with average Chinese individuals and seen as an impediment to the implementation of a democratic assembly order, including 'remaining silent', 'not speaking up' and 'not having one's own opinion'. An elderly person commented using a local saying, "that is hugging the leg of a powerful person while wagging one's tail". The villagers burst out laughing as they were familiar with the expression and were overcome by the humor of it. Following an ensuing discussion between Yuan and the villagers, it was decided that 'hugging a leg of power" be incorporated into the Nantang assembly rules (See Rule No 11 in the Appendix).

Participation of readers or audience in the process of translation is highly unlikely in typical translation processes, let alone their engagement in the production of new wisdom. The most that readers or audience can do is 'read into' a text, as argued by Hall (1981; 1997) in his theory of multiplicity and diversity of meaning and by Fiske (1987) in his theory of semiotic democratization. Yuan's translation practice has apparently opened up a new area of study for translation studies by empowering the audience through their participation in the translation, culminating with the co-production of a new assembly order.

3.2.5   *Use of alternative media and multimedia*

Yuan's translation practice employed more than print-media tools (e.g., pen and paper), electronic tools (e.g., word processors) and reference books (e.g,. online or hard copy dictionaries) in order to achieve optimal objectives and to maximize outcomes. In his translation, Yuan actively selected from a wider repertoire of media and expressions than has traditionally been available to typical translators. He chatted with and spoke to the villagers directly and he wrote on the blackboard. He told stories, made jokes, cited examples, and played slides and videos. He even staged role-plays and mini dramatic acts. In short, while typical translators might tackle a written text with a limited range of print-media comprehension and reproduction strategies, Yuan tackled problems that arose from his dealings with real people and worked out problem-based solutions by selecting from a much wider range of semiotic systems and repertoire of media and expressions. This dynamic and selective translation style contrasts with that of typical translators who are primarily concerned with print media.

For example, to help the villagers see the failure of assemblies without a democratic order, Yuan and his associates staged three dramatized role-plays, which re-enacted how existing assemblies operated with 'running topics', 'one dominating' voice and 'quarrels and altercations'. On another occasion, the villagers found it hard to understand and accept why the chairperson was not in a position to draw a conclusion. In meetings across China, the chairperson is always the person to draw the final conclusion and 'the villagers will not have peace of mind until somebody

makes a decision or a conclusion for them" (Yang, quoted in Zhai, 2009, A4). In order to convince them that the chair was not the best person to draw conclusions or make decisions in an efficient and democratic system, Yuan related a story about how Rita Lai-tai Fan Hsu chaired Legislative Council meetings in Hong Kong.[8] According to Zhai (2009), these dramas and stories made it much easier for the villagers to understand that 'assemblies must be ruled by a democratic order' and that 'the chairperson must not be the first to show approval or disapproval' and 'if the chairperson is the decision maker, there will be no genuine (re)solutions'. Nevertheless, the villagers insisted on giving the chair a vote but decided that he or she should vote only after everyone else did (see Rule No 11 in the Appendix).

3.3 Efficacy and Legacy of Yuan's translation project

The second research question — Did Yuan's translation project make a lasting impact on the way assemblies are held at Nantang? — is addressed below.

3.3.1 *Implementation of the Nantang 13 Rules*
There is sufficient evidence in the data to suggest that Yuan Tianpeng's translation project influenced how assemblies were held in Nantang village even though the influence seems to have been waning over the years. Yuan and his team conducted live translation in the village from 2007 to 2009. I visited the village twice, in 2011 and 2012, and attended one assembly during each visit as well as the first half of a third assembly in 2012 — the second half was centered on strategies to extract more funding from the government and was not open to outsiders. On all three occasions, the *Nantang 13 Rules* (see Appendix) were followed to different extents. On each occasion, instances of the following were observed:

a.   There was a chair (assumed by the Party branch secretary on all three occasions) keeping order, allocating speaking turns, cutting prolonged speaking short, stopping uninvited interruptions and quarrels, seeking prior approval from participants for extending the speaking time of each speaker, and organizing voting. The chair voted, which was consistent with the *Nantang 13 Rules* (no. 11) but was at variance with Robert's rules.
b.   Individual villagers as well as village administrators participated in the assemblies and engaged in a range of activities (e.g., raising hands to speak, speaking in an orderly manner, and trying to finish within the allocated time).

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8. Born on 20 September 1945 in Shanghai, Madam Fan Hsu is president of the Legislative Council of Hong Kong, which has been part of China since its return in 1997.

c. Individual participants helped the chair keep order by telling the others the right thing to do, reminding one another of details of the *Nantang 13 Rules,* and silencing interrupters.

d. The assemblies achieved an outcome and were documented by keeping notes and holding votes. However, the notes were not the same thing as 'minutes' in Robert's book and there was no evidence that the notes of previous assemblies were reviewed or approved.

There was another obvious benefit to implementing the *Nantang 13 Rules*. The attendants, including both villagers and administrators, took assemblies more seriously than before. The village administrator interviewed for this project said that he had to spend much more time now thinking through each of his ideas in the form of a proposal before raising them, because 'I have as much time as everyone else and have to be very clear, clear-minded and straightforward'. The villagers also appeared to be more involved than before at the assemblies, with some of them drafting motions, practicing speaking, and consulting peers before assemblies began. One semi-literate elderly villager who was seen seeking help from a volunteer to prepare his opinion said that he liked the *Nantang 13 Rules* because they gave him a chance to speak: 'This young girl is helping me organize my thoughts so I can speak better in the meeting'.

3.3.2 *Endurance of the Nantang 13 Rules*

There was evidence indicating a tendency towards loosening the *Nantang 13 Rules*. The one and half assemblies observed in 2012 were apparently not as rule-ordered as the one in 2011. Some interviewees even revealed that some assemblies did not follow the rules at all. Explanations for this were sought in the interview with the village administrator, who said that many assemblies were organized on behalf of supervisory government departments and were intended 'to propagandize government policies, instructions and rules' to the villagers. 'In these assemblies', the administrator conceded, 'your job is to read out the official documents and to tell people to implement policies. No discussions, no bargaining, you only listen and act. So we simply cannot use the rules'.

There have also been reports about the *Nantang 13 Rules* becoming even looser recently (Nantangdiaochatuan 2014), about the assemblies becoming even fewer as more and more villagers migrate to towns, and about more and more villagers choosing to avoid propaganda assemblies. According to one of Yuan's assistants, opportunities for promoting Robert's rules in China have also become rarer since 2013, when the new state administration apparently tightened ideological control. It appears that it will be a very long-term process to introduce democratic assemblies in China.

4.   Discussion of Yuan's live translation in conjunction with modern theories

The third research question, whether Yuan's translation at Nantang constituted a new mode of translation, is addressed in this section. The analyses documented in the preceding section generated evidence for claiming that Yuan's translation practice at Nantang did constitute a distinct, new mode of translation because it collapsed existing boundaries and was distinctly different from existing modes of translation. As mentioned above, the present author decided to label this new mode *live translation*. The following sub-sections provide further elaboration on the distinctive features of Yuan's live translation in line with the directions in which some modern translation theories are developing.

4.1 Redefining modes of translation

Jakobson distinguishes three modes of translation: interlingual, intralingual, and intersemiotic (1959/2000, 114). Of the three, interlingual has been and continues to be the primary mode of practice engaging most translators and being studied by most translation studies scholars (e.g., Munday 2001). Furthermore, much interlingual translation is produced by using primarily print-media tools and instruments including pens, papers, dictionaries and word processors. Use of online resources (e.g., Google Translator, Babel Fish, dictionaries) merely provides aid and convenience to translators but does not change interlingual translation as the prevalent mode. By comparison, intersemiotic translation, which involves transmutation or "an interpretation of verbal signs by means of signs of non-verbal sign systems" (Jakobson 1959/2000, 114), such as films, music, and graphics, has only recently begun to emerge and grow especially with respect to audiovisual translation, game translation, and audio-description.

Yuan Tianpeng's practice represents an example of refocused attention on intersemiotic translation. He published interlingually from print media into print media using traditional tools and instruments. But more often and more importantly for his activism, he engaged in live translation involving other performative media and forms of expression, which was intersemiotic as well as interlingual. In live translation sessions like the one in Nantang Village, he translated a notion of democratic assembly order through performative language, forms, and styles, ranging from demonstrations, workshops, role-plays, mini-dramas, videos, and mock assemblies to basic print media material and presentations.

Yuan's translation practices might seem atypical, but there has been an emerging academic interest in studying such practices of translation. For example, IATIS 2015 Conference featured two panels *(Performativity and Translation Studies* and

Translation as an Act and Event), which addressed such intersemiotic, performative translations.[9] Outside the domain of translation studies, there has also been a development in relation to happenings and live performance in art expression, which are defined as performance occurring anywhere anytime, often involving multi-disciplines, a nonlinear narrative and active participation of audiences (Berghaus 1995). Besides, Yuan's use of other semiotic expressions was obviously purposeful and deliberately intended to facilitate introduction of a democratic assembly order and to facilitate the interaction, participation and co-production by his target audience. In this regard, his practice was consistent with Vermeer's (1989/2000) skopos theory and Reiss and Vermeer's (1984) functional theory of translation, according to which the selective use of translation strategy is dependent on the purpose of the translation. The way he planned and implemented his live translation exemplified Zhong's (2005; 2006; 2014b) post-functional plan-based translation, i.e., formulating an optimal plan for each translation task, then endeavoring to achieve the plan, and finally having the outcome of the translation assessed against the plan rather than against the criteria of accuracy or equivalence.

4.2 Redefining the role of translators

Yuan's live translation subverted many roles commonly associated with translators, including especially their role as a conduit, which have been critiqued by Roy (1993). There had been intellectuals who translated with a view to generating social changes, including Monteiro Lobato (Milton 2006) in Brazil and Yan Fu (Chao 1969) and Chen Wangdao (Zhou 1996) in China. But as translators begin to become professionalized, they have become more and more institutionalized, based on the ideology of the dominant groups and constituencies (Baker 2006a; 2006b). For example, Zhong (1980) metaphorically referred to translators as a 'mouthpiece' and 'cog and wheel' of the Communist Party in China. Roy (1993) also criticized some other metaphorical descriptions of translators, including as shadows, helpers, facilitators and communication specialists. Whereas most translators might intend to convey other people's messages contained in a text and may be temporarily empathic for the duration of translating that text, Yuan was an advocate of a cause to which he was committed. In addition to publishing a written translation of Robert's book, he regularly provided training, wrote blogs, and met with the press.[10] He also organized and chaired an online discussion group and

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9. For more information on IATIS 2015 in Belo Horizonte, see the call for papers within the thematic panels, accessed April 8, 2016 on the following link: http://www.nationalnetworkfor-translation.ac.uk/event/belo-horizonte-iatis-call-papers-within-thematic-panels

10. http://t.qq.com/yuantianpeng/

conducted a range of other activities intended to facilitate the activist cause.[11] In short, he embodied the kind of conscious translation-related activism advocated by Spivak (1992), Tymoczko (2010), and Baker (2006a; 2006b), and articulated in 'The Granada Declaration'.[12]

4.3 Redefining the content of translation and subverting equivalence

The content of translation has traditionally involved verbal signs of a book or some other kind of text. In Jakobson's (1959/2000, 114) definition, translation, especially in an interlingual sense, involves "an interpretation of verbal signs by means of some other language". Some older conceptualizations of translation also centralized the notion of equivalence, as is obvious in the following definition of translation by Hartmann and Stork (1972, 173): "the replacement of a representation of a text in one language by a representation of an equivalent text in a second language".

Yuan subverted the whole conceptualization of translatorial equivalence. He was certainly informed and enlightened by Robert's wisdom, whose book he had translated into an equivalent Chinese book. But in his live translation at Nantang, the verbal signs in Robert's book were deprioritized as Yuan engaged the villagers in co-producing new knowledge: a set of orderly democratic rules applicable to the local assemblies. In fact, new and different wisdom was produced in each of the locations where his live translation was delivered, as shaped by the sociocultural condition of each location, by the social, cognitive capacities of his target audience, and by negotiations between him and his readers over meanings and the conflicting ideas that would naturally accompany the introduction of a set of new rules into a specific Chinese reality. The co-production of new knowledge, which comprised an essential part of the content of his live translation, was consistent with Baker's recent claim that "knowledge was 'produced' rather than 'discovered' and that translation was a core mechanism for the production and circulation of all forms of knowledge".[13]

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11. http://groups.google.com/group/rulesoforder/

12. The declaration was formulated at the 1st International Forum on Social Activism in Translation and Interpreting, held in Granada from 28 to 30 April 2007, accessed April 8, 2016 on the following link: http://www.translationactivism.com/Manifest.html/

13. The quotation was taken from the *Call for Articles* for a special issue of *Alif* (38, 2018), to be guest-edited by Mona Baker (http://www.monabaker.org/?p=1449/, accessed April 8, 2016).

4.4 Redefining the workplace

There is no definitive theory regarding the appropriate workplace for translation. But undoubtedly many translators work in a seemingly commonplace setting, usually known as an office or study room. They work indoors in isolation and are insulated from the real world. They look at a text and/or a computer screen, write on paper or a word processor, and concentrate on reading and writing. There is rather limited dealing with the outside world or the society, target readers included. But Yuan's live translation redefined the workplace as he went beyond his office, landed in a relatively isolated corner of the world, confronted the real conditions of that location, and engaged his target audience directly. During his live translation session, he moved dynamically, interacted freely and purposefully and employed body language, performance, multimedia, and a wide range of other tools and expressions.

5.   Conclusion: Live translation, in a nutshell

This chapter discussed the practice of an activist translator by the name of Yuan Tianpeng, who aspired to introduce a democratic assembly order into China through live intersemiotic translation as well as typical print-media interlingual translation. Using anthropological and oral history methods, data were collected and analyzed to address three questions. How did Yuan conduct his activist translation project? Did the project achieve a lasting impact? Was the delivery method of his project distinct enough to constitute a new mode of translation? The findings of the case study were presented and discussed, followed by a reflection on live translation practice from the perspective of modern translation and related theories.

The case study suggests that Yuan's practice represented a new mode of translation, which has been named 'live translation' in this contribution. In a nutshell, it is a form of translation delivered live and directly to the audience. It is activist, purpose-driven, and intended to serve a cause. It is dynamic, fluid, inventive and improvisational in the style of delivery. It aims to produce (and co-produce with the audience) new wisdom informed by existing wisdom, and from a foreign source. It involves the use of alternative media and multimedia. In short, it is very different from the way typical print-media interlingual translation is usually carried out and delivered.

The investigation also briefly reviewed the impact and legacy of Yuan's live translation on the assemblies, which was found to be effective and to last until recently, albeit with apparently waning impact. The *Nantang 13 Rules* continues

to be applied by the community, even though it is not always conformed with and risks continuing attrition. But again, this shows that social change is not a one-off endeavor and, if it is to facilitate social change, live translation should be a continuous, extended practice.

Finally, the investigation was informed by modern critical translation theory and related frameworks in the areas of activism, functional translation, post-functional plan-based translation, and translation-based knowledge production. These theories apparently support live translation being recognized as a viable distinct mode of translation.

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Appendix. The Nantang 13 Rules

1.   The chair is responsible for the assembly order. S/he allocates speaking rights, administers votes, maintains order and executes the agenda. But s/he must not express own opinions while chairing and must not make conclusion on behalf of any other speaker.
2.   A meeting will only discuss a matter that is articulated by a motion. "A motion, a motion, it is a proposal to take an action!" "A motion must be a proposal for a concrete, specific and manageable action."
3.   One must raise his/her hand in order to speak. One who raises hand first will speak first. But s/he must have the chair's permission before s/he can speak. S/he must stand when speaking. No one can interrupt another person speaking.
4.   One must face the chair when speaking. People of different opinions must avoid facing each other when speaking.
5.   Any person speaking must not exceed two minutes and must not speak more than twice when addressing one motion. This limit can be changed subject to prior approval by the participants of a meeting.
6.   Discussions must not run off course. The chair should stop off-course utterances.
7.   The chair should stop anyone breaking the assembly order and that perpetrator must stop speaking.
8.   The chair should try his/her best to give equal and alternate speaking opportunities to people of opposite opinions to maintain balance.
9.   A speaker must first state whether he agrees or disagrees and then state his/her reasons for agreeing/disagreeing.
10.   No personal attacks. Speaking should address an issue.
11.   Only the chair has the right to invite people to vote and s/he can do this only after all the speaking turns are used up or when no one wants to speak again. If the chair has a vote, s/he is the last one to vote. This is to prevent "hugging a leg of power".
12.   In voting, the chair must first invite motion supporters to show hands and then invite the opponents to show hands. He will not invite abstainer to show hands.
13.   A motion is passed only when its supporters outnumber opponents. It is defeated even if its supporters equal the opponents in number.

Text creation in a multilingual institutional setting

The translator as part of a cooperative system

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Text creation is influenced by situational factors, like the context in which the text is written. In a multilingual institution, the context is especially important, because it is controlled by rules and guidelines. This chapter presents a case study conducted in the European Commission and the Directorate General for Translation. The text creation and translation process were reconstructed starting from the published version in the *Official Journal of the European Union* back to the initial idea. The contribution focuses on the impact that external processes have on internal processes. We found that text editing and translation go hand in hand and that translators are part of a cooperative system in which their input is of importance for the source text. Moreover, the impact of the institution is significant, since it determines not only the work processes, but also the linguistic form, technical medium and technical content.

Keywords: institutional translation, translator's role, text creation, text production, readability, cognitive processes, situational factors

1. Introduction

The globalization in many areas of public and economic life has increased the need for translations as well as the need for texts and their translations to be made available simultaneously. Two common examples taken from different fields illustrate this. The first is that a product brought on the market at the same time in many countries has to be accompanied by product information in the languages of the countries where it is being sold. The second is that in multilingual Europe legislative texts need to be published in the *Official Journal of the European Union* simultaneously in all EU languages.

Obviously, the demand for simultaneous availability of texts and their translations influences the work process of both (technical) writers/editors and (technical) translators. Work phases and strategies have to be adapted; the relation between authors and translators changes and a whole range of digital tools have been created and are still being created to facilitate and optimize the work process. It is therefore not surprising that important research strands in Writing Studies and Translation Studies since the beginning of the 21st century have been addressing the complexity of text production and the relation between (technical) writing/editing and (technical) translation (Breedveld 2002; Koskinen 2008; Drewer and Ziegler 2011). Researchers are studying the possibilities of creating translation-oriented texts, and translation is becoming part of the writing and revision process.

Furthermore, from the perspective of Writing Studies as well as from the perspective of Translation Studies, research is being conducted on the mental processes of text production and the situational factors that influence these processes. Text production (i.e., text creation including writing, editing and translation) can be defined as follows:

> In text production, a set of acts are [sic] realized by one or more persons with the aim of producing a coherent written text for a target audience. Text production is an intricate process that implies an interaction between the mental state of the text producer and the situation in which it evolves. At a high level of abstraction, it can be defined as a design activity.   (Dam-Jensen and Heine 2013, 91)

In other words, a written text is the result of a complex cognitive process of thoughts and decision-making. Situational factors, such as the institution for which it is produced, influence authors (both text editors and translators) in different ways: they determine the work process, the tools to be used, sometimes even the words to be used, and the quality standard, for example.

In order to shed light on the situational context of multilingual text production processes, ethnographic studies are required. Up to now these studies have been scarce, first of all because they require the cooperation of an "institution". Companies and institutions are not always willing to grant outsiders access to their internal operations. In addition, multilingual text creation is a complex process, and it is often difficult to trace the different steps that have been completed (Bendegard 2014, 221). The lack of ethnographic studies means that, for instance, the impact of institutional guidelines has been investigated less than the impact of digital tools.

This chapter is based on an ethnographic study carried out in a translation service, the Directorate General for Translation (DGT) of the European Commission — the Commission being the largest institution of the European Union, and the DGT presenting itself as one of the biggest language service providers in the world. The European Commission is an institution that values multilingualism highly

and is responsible for drawing up proposals for new European legislation applicable to all Member States. Within this institutional framework, the text creation process of one text and its translation into Dutch was followed: the Regulation "on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances" (*Official Journal of the European Union* 2010.11.18). The case study presented in this chapter focuses on the interaction between context factors, such as guidelines, and mental processes as well as the interaction among different context factors. It will try to answer the question as to the extent to which writers/editors and translators are part of a cooperative system.

After a research overview (Section 2) and the presentation of the methodology (Section 3), we report on the results of our case study (Section 4). This report is followed by an evaluation of the findings against the background of the research literature (Section 5) and a conclusion with recommendations for further research (Section 6).

2.   Research overview

Text editing and translating are often seen as two different objects of study, although they are closely related when it comes to technical text production (Dam-Jensen and Heine 2013). In technical text production, the cooperation between text editing and translation can be described by three models, as stated by Drewer and Ziegler (2011). The first model is the classic avalanche model (sequential system): first comes the product development, next the text editing and last the translation. In this model, there is almost no cooperation between text editors and translators. In the second model, the product development and text editing are a parallel process. Only when these two steps are completed is the text translated for the global market. In the third and final model, product development, text editing, and translation are parallel processes within a cooperative system. This implies that a close cooperation between text editing and translation is necessary. As a consequence, the translator's influence on the source text can be significant.

A text is the result of a complex cognitive process. The thoughts and decisions made by the authors of a text — text editors and translators — are largely determined by the context in which the text creators are working (Schubert 2007; Risku 2010). The context consists not only of the physical environment, but also of collaborative networks and technical tools (Dam-Jensen and Heine 2013). When a text is created inside an institution, the context influences the cognitive processes, because "institutions consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behaviour" (Scott 1995, 33). The sociologist Scott mentions the three pillars that are part of all institutions: the

regulative, the normative and the cognitive pillar. Each of the three pillars has its own way of regulating and constraining social behaviour. In the regulative pillar, laws and sanctions are set to regulate behaviour (Scott 1995, 35). Norms and values are laid down in the normative pillar. This means that an institution prescribes several standards and explains how something has to be done (Scott 1995, 37–38). Finally, the cognitive pillar contains the common beliefs and agreements of the institution (Scott 1995, 40). Significant institutions are omnipresent (e.g., hospitals, banks, big enterprises, newspapers, publishing companies, and also radio and television). Every institution sets the framework for its employees and drafts clear regulations, also called 'house rules'. These house rules concern not only social behaviour but also language use, text editing, and translation.

There are few institutions as influential as the European Commission (Koskinen 2008, 23). Authors, including translators, working for the European Commission must take a lot of rules into consideration when creating a text. There are several reasons for the enormous amount of rules: first, the European Union emphasizes uniformity in all its institutions. Second, it is of vital importance that texts are properly understood and applied because they often have legal implications. Well-written texts are therefore a necessity and the European Union has many guidelines and instructions to foster the quality of the writing. These guidelines and instructions can influence text creation processes in four different dimensions (Schubert 2007, 248): technical content, linguistic form, technical medium, and work processes. The dimension of technical content concerns the macrostructure of the text: what topics are discussed, and in which structure? With respect to the dimension of linguistic form, decisions concerning the choice of words (e.g., technical terms or common words), syntactic structures, text cohesion, and coherence have to be made. The dimension of technical medium refers to the layout of the text. In the dimension of work processes, decisions are made concerning tools (e.g., word processing systems, terminology) and workflow (from one specialist to another; Van Vaerenbergh and Schubert 2010, 11–12).

The existing guidelines are listed in Table 1.[1] The first column shows the guidelines' titles, the second column presents the languages in which they are published, and the last column shows in which dimensions decisions are influenced (technical content, linguistic form, technical medium, and work processes).

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1. For a more detailed description of these guidelines, see Van de Geuchte (2011).

Table 1. Overview of existing guidelines (in alphabetical order)

Title	Language	Influence on
English Style Guide. A handbook for authors and translators in the European Commission (2016)	English	– technical content – linguistic form – technical medium
Guide for contractors translating for the European Commission (2015)	English, German, French	– technical medium
How to write clearly (2011)	24 official languages	– linguistic form
Interinstitutional Style Guide (2015)	24 official languages	– technical content – linguistic form – technical medium
Joint practical guide […] (2013)	24 official languages	– technical content – linguistic form
Legislative Drafting. A Commission Manual (1997)	English	– technical content – linguistic form – technical medium
Manual of precedents for acts established within the Council of the European Union (2002)	24 official languages	– technical content – linguistic form
The Manual of Operating Procedures	English, French	– technical content – work processes
Translation Checklist (2011)	English	– technical medium
Writing for Translation (2014)	English, Finnish, Swedish	– technical content – linguistic form – technical medium

The following example, taken from the *English Style Guide,* shows how guidelines can explicitly determine the text structure and phrasing (technical content, linguistic form):

> Next come the recitals […], stating the grounds on which the act is based. The block of recitals begins with a single *Whereas* followed by a colon and a new paragraph. The recitals which follow are numbered sequentially using Arabic numerals within round brackets. Each recital, including the first, begins with a leading capital and ends with a full stop, except for the last (or a sole) recital, which ends in a comma. Sentences within a given recital are separated by full stops.
>
> (European Commission 2015a, 71)

This example shows that guidelines can determine in detail the text structure and the punctuation. These guidelines apply to text editors and translators, so the institution thereby has a significant impact on the text creation process.

Thanks to the translators' work, institutions can communicate with citizens (and vice versa) in the latter's own language. Nevertheless, both text editing and translation are anonymous activities in big institutions. Authors should agree with their institution's values and need to abide by the strict rules (Mossop 1990, 343). Not only when writing, but also when translating a text, institutions' authors have little freedom and should take many rules into account. Koskinen says that this is definitely the case in the DGT and that there are few institutions that impose as many restrictions as the European Commission:

> [The language of the Commission] is not individual but quite heavily controlled […]. The translated text is not mine, nor does it have my name on it: it belongs to the institution, and it bears the name of the institution on it. It is not my trustworthiness but the trustworthiness of the translating institution that will be maintained, enhanced or harmed by my translation. In the Commission, my words are not mine; I am a spokesperson for the institution. The institution speaks through me.
>
> (Koskinen 2008, 24)

Thus, in Koskinen's view, translating is an anonymous activity in the Commission and it is the Commission's reputation that is at risk. This is one of the reasons why the Commission maintains as much control as possible in the aforementioned four dimensions — technical content, linguistic form, technical content, and work processes.

3. Methodology

In the ethnographic study that underlies this chapter, the text creation and translation process inside a European institution were reconstructed starting from the published version in the *Official Journal of the European Union* back to the initial idea (see Van de Geuchte 2011). The text creation process can be divided into three phases: text genesis, text editing, and translation. The text genesis starts when the first ideas to write a text are gathered and outlined and ends when a first draft is available. Next comes the text editing phase in which the text is prepared for publication by correcting and modifying it. In the last phase, the text is translated from a source language into one or more target languages. The whole process can take months, or even more than a year, especially in an institutional setting where the process is directed and constrained by guidelines, norms, and values.

The present chapter is restricted to aspects of text editing and translation. Every institution has its own profile, agenda, and goals and therefore affects the text creation and translation process (Kang 1998; Koskinen 2008; 2014; Pym 2012). We chose the biggest and best-known language service providers of the

European Union, the Directorate General for Translation. The DGT is the internal translation service of the European Commission and is located in Brussels and Luxembourg. With around 2500 employees, the DGT is one of the biggest translation services in the world. DGT translates into (and out of) all 24 official languages of the European Union. In 2014, the DGT had an output of 2.3 million pages (European Commission 2015b).

The DGT (European Commission 2015c) states that it "translate[s] laws, policy papers, reports, correspondences and other written texts drafted by or sent to the Commission". This helps the Commission to communicate with citizens and other institutions in all official languages. The DGT also gives language advice to the other services of the Commission.

It was not easy to find a text for which the external work processes could be analysed. One of the conditions was that both the English source text and Dutch target text should have been published by the time the study ended (2011). We had a time frame of seven months for this research, and this was too short to follow a text from the very beginning until its final version. That is why we chose a text that was already published in the *Official Journal* at the time the study started (2010). Moreover, it was important that the different steps in genesis, editing, and translation of the chosen text were still traceable. A further decisive criterion was the approachability of the authors and translators. In close cooperation with the DGT, the "Regulation on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances" (hereafter called 'the Auctioning Regulation') was chosen as the text for the case study, because it is a text with legal implications. Article 288 of the *Treaty on the Functioning of the European Union* states that a "regulation shall have general application" and that "it shall be binding in its entirety and directly applicable in all Member States." A regulation has, in other words, the same legal force as a national law. Because a regulation is applicable in all Member States, there should be a version in every one of the 24 official languages, and the translation should be very accurate.

The English source text of the Auctioning Regulation had around twenty versions, and there were three versions of the Dutch translation (see Section 4). The reconstruction of the text creation process was based on information we received from the authors and the Dutch translator of the text. They provided us the draft versions of the source text and Dutch translation, access to the online platform on which all the parties communicated, and supplementary information when asked for. We compared the different versions, marked the differences and tried to explain the changes by looking at: (a) the guidelines; (b) when the text was changed — e.g., after revision by a lawyer-linguist or after a meeting with the Member States; and (c) the remarks of the translators and Member States. The changes were categorized under one of the four dimensions discussed in Section 2: technical

content, linguistic form, technical medium, and work processes. The changes were assessed in view of readability, and the information was complemented with informal interviews with DGT officials.

In comparing the various versions, this chapter focuses on the translators' and the institution's roles in the text creation process in a multilingual setting. Our research questions are: Do translators influence the text editing process or is there a clear distinction between text editing and translation? Are translators part of a cooperative system? What is the influence of the context (i.e., institution, guidelines) on the text creators' work? And what is the influence of the different parties and their interventions on the readability of the text?

4.   Results

The topic of greenhouse gas emission allowances is an example of a politically charged dossier, which means that each Member State has its own ideas about what should be written in the Regulation and in exactly what wordings. This is why it can take a long time before a text is agreed on. It took seventeen months and eight days from the first idea for an Auctioning Regulation to the publication in the *Official Journal of the European Union*. This indicates that text creation is rather complex in an institutional framework. Throughout this process the source text was modified several times. The Auctioning Regulation has at least twenty different versions, of which the following are the most important to show the text progression (version / circumstance / date):[2]

> ORI-001 / sent to the Member States after internal consultation /April 6, 2010[3]
> ORI-002 / sent to the Member States with amendments / June 3, 2010
> ORI-003 / sent to the Member States with amendments / June 30, 2010
> ORI-004 / adopted by the Climate Change Committee / July 14, 2010
> ORI-005 / revised by lawyer-linguists / August 1, 2010
> ORI-006 / published in the *Official Journal* / November 12, 2010

The DGT received the text for the first time on April 6, 2010, at the same time as the Member States received that first version, but the translators did not start translating immediately, because it was clear that many adjustments would follow. The Dutch translator translated two of the ten English versions received. If the

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2. Since the focus of this chapter is on the role of the translator and the institution in the text creation process, we do not elaborate here on the different versions of the source text and exactly what changes were made. For more information, see Van de Geuchte (2011).

3. This version was the last step in the text genesis phase and the first step in the text editing phase.

version that was published in the *Official Journal* is included, then there were three Dutch versions in total (version / circumstance / date):

> NL-TRA-001 / sent to the Member States to comment on / June 30, 2010
> NL-TRA-002 / after the adoption of July 14, 2010 / July 14, 2010
> NL-TRA-003 / published in the *Official Journal* / November 12, 2010

From the dates, it can be concluded that text editing and translating are parallel processes in the European Commission. Translating is thus not something that comes after the text editing phase; rather, it takes place during the text-editing phase.

The English source text was edited by two authors: a native Dutch-speaking economist and a native Arabic-speaking lawyer. The text was thus written by two non-native English speakers. This is a common practice in the European Union. Within the European Commission, English is the most frequent working language for internal matters (e.g., meetings, text editing). The different text versions were written in English, although it was not the authors' native language. Because texts change so often, it is not possible to translate all versions and changes into the other 23 official languages. By writing the different source text versions in only one language (English as a common language), the Commission wins translation time and can therefore speed up the communication with the Member States and other institutions. The text was translated into 23 official languages at the same time. It was translated into Dutch by a single translator. The DGT prefers single-person translations, in order to ensure homogeneity. The Dutch translation was revised in detail by a colleague and then discussed with the translator. All communicative exchanges between text editors, translators, and revisers took place via an internal digital platform.

The successive versions, and the fact that the Auctioning Regulation is a technical text written in English by two non-native speakers, made the text quite difficult to translate. When a complex text (e.g., law text) is sent to the DGT to translate, the text has not been voted on yet, and it is likely that many more versions will follow, the DGT may appoint a lead translator or *chef de file*. Lead translators are responsible for one of the target languages and act as coordinators and contact persons for the translators of the other official languages and the client. The lead translator should have a certain degree of expertise and starts the translation as soon as possible in order to be able to answer questions from other translators quickly. Questions that the lead translator cannot answer are redirected to the client (in this case the text authors). Thus, in this case, a lead translator was appointed.

4.1 Translators' impact on the source text editing

In the case of the Auctioning Regulation, the translators found several difficulties in the source text and asked many questions to clarify ambiguities. The questions only rarely concerned the translation of terms (one exception was the question of whether the best translation of *successor in title* into French would be: *ayant-cause* or *ayant-droit*). It would have been impossible for the authors to answer translation questions, because they are not competent in all of the 24 official languages. What translators repeatedly asked for was not translation solutions, but explanations of specific terms and excerpts in order to find the best translations for problems such as *tied bids* and *novation* by themselves. They received the following answers (via the internal digital platform): "tied bids are bids exactly at the clearing price which cannot all be honoured due to the limited and predetermined volume available for the auction concerned". And *novation* is the "satisfaction and discharge of existing contractual obligations by means of their replacement by new obligations (whose effect, for example, is to replace gross with net payment obligations). The parties to the new obligations may be the same as to the existing obligations or, in the context of some clearing house arrangements, there may additionally be substitution of parties". After receiving this information, the Dutch translator chose *samenvallende biedingen* and *schuldvernieuwing,* while the French translation contains *offres égales* and *novation.*

Translators discovered quite a few problems with referencing. Authors — including translators — should use the exact words as those in the existing law which is being referred to. Not only were erroneous article numbers corrected based on translators' remarks, but also 'Directive' was replaced by 'Regulation', and 'paragraph' was changed into 'subparagraph' or into 'article'. Furthermore, translators pointed out many difficulties concerning linguistic form. The authors not only removed some superfluous repetitions caused by copy–pasting when adapting the text; the grammatical numbers (singular — plural) of verbs and subjects were also changed quite a few times as a result of the translators' remarks. Sentences that were not clear for the translators or that could lead to confusion were reformulated in the source text or explanations were added.

4.2 Translators as autonomous editors of the target text

We analysed the second version of the translation to determine whether it was only adapted to the changes in the source text or whether the Dutch translator also made changes independently of the source text. It appeared that the majority of changes in the second Dutch version were introduced because of changes in the source text — e.g., excerpts that were deleted or added, and different formulations.

The translators (not only the Dutch translator, but all translators) did not make any changes to the layout, because of the importance of equivalence (Section 4.2.2).

Nevertheless, we found some changes to the linguistic form of the target text that we did not find in the source text. Some of these changes were based on remarks of greenhouse gas specialists from the Netherlands. The translation was sent to the Member States to give them the opportunity to communicate their remarks. Since the Dutch version is valid in Belgium and the Netherlands, both Member States could comment on the translation (the Dutch version was sent to the Member States for the first time on June 30, 2010).

The two Dutch versions, June 30 (before remarks) and July 14 (after remarks), were compared in order to determine what changes were made to the translation that did not correspond to any changes in the source text. Table 2 shows some examples of simple changes in the second version of the Dutch translation that have no great impact on readability but seem to be more related to fine-tuning the target text.[4]

Table 2. Fine-tuning the translation

Type of change	Dutch Translation 1st version (June 30, 2010)	Dutch translation 2nd version (July 14, 2010)
Linguistic form (technical terminology)	Spots met een looptijd van twee dagen (spot with a duration of two days)	Tweedaagse spot (two day spot)
Linguistic form (fine-tuning)	Gereglementeerde kandidaat-markt (regulated candidate market)	Kandidaat-gereglementeerde markt (candidate regulated market)
Linguistic form (Plural → Singular)	Uniforme prijzen (uniform prices)	Uniforme prijs (uniform price)

Especially the first two examples show that the second version abandons the word-for-word translation and concentrates on Dutch language conventions as they are being used in the European context. We also found several other examples of editing interventions made on sentence level that may have more impact on the readability.

4.2.1   *Translator's editing interventions that benefit readability.*

Most of the changes the Dutch translator made independently of changes in the source text concern the linguistic form. The English sentence structure was not simply copied; instead the translation was adapted to fit Dutch sentence structures.

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4. A literal English translation of the Dutch terms/sentences has been added within brackets by the authors of the present chapter.

Table 3 shows how a Dutch sentence was reformulated in order to make it more fluent.

Table 3. Translator's editing interventions: Reformulation (the translation of the different sentence parts is indicated by matching underline style)

English	Dutch 2nd version
It is appropriate to provide for a choice between two-day spot and five-day futures to be made during the process for the appointment of the auction platform to assess the best solution for the optimal auctioned product to be selected.	Om de beste oplossing te vinden en het optimale veilingproduct te selecteren, is het passend te bepalen dat in de loop van het aanwijzingsproces van het veilingplatform een keuze wordt gemaakt tussen tweedaagse spot en vijfdaagse futures. (to find the best solution and to select the optimal auction product, it is appropriate to determine that in the course of the appointing process of the auction platform a choice is made between two day spot and five day futures)

The Dutch sentence starts by providing a reason for what will come and places the most important information towards the end (choice between two-day spot and five-day futures). The Dutch version of the style guide *How to write clearly* (European Commission 2011a; European Commission 2011b) mentions that in Dutch the most important or new information comes at the end of a sentence, except when the sentence has a long preamble, in which case the new information should be placed first. The Dutch translator adapted his translation to the Dutch language conventions. This is not the case in the English version, although the guide (European Commission 2011a, 7) states that one should not "bury important information in the middle of the sentence" and should "try to give […] sentences strong endings", because "that's the bit readers will remember".

Another change that we found frequently was that the Dutch translator repeated the antecedent with a demonstrative, even though a personal pronoun is used in English (Table 4). This corresponds to recommendations in the literature on avoiding ambiguities and enhancing 'recycling' in translation memories (Drewer and Ziegler 2011, 121–122).

Translators thus have a certain amount of autonomy, but only with regard to changes that do not have a great impact. All the changes are restricted to the linguistic form.

Table 4. Repetition of antecedent instead of use of pronouns

English	Dutch 2nd version
Thirdly, <u>it</u> should contain rules and procedures […]	Ten derde dient <u>deze verordening</u> regels en procedures te bevatten […] (thirdly <u>this regulation</u> should contain rules and procedures)

4.2.2 *Translator's editing interventions that hamper readability.*

Although most interventions improve readability, there are several examples in the translation where this is not the case. Often these interventions are made because of conventions in Dutch European legislation, even though they sometimes contradict the Dutch style guides. This shows that translators are constrained by the institution and have limited autonomy. Table 5 presents a few examples of translator's editing interventions that hamper the readability.

Table 5. Translator's editing interventions that hamper readability

Problem	English	Dutch
Linguistic form (Discontinuous structure)	The second sub-paragraph of this paragraph shall apply without prejudice to the application […].	De tweede alinea <u>staat</u> de toepassing van de artikelen 11 tot en met 16 van Richtlijn 2003/6/EG en artikel 43 van deze verordening met betrekking tot overtredingen van het in de eerste alinea vervatte verbod <u>niet in de weg</u>. (The second subparagraph <u>stands</u> the application of the paragraphs 11 to 16 of the Directive 2003/6/EG and article 43 of this regulation with regard to violations of the in the first paragraph contained prohibition <u>not in the way</u>)
Linguistic form (Formal and archaic language)	Pursuant to	Uit hoofde van
Linguistic form (Pre-adjuncts in noun phrases)	Candidates taking part in the competitive procurement process	De <u>aan de concurrerende aanbesteding deelnemende</u> kandidaten (the <u>in the competing tender participating</u> candidates)

The first structure is an example of a discontinuous structure. This structure is rare in English, but typical for Dutch. If the words that belong together are placed too far apart, the sentence becomes difficult to read (Hendrickx and Deschamps 2013, 59). The second structure uses formal and archaic language, which is typical for European legislative texts (both in English and Dutch). These structures make the text more formal and solemn, although they also make it more difficult to read

(Hendrickx and Deschamps 2013, 59). The last structure in the examples (pre-adjunct in noun phrase) is very common in the Auctioning regulation. The pre-adjuncts contain a participle (present and past) or an infinitive with *te* (English: *to*). This sentence structure is not common in everyday Dutch and it, therefore, hampers readability. Nevertheless, such sentence structures are common in the Dutch law texts of the Commission.

Translators have to keep these constructions in mind when translating, and this limits their possibilities to change the linguistic form. Moreover, translators are also constrained by some important institutional concepts. One of the concepts that influences the translator's autonomy is (formal) *equivalence*. In this particular context, equivalence means that all language versions should have the same number of pages and that sentences should be cut off at the same places (European Commission 1997, 63). That is, translators do not have the freedom to split or merge sentences. Formal equivalence facilitates the search for corresponding words in different language versions, because they are all on the same page and in the same place. Although the formal equivalence principle has practical advantages for legal and linguistic comparison between different languages, it remains a point of discussion for translators of the various European institutions (more on different kinds of equivalence in Pym 1995; 2012).

Many of the translator's editing interventions that hamper readability have nothing to do with the translator's autonomous choices, but can be attributed to the influence of the institution. There are several customs in creating a text that have been built up within the Commission and which cannot be deviated from in order to maintain uniformity, although they contradict the guidelines for readability and clear writing.

5.   Discussion

Text editing and translating proceed in parallel in the European Commission, which corresponds with the third model of technical text creation mentioned by Drewer and Ziegler (2011): translation is not something that comes after the text editing phase, but rather takes place *during* the text editing phase. Translators are involved in the text creation process and work closely with the text editors in a cooperative system. Translators are among the best text revisers, because they read and analyse the source text very thoroughly, but the English text is also revised by lawyer-linguists. Translators were thus not the official revisers in the present study, since they were not experts in auction regulations, but they seemed best placed to check the text's consistency, accuracy, readability, and clarity. Nevertheless, they

are often not keen on taking on this role, because their opinion on text writing inside the institution is rather negative:

> EU documents are invented by many committees; and finally haggled over by politicians — often late at night or early in the morning — with planes to catch, a point to be made beforehand, and no time to read the whole thing carefully.
>
> (Wagner, Bech, and Martínez 2002, 71)

As mentioned above, text creation is a long and complex process of writing and rewriting. This process of changes can cause problems for translators and often not all uncertainties can be fixed:

> What makes these texts difficult to process is their tortuous progress, involving several different services and several different political levels, generating several successive versions and repeated translation of nuances and details whose point is often obscure.   (Wagner et al. 2002, 48)

The Auctioning Regulation had at least 20 different versions of the English source text and three versions of the Dutch target text. Because of this process of writing, rewriting, and reorganizing the information, numerous mistakes (e.g., orthography, wrong references), ambiguities and unclear terminology found their way into the source text. The translators' remarks and revisions proved to be essential for the text editing phase, especially concerning the linguistic form.

In the Dutch translation, the majority of the translator's editing interventions can be linked to changes made in the English source text. In other cases, the translator acted as a text editor — a person who prepares a text for publication — and made interventions that cannot be found in the source text. Most of the interventions were made to adapt the text to the idiom and the conventions of Dutch. These interventions very often improved the readability, but the text also contains several examples of changes that did not help readability. This is often due to the fact that translators in their role as editors are highly constrained by the institution and have to follow rules, procedures and use specific structures and wording as mentioned in the different style guides (Section 2). This indicates that a text is the result of a complex cognitive process that is highly influenced by external processes, like the context in which the text creation takes place (Dam-Jensen and Heine 2013). These context factors restrict the independence and creativity of the text producer (writer and translator).

6. Conclusion

Before a text can be published, it has to undergo a complex process of gathering ideas and writing and rewriting until everything is correct. If this process takes place within an institutional framework, many situational factors may influence the process, such as rules imposed by the institution. If the text has to be translated as well, the process becomes even more complex (Koskinen 2008). This chapter presented the results of a case study in which the text creation and translation process in a multilingual institution were reconstructed starting from the published version in the *Official Journal of the European Union* back to the initial idea. The European Commission and its internal translation agency, the DGT, were chosen as the institutional framework. The focus of this chapter was on the interaction between external processes (the institutional context in which the text is being created) and internal processes (the decisions and role of text editors and translators in the text creation process) as well as on the interaction within a network of cooperation — between editors and translators, and between translators of different languages.

Our research question was: do translators work in a sequential system in which text editing and translation are strictly separated or in a cooperative system in which text editor and translator work together and translators have a significant impact on the source text? It became clear that the institutional impact on the text creation process must not be underestimated, because it limits its authors (including translators) by imposing rules, standards and values (Koskinen 2000). The progress of a text is predetermined in guidelines, instructions, and manuals, and the procedure depends on the text type. The text creation process and the use of tools are also predetermined within the DGT. Nevertheless, the impact is not restricted to work processes, technical content, and technical medium, but it is also noticeable on the level of linguistic form as shown by the examples in this chapter. The institution determines the style in which the text should be written, and even decides to some extent what words should be used.

We found that text editing and translation are parallel processes inside the Commission. This implies that the two processes take place at the same time, and that text editors and translators work closely together (Drewer and Ziegler 2011). The translators found quite a few incorrect references, poor sentence structures, and ambiguities in the source text, which the text editors took into account when writing the next version. This meant that the translators had a significant impact on the source text, so they are definitely part of a cooperative system where they are essential to the text editing process; conversely, the additional input of text editors was necessary for the translations too.

We examined to what extent the translators inside the DGT have the freedom to act as autonomous writers to render the text more readable and make changes

to the translation that do not correspond to changes in the source text. This case study showed that translators can in a limited way act as autonomous writers. They made changes to the linguistic form to make the translation more readable but, at the same time, a large number of interventions hampered readability. Taking a closer look at the interventions with a negative effect on readability, we concluded that they could be attributed to the impact of the institution. The Commission has a way of formulating law texts that cannot be deviated from. In addition, translators are bound by some basic principles of the European Union, such as formal equivalence between language versions of texts.

It would be interesting to compare the text writing or translation process of different multilingual institutions in order to study the institutional influence, but also to examine in greater detail how the translation is determined by the institution (European and national conventions) and by the source text and how the translation influences the source text editing. Another interesting topic related to this study is the impact of work process and of controlling influences on the usability of texts (Van Vaerenbergh and Schubert 2010). Who are the users and how do they experience the final product (Suojanen, Koskinen, and Tuominen 2015)? Furthermore, the extent to which the process of text creation reflects an organizational or institutional culture should be investigated. Is text creation within technical communication a homogeneous globalised field or can cultural differences that are part of corporate identity be discerned? These are some of the questions that lie ahead.

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Affect as a hinge

The translator's experiencing self as a sociocognitive interface

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Affect, understood here as embodied meaning-making, offers one useful point of departure in studying translation as an activity that involves both cognitive and social processes, because it functions as a hinge between subjective understandings and social environments. We approach affects related to translating with the theoretical framework of the translator's experiencing self, defined here as the perception that translators have of themselves, based on lived and embodied experience. In other words, we suggest that the study of affect in relation to translating should pay attention to translators' own processes of meaning-making. Since the processes of human meaning-making, including self-construction, have been argued to rest upon narrative practice, we furthermore argue for a narrative approach to studying affects. We illustrate the methodological opportunities provided by a narrative approach to affect with three cases deriving from three different research projects.

Keywords: affect, experiencing self, narratives, methodology, laughter, autoethnography

1. Introduction

Recently, researchers interested in translators' cognitive processes and those studying translation as a socio-historical, contextualized activity have increasingly found themselves on shared ground.[1] With increasing attention to the situated and relational nature of cognition on the one hand, and to the experiencing self as a key agent in any context of human activity on the other hand (most visible in the continued popularity of the habitus concept), process researchers and sociologists

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1. Throughout the chapter, we use the terms 'translation' and 'translator' to refer to both translation and interpreting, for reasons of readability.

of translation have begun to recognize their shared interests (Hubscher-Davidson 2011). However, cooperation between these two strands of Translation Studies will also need to address significant differences in research traditions, ontological presuppositions, and accepted methodologies.

In this chapter, we address the issue of methodology. We propose a particular avenue of research, one that focuses on affect. To illustrate how the notion of affect can be employed as a bridging research tool, we report three cases and discuss three methods that we have used ourselves. Intentionally, the methods are different from one another in terms of theoretical and ontological commitments, researcher engagement, social vs. personal focus, and limited vs. holistic analysis. The three cases are (1) analysis of laughter as a tool for negotiating professional identity in a translation department; (2) translators' emotional narratives as indicators of their relations to technology; and (3) autoethnography as a methodological framework within which the researcher's own emotional and embodied experiences are analysed to understand interpreting in church.

Our basic argument is that interrogating the experiencing self of the translator offers one useful point of departure in studying translation as an activity that involves both cognitive and social processes in complex interaction. As emotions and affects are essential elements of human meaning-making, we further argue that focusing on affect offers methodological avenues for understanding and explaining these experiences. We approach this proposition from both a theoretical and a methodological point of view. We begin with the basic tenet of Situated Cognition, introduced to Translation Studies by Risku (e.g., 2002), that translation is not only carried out by an individual translator's brain, but by systems of "people, their specific social and physical environments and all their cultural artefacts" (Risku 2002, 530). As Risku notes, the move of focus from the brain into such systems also highlights the role of embodiment: "our body and its perceptive organs not only absorb information, they also filter and structure it" (2002, 528). Affects function as one such structuring element: our gut reactions direct our interpretations of the situational factors as endearing, disgusting, dangerous, or safe. By modulating our signals of affect (Koskinen 2012), we connect to others operating in that same context, and our interpretations of others' affects guide our coexistence with them.

Affect is a complex psychobiological and sociocognitive phenomenon. In social psychology, the current psychological understanding of affect has been summarized as follows:

> The picture that psychology and neuroscience typically now paint of affect is of a highly dynamic, interacting *composite* or *assemblage* of autonomic bodily responses (e.g., sweating, trembling, blushing), other bodily actions (approaching or avoiding), subjective feelings and other *qualia*, cognitive processing (e.g., perception, attention, memory, decision-making), the firing and projecting of neural circuits

> (e.g., from the thalamus to the cortex and the amygdala), verbal reports (from ex-
> clamations to narratives) and communicative signals such as facial expressions.
>
> (Wetherell 2012, 62; emphasis in the original)

Affect, in other words, is simultaneously private and internal, and collective and social. This dual nature allows us to position it methodologically as a hinge between cognitive and social approaches to translation. The multifaceted nature of affect allows for numerous theoretical and methodological approaches. Our use of affect is restricted by the choice to focus on the individual's experiencing self through which affect is examined. Here, the self refers to the individual as perceived by him/herself (Mead 1937/1967). Thus, we do not discuss affect as a primarily physiological phenomenon, which could be detected and analysed without engaging with the individual's perspective, but as something that the individual can be conscious of and also express to others. While the emphasis of affect has led some social scientists to celebrate the possibilities of eschewing participants' accounts in favour of assumedly more reliable physiological data (see Wetherell 2012, 19–21), we do not believe that the complexities of affective relations can be understood without a fine-grained analysis of the discourses the participants use to make sense of their situation, or that lived experiences can be reduced to measurements of bodily functions only. As a result of this methodological choice, our three cases are all based on narrated affect in one way or another. In this chapter, we treat narratives as a component of human meaning-making, in which individual experiences are explained by drawing from socially-available storylines (Holstein and Gubrium 2000). Therefore, our interest lies less in the way participants' narratives relate to actual events and emotions, and more in the way narratives are socially situated and constructed.

The chapter begins with a review of previous studies linked to affect in Translation Studies (Section 2). We then move on to discuss the nature of affect and the experiencing self as understood in this chapter as well as to argue for narrative approaches as a way of teasing out affects and experiences in their social and cognitive complexity (Section 3). In Section 4, we briefly describe three research projects we have conducted. These are not intended to stand as exemplary cases or models to be followed as such. Rather, we hope that they serve as sources of inspiration regarding the rich array of opportunities for future study. We discuss this methodological potential in the concluding section.

2.   Review of previous studies on affect in Translation Studies

The role of affect in the process of translation has been previously acknowledged by only a few Translation Studies scholars (for an overview, see Hubscher-Davidson

2013a).[2] Among the early writers of translation from an affective perspective is Robinson, who argued for a 'somatic' view on translation. Somatics, Robinson (1991, x) argues, is explicitly physical; it means "the visceral processes and the limbic system, particularly the 'emotional'". He describes "the ways in which our body 'signals' to us what we know and how we should act on it," so that we "know in our gut" what we have to do and say. This physiological view of affect is causal: an outside stimulus makes our body react in a particular way. Methodologically, this physiological layer can be studied empirically with tools such as the EEG, tomography and pupillometrics (pupil size is known to respond to positive and negative affects), bringing questions of affect in contact with recent process studies (see O'Brien 2011, 5–6). Affectivity can also be operationalized in terms of personality traits, such as emotional intelligence (Hubscher-Davidson 2013b). As argued by Hubscher-Davidson (2013b, 333), several aspects of professional translation such as the ability to recognize clients' needs and transfer others' perspectives into new contexts are related to emotional intelligence. Thus, research on emotional intelligence can offer valuable new insights, especially in studies contrasting different groups of translators and explaining successful practice.

However, affect is not only physiological or a personal trait, but also a contextual and interactive phenomenon. Our affects are also shaped by the affects of others in the same context, and our past and present social experiences, making causalities complex and difficult to determine. Another option might thus entail a return to verbalizations like think-aloud protocols (TAPs), to look for clues of the affects underlying translators' decision-making (this is the approach of Tirkkonen-Condit and Laukkanen 1996). Yet another approach, employed by Lehr (2014), is to combine an inquiry into translators' views with a textual study of finished translations in order to trace the effects of translators' affective engagement with the source text on the translated product. Lehr suggests that personal engagement and heightened affect, whether positive or negative, towards the source text may increase overall translation quality.

As reception studies have become popular, especially in the fields of audio-visual and literary translation, the affective elements of viewing or reading have also gained some recognition. Issues such as the reception of humour in film translation have been studied, but the often-employed quantitative questionnaire method creates an element of distance between viewers' affects and the observer, even in studies which aim at capturing signals of affect such as smiling or laughter (see,

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2. In this review we exclude studies examining affect as an object of translation or as a textual element, i.e., studies that take affect as a property of the text that is translated, and not as a feature of translators themselves or the receivers of translations. While these studies can be seen as related, their objectives and methodologies are quite different from our present interests.

e.g., Rossini and Chiaro 2010). Reception studies, logically, focus on the audience, not on the translators. In a move relevant for our present purposes, Pérez (2012) brings to the forefront the group affinity between viewers and (amateur) subtitlers. He emphasizes the role of affectivity and performativity in subtitles as they intervene with both the articulation and the reception — the 'spectatorial experiences' — of the audio-visual semiotic ensemble. The relevance of the affective involvement of both subtitlers and viewers is observed, but the article does not include any attempt at providing empirical evidence of their experiences.

The field of interpreting research has also identified affect as one factor of interpreters' work. For example, Baraldi and Gavioli (2007, 171) argue that, in medical encounters, the interpreter acts as a "responder" to the primary speakers' affective states, instead of merely transmitting verbal messages. Nevertheless, as suggested by Cirillo (2010, 72), the emotional cues expressed by all parties in an interpreted medical encounter are heavily influenced by the social context at hand. Furthermore, as discussed by Bontempo and Malcolm (2012, 112), interpreters in healthcare environments are "empathically affected" when they relay others' emotional and possibly traumatic experiences in the first person. This, the authors argue, is one reason for interpreters' elevated risk of vicarious trauma, making affect an important issue in interpreters' work-related well-being.

In general, though, research on affect within interpreting studies seems to inevitably bump into the "myth of neutrality", as discussed by Bontempo and Malcolm (2012, 109–112; see also Diriker 2011). According to this myth, interpreters are professionals who do not influence the social interaction within which they interpret, nor should they be engaged in it, emotionally or otherwise (see Jacobsen 2013). Regardless of numerous alternative views of the interpreter's role, depicting interpreters as co-participants in the interaction they interpret (e.g., Wadensjö 1998; Angelelli 2004), the myth of the neutral, non-engaged, and emotionally detached interpreter may be one reason why there seems to be little research done on affect in the interpreting process. The research that has been conducted on the subject does, however, point to an important aspect of affect: it unfolds in, and influences, social interaction.

3.   Affect and the experiencing and narrating self

As discussed above, previous work conducted on affect in Translation Studies has emphasized either the physiological aspects of emotional reactions or the fact that affectivity makes the translator personally involved. Both of these lines of thinking, we argue, can be joined in our proposed concept of the translator's experiencing self, although in important respects it makes further contributions to a theory

of affectivity as regards translating. In this section, we first define what we mean by affect, before we move on to describing the concepts of self and narrativity and the way these are related to our present argument.

'Affect' has been used to refer to a wide variety of meanings by different scholars, and related concepts such as 'emotion' and 'feeling' are given equally varied definitions (Wetherell 2012). In this chapter, we employ Wetherell's (2012, 4) definition of 'affect' as being synonymous with "embodied meaning-making". In other words, we see affect as the participants' emotional and bodily-experienced response to and interpretation of their lived experience, as a hinge between the self and the world. Thus, while affect involves the body and emotions, it does not stand in polar opposition to reason or cognition (see also Risku 2010). Both cognition and affect participate in processes of meaning-making, interpretation, and understanding. Where they differ, it has been suggested, is the extent to which they engage the body and the self:

> [Emotions] are *embodied* thoughts, thoughts seeped with the apprehension that "I am involved." Thought/affect thus bespeaks the difference between a mere hearing of a child's cry and a hearing *felt* — as when one realizes that danger is involved or that the child is one's own.   (Rosaldo 1984, 143)

Affect as embodied meaning-making that engages the self should not, however, be understood as an inner process excluding the social surroundings of the individual, because the concept of the self is, itself, highly dependent on social contexts. Here, the self refers to an individual's own perception of him/herself (Mead 1937/1967). In other words, the self does not denote an unchanging, inner 'essence' of a person but our perception of ourselves, which is subject to change over time and across social contexts. The key question regarding the self, then, should not even be "who we are" but "when, where, and how we are" (Holstein and Gubrium 2000, 105, referring to Minh-ha 1992). Furthermore, the self is a social structure, as it develops only in social interaction (Mead 1937/1967). The attitudes that others have towards a person and the group attitudes prevalent in the social context surrounding him/her are essential for the development of the person's self (Mead 1937/1967, 158; Polkinghorne 1988, 149–150). Thus, "the general systematic pattern of social or group behavior […] enters as a whole into the individual's experience" (Mead 1937/1967, 158).

The day-to-day process of self-construction, in which individuals organize the group attitudes they come in contact with and formulate their perceptions of themselves, is rooted in narrative practice. We make sense of personally relevant experiences and events primarily by placing them into one storyline or another (Polkinghorne 1988, 150), and in 'storying' our life experiences we simultaneously come to construct certain identities for ourselves (Holstein and Gubrium 2000, 107). Holstein and Gubrium (2000, 84) further argue that the spoken

references to motives that individuals give to their actions may, in time, become "actual components of the self". People's accounts of their actions are part of their self-construction. Importantly, the process of self-construction through narratives is simultaneously individually creative and socially constrained. Group attitudes and common storylines in the social context are used as interpretive resources for self-narratives. Thus, "individuals *compose* their accounts" (Holstein and Gubrium 2000, 107, emphasis in the original). However, the composition always takes place "in the context of particular times and places; these circumstances influence how the self might be storied by presenting local relevancies" (Holstein and Gubrium 2000, 106).

Against this theoretical backdrop of narrative and the self, we underscore the importance of focusing on participants' narratives in the study of affects. As explained above, we understand affect as embodied meaning-making. This understanding focuses on conceptualizing affect with the help of both embodiment and meaning-making and it methodologically foregrounds narrative approaches. The bodily reactions of affective experiences can also be studied independently of participants' accounts. However, processes of meaning-making cannot be examined without attention to the subject who engages in that process. The only realm of meaning that is directly accessible to us is our own (Polkinghorne 1988, 7). Narration provides avenues for investigating these realms. Excluding narrativity from the study of affect and focusing exclusively on the physical realizations of affect would eclipse its social nature (Wetherell 2012, 75–76). This chapter aims at proposing avenues of research that would help bridge the gap between cognitive and sociological studies of translation. It therefore seems meaningful to grasp precisely this interplay of internal emotions and the social context.

4. Examining translating through narratives of affect: Three cases

In this section, we discuss three separate research projects or parts of research projects in order to trace some of the methodological implications and opportunities for translation research of treating affect as a lens through which translating is examined. We aim to show that translators' affective responses and accounts can be studied to gain insights into the way the activity of translating and participants' understanding of themselves as translators take place in a dialogue with cognitive processes and social contexts.

Tracing translators' feelings and affects may, in addition to observing the routines of the research participants, require that they are actively encouraged to verbalize their work and their emotional involvements. This can be done in several ways, and we discuss three research projects that shed light on how affects can be

studied. One project examines the role of laughter in building translators' shared professional identity (Koskinen 2008); the second investigates translators' technology acceptance through their imaginary love and break-up letters to various technological tools (Koskinen and Ruokonen 2017); and the third explores the meaning and experience of volunteer church interpreting with autoethnography (Hokkanen 2016).

These three cases were originally conducted separately, and with very different research questions in mind. We now revisit them from the point of view of how the emotional nature of these narratives can be used to uncover the dialogue of the cognitive-personal and the social-interpersonal. In the following, we proceed from the most explicitly collective (group discussion) to the most individual (field journal), and from an analysis of a largely unconscious feature (laughter) to a method that requires extreme self-reflection from the part of the participant-researcher (autoethnography). In between these two extremes, we discuss a middle road: an analysis of emotions reported to the researcher (retrospective reflection) where social norms and expectations kick in.

4.1   Laughter in EU translators' group discussions

Since affects are not only personal but also social and interactive, group contexts are a good source of affective data. In a study of Finnish translators in the European Commission (Koskinen 2008), focus groups were conducted to probe their identity and affiliations. In this data, laughter was such a dominant feature that it was deemed necessary to analyse it in more detail. As a physiological effect of affect, laughter is among those easily observable, but its functions and affective relations can be multifarious, and it thus requires a careful and contextually sensitive analysis. In interaction, laughter can be either shared or unilateral (i.e., one laughs but the others do not reciprocate), and shared laughter can be either volunteered or invited (speakers can invite laughter by starting to laugh themselves). The functions of laughter are similarly varied. In addition to simply being a response to jokes, funny stories, and witty remarks, laughter is a resource that can be strategically employed in interaction, for example in order to ease a delicate situation or hide embarrassment, to create a feeling of mutuality, or to single someone out (Haakana 1999; Holmes 2000).

The focus of this article is on *narrated* affect. Laughter is an element of spoken narration, but in itself it is non-verbal, and it can be interpreted as a more direct effect of affect than reported verbalizations. Indeed, laughter can sometimes be an involuntary sign of affect, but it is necessary to keep in mind that laughter is also a strategic tool that people use to regulate interaction in social situations (Kangasharju and Nikko 2009). In that sense, some functions of laughter are

linked to the co-construction of particular narratives. For example, if the general tendency is towards shared views, shared laughter may encourage those with different views to also laugh along, instead of airing their disagreements. On the other hand, laughter can also indicate potential problem areas, since it is also one way for speakers to display their wish to cushion a delicate issue (Koskinen 2008, 114; Haakana 1999, 220). This interplay of laughter as a direct reaction to personally-felt affect, on the one hand, and as a sign of affectivity as a social phenomenon, on the other hand, opens methodological opportunities, as the kinds of laughter can be interpreted both as indications of cognitive states and as instances of strategic, albeit not necessary conscious, affective interaction, thus signalling the socially constructed understandings of the topics at hand.

In the study of EU translators, the participants were all drawn from an existing community. While the group sessions were not natural discussions, it seems reasonable to assume that maintaining face and keeping up relations with the colleagues was more relevant to the participants than 'posing' for the researcher. Focus group sessions were not part of the everyday routine, but discussions about work, at the workplace, with colleagues, became part of the lived experience of being 'at work'. Analysing elements of laughter in the context of the verbalized data and with reference to group dynamics can be used as cues to that experience.

In the study, shared and reciprocated laughter was found to be a dominant feature of the discussions. Although laughter was often invited by one of the participants, typically by laughing alone within or at the end of their turn, it was almost always reciprocated by others joining in and laughing along. In example 1 below — on the shared habit of reading a Finnish newspaper every day — there is little new information in any of the turns following H's punch line, but each turn contributes to keeping the shared laughter alive.

> Example 1
> K: do you feel you have to do it, that it is sort of part of this, an obligation, that comes along this work or is it more related to your own free time and also to your Finnishness?
> H: well it is luckily not an obligation, if it was one would not get it done (shared laughter)
> K: one would not do it then (laughs)
> L: one would not do (laughs)
> I: if it was an obligation one would hardly do it first thing [in the morning
> H: [yeah
> (shared laughter)
> E: one would postpone it (—)
> (shared laughter)

These jointly constructed instances, indicating a willingness to extend the humour, have been identified in other workplace settings as well, and laughing together has been found to be used to create and maintain solidarity and to contribute to social cohesion at work (Holmes 2000, 167). However, laughter has many roles. Findings among other professional groups such as social workers (Meyerson 1991) indicate that feelings of ambiguous identity or a sense of being caught in the middle can be relieved by resorting to humorous or cynical remarks. Similar ambiguities of self-hood and feelings of split loyalties are discernible in the context of EU translation. In many instances of laughter, there was a sarcastic and ironic undertone as the participants created emotional distance to the perceived ambiguities and discrepancies. Example 2 shows the usage of laughter to cushion a critical remark.

> Example 2
> E: and then sometimes the experts in Finland give us totally peculiar (laughs), well suggestions that they definitely want us to use

Irony can help in creating space for dealing with contradictory demands by allowing some distance to the official policies and normative expectations. Seen in this light, cynicism is a positive force: it enables the speakers to recognize the contradictory nature of their work lives without having to attempt to resolve the contradictions; it allows "unresolvables, irreconcilables, and untenables to remain unresolved" (Meyerson 1991, 141). Irony and sarcasm seemed to have similar functions in these focus groups; it was not that the participants were attempting to laugh off some difficult issues. Instead, with the help of laughter they negotiated the amount of their personal involvement and maintained group cohesion in the face of potential disagreements (Koskinen 2008, 118).

Analysis of laughter attests to the affinities between the study of affects and methods such as ethnomethodology and conversation analysis (see Wetherell 2012, Ch. 4). A fine-tuned analysis of affective group interaction, as signalled here by the use of different types of laughter, can be used to identify the issues that are expected to be shared and to pinpoint areas of discontent and ambiguity in translators' or interpreters' work-related contexts. As a method, the analysis of laughter does not require any degree of reflexivity from the participants, quite the opposite: the less they consciously monitor their use of laughter, the more revealing the analysis of the affective stances can become.

4.2 Translators' love and break-up letters

The structuring role of laughter in the group sessions discussed above was unanticipated in the research design. Its explanatory power in understanding the affective bonds of the participants only became evident during data analysis. In our

second approach, the love letter/break-up letter method, the intention to tap into the affective commitments of the participants is explicit. They are invited to narrate their strongest personal emotions in a personifying letter format.

The method was originally designed for usability research to investigate user experiences. Koskinen used it to uncover translators' emotional involvement with their work, particularly their tools, to better understand issues of technology acceptance in a rapidly changing field (Koskinen and Ruokonen 2017). The design was three-dimensional in involving an international group of EU translators (n=44), practicing Finnish translators (n=26) and advanced translation students in Finland and Ireland (n=33). They wrote a total of 148 letters.

The task is simple: the participants are asked to write a love letter or break-up letter to a designated object. The object can be predetermined, but in this case the respondents were free to choose the tool or aspect of their work to which they wanted to write their letters. This freedom allowed us to analyse not only how translators report feeling about particular translation tools but also how and whether these tools figure in the bigger picture. In other words, the personified addressees of these letters were interpreted as having been selected because of being central to the respondents' positive or negative experiences in their everyday work, and the expression of a negative or positive affect, or both, was thus seen as an indicator of relevance.

Letters were written individually, and no discussion or disclosure to colleagues was involved. This method is thus less explicitly social than the group discussions introduced above. However, a social bond still exists between the respondent and the researcher, and the fact that the letters, although ostensibly written to the object of emotion, are in effect written to the researcher is likely to inform the selection of topics and the writing process. Some letters even include (affective) guidelines for their interpretation directed to the researcher (see Example 3). This social bond needs to be taken into account in the analysis, but it can also be taken up analytically to investigate what kinds of emotions and which narratives of translation work are socially acceptable.

> Example 3
> I hate you, D.O.D,**
> Because you prevent me from doing my best, you stop my creativity as your terminology is out-of-date and I have to convey it through new texts… Go away, be burned, fly to the space!
>
> ** DIRTY OLD DIRECTIVES
>
> Please consider these answers in their context: a rainy Monday, a long amended directive to translate and some (frustrating) years behind… (EU-31)

Compared to the analysis of laughter, this method builds on a degree of reflexivity. Writing a fictional letter is clearly set apart from regular work day activities, and it invites a conscious analysis of past events and the respondents' affective involvement in them, as narrated to an outside observer. Letters as a genre offer an available repertoire for the respondents, and as professional text workers translators are naturally well able to toy with it. The clearly playful research design further supports this attitude. The letter format and the binary structure of the set-up also encourage exaggeration of emotion. Some caution is thus needed in drawing conclusions. This method cannot be considered a window to actually felt emotions, but a tool for eliciting dramatized stories of affective involvements.

The analysis of the letter data is still in progress. Among the preliminary findings worth mentioning, translators' attitudes towards technology are far less negative than is sometimes depicted. They appreciate their efficient tools and have little nostalgic desire to go back to former times. However, as their technologized work environment is vulnerable to *malfunctioning* technology, the resulting lack of efficiency fosters strong negative affects and most likely leads to reduced job satisfaction. The fictional letters are the participants' accounts of past events and past emotional stances. Narratives of this kind, Wetherell (2012, 89) argues, "are likely to become more important as the body winds down and as the moment of strong affect is carried forward as a memory or story, with new accompanying affect". The method functions as a magnifying glass for the lived experience, pushing it to one of the two extremes and creating new affective layers of remembering, reflecting, and reporting.

4.3 Autoethnography of church interpreting

The third and final case of viewing translating through the lens of affect comes from an autoethnographic study on simultaneous church interpreting in Finnish Pentecostal churches (Hokkanen 2016). In this methodology, Hokkanen used her social position as a church member and volunteer interpreter to elicit data on the meaning and experience of the church's simultaneous interpreting practice. She is also a trained professional translator and interpreter, and her identities as a volunteer interpreter, professional translator/interpreter, and interpreting researcher all came into play in the research process (cf. Bahadır 2004), often creating tensions that upon further analysis revealed aspects of each social world that she had not been as keenly aware of. Thus, autoethnography allowed Hokkanen to interrogate emotions and embodied experiences she had 'in the field' in order to arrive at a deeper understanding of the social world of the church (the main object of research) and that of professional interpreting and interpreting research.

In autoethnography, the researcher's emotional experiences in the field are turned into entries in the field journal, which subjects his/her affects to a process of verbalization and narration (for a further introduction to autoethnography, see Ellis and Bochner 2000). In practice, following the ethnographic tradition, Hokkanen gathered fieldnotes on the occasions when she interpreted at church or when her identity as a church interpreter came to bear on a social situation. These preliminary fieldnotes, especially when gathered by hand in the interpreting booth in the middle of interpreting a church service, were very succinct "scratch notes" (Ottenberg 1990, 148; see example 4). These often hastily-written and cryptic notes were subsequently elaborated into a fuller narrative as an entry in the field journal (see example 5).[3]

> Example 4
> [Name of Speaker 1] (?) :)
> intonation
> [Name of Speaker 2] *crying*
>
> Example 5
> Next the host of the service introduces a man who gives a testimony, a person who is well-known and influential in his home town. I'm not sure I catch his name right. Says that people who knew him were very surprised that [Speaker 1] had come to faith. He is a lively and articulate speaker, and I feel I have to put some extra effort into matching his vivacious intonation, even though I believe to be far from monotonous when I interpret. [Speaker 1] is an extremely captivating speaker and I smile when he finishes.
>   Then the host introduces another person giving a testimony. [Speaker 2]'s cancer was healed (I couldn't find the equivalent for metastasis, so I went around it saying the cancer "*had spread into three places*" on her body.) It couldn't be operated, but God healed her. The host interviews [Speaker 2], and soon she starts to cry while giving her testimony. I try to sound empathetic, but don't cry myself. After the testimony, I don't exactly feel fake, but I realize I relayed emotion without it going very deep in my own heart — this time.

As a process of narrative construction based on affective experiences, the writing of the fieldnotes was naturally conditioned by the socially available resources with which Hokkanen could express and understand those experiences. For example, in her fieldnotes she would describe affective experiences of restfulness and

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3. The fieldnotes were originally written in Finnish with occasional English code-switching, marked in the examples by the use of italics. The examples were translated into English by Hokkanen.

relaxation taking place in the interpreting booth, using socially available concepts to interpret those emotions. Thus, instead of simply writing about feeling at ease, she would write about feeling the presence of the Holy Spirit.

Affect was not an explicit focus of the study to begin with, but its importance for both fieldwork and for the examination of social meanings related to church interpreting became increasingly pronounced as the study progressed. Ethnographic fieldwork as a method requires the physical presence of the researcher in a social context but, in fact, it is dependent on embodiment even beyond mere presence; "physical and sensuous presence […] allows observation and witness and the use of five-sense channels for recording data relating to social atmosphere, emotional colour and unspoken assumptions" (Willis 2000, xiii). Thus, ethnographers not only observe participants' emotional reactions, but they may also analyse their own affective experiences in a process of building a deeper understanding of the social context. Moreover, as autoethnography emphasizes the role of the researcher's personal experience as part of the research data (Ellis and Bochner 2000), the author's personal affective experiences related to church interpreting were incorporated into the study.

Because the affective narratives recorded in the fieldnotes were experienced first-hand by Hokkanen, their analysis differed from methodologies involving affective narratives written by others. Revisiting accounts of personal affective experiences often made the author also relive the related emotions. The body remembered and reacted, whether the fieldnotes described embarrassment over interpreting errors, discomfort over conflicting identities, or tearfulness over feeling loved and accepted in the midst of a religious experience. As part of the analysis of such affective accounts, some of the fieldnotes were rewritten into short narratives in the style of creative non-fiction and poetry, following the example set by autoethnographers who mix different writing genres in reporting their studies. Thus, narratives were used not only as a means of reporting affective experiences but also as a means of analysis, in an effort to understand those experiences in light of the social context (cf. Spry 2001).

In this autoethnographic study, the analysis of narratives describing personal affective experiences demanded a high degree of reflexivity, but it revealed how certain values and norms from different social worlds moulded Hokkanen's practice and experience of interpreting at church. Having been socialized into professional interpreting through a university education and into the religious setting through active membership, Hokkanen had internalized certain values and norms from these social worlds, some to the extent that she had become unaware of them guiding her interpreting. Analysing the affective reactions occurring while simultaneously interpreting church services assisted the author in making Hokkanen (again) aware of these values and norms and of the way they contributed to her

interpreting practice. By beginning from affects, Hokkanen was able to analyse issues such as the importance of preparation for interpreting practice and for religious experience, or the opposite pulls of a neutral interpreter role and a fully-involved church member engaging in the interpreted service (Hokkanen 2013).

5.   Conclusion

A focus on translators' affects, understood as their embodied meaning-making and operationalized with narratives, offers a promising avenue for understanding and analysing their experiencing self as an interface where the cognitive and the social are brought together and made sense of through the translator's affective engagement with them. Importantly, we do not wish to propose an interpretation of affect as being opposed to or separate from reason or cognition but as integrally linked to it. We see affect as meaning-making that involves the self of the individual: we experience affects when we interpret that certain aspects or events observed in the social world have become personally relevant.

The three cases discussed in this chapter point to the ways in which narrated affect allows us to interpret how translators engage with both social and cognitive aspects of their work. The cases were selected to illustrate some of the opportunities provided by incorporating affect into different methodological frameworks and research designs. By subjecting laughter to scrutiny as a non-verbal display of affect in a group context (Section 4.1), we were able to trace the ways in which it signals socially constructed understandings of work-related topics (such as professional identity) and allows the researcher to identify moments of tension between the internal and external pressures.

In our second case (Section 4.2), we assumed that translators do, in fact, engage with their work emotionally. Hence, the dramatized emotional letters that translators were asked to write, addressed to any tool or aspect of their work. While not providing a direct window into actual, spontaneous affective experiences, the letters show how the respondents placed their past experiences into an affective storyline, emphasizing either affection or dislike towards their chosen addressee. This kind of forced affective assessment may best function as a component of sociological studies, opening avenues from workplace observations towards lived experiences, and also potentially challenging any preconceived understandings of translators' affects — in this case, for example, the notion of translators being technology-averse. It might also shed new light to cognitive, process-oriented studies. For example, the measurement of task times tends to be combined with assumptions of efficiency or difficulty, whereas affective narratives of the task might bring in other explanatory aspects, such as pleasure.

In our final case (Section 4.3), we used narrated affective experiences in the form of fieldnotes in an analysis of social norms and values related to interpreting. With this autoethnographic research design, we were able to illustrate how the interpreter's affects were intertwined with the social surroundings and with the cognitive processes related to interpreting, such as monitoring the use of voice or making concrete translational decisions. Nevertheless, the focus of autoethnography has traditionally been on the study of social meanings and processes of identity construction (see, e.g., Bochner and Ellis 2002), rather than on cognitive functions. Thus, also in the case discussed here, the autoethnographer's affective narratives shed more light on the social than the cognitive aspects of interpreting.

With our title we suggest that affect can be seen as a hinge between the experiencing self and its surrounding social context. As can be seen from the discussion of the three cases above, we both tend to lean towards explaining the social with the help of narrated affect due to our personal research interests. It is important to emphasize, however, that the 'hinge' is not an isolated component that would separate two distinct entities, the social and the cognitive. Rather, we suggest that affect is intricately intertwined with both social and cognitive processes which, in turn, do not stand in a dichotomous relationship but are highly interconnected. Indeed, it is precisely this embeddedness of affect within both the social and the cognitive, we argue, that makes it a methodologically useful starting point in studies wishing to extend their analyses to both experiencing selves and the surrounding social contexts.

Our approach to affect in this chapter has been based on narratives but, as we have pointed out, it is not the only approach, nor is it without its limitations. In our daily life, the amount of our conscious reflection shifts as "we move in and out of 'knowing' what we are about" (Wetherell 2012, 129). Narratively attuned research methods such as those described above can be used to promote reflection, but once we move into conscious narrating of affect, these accounts are not retrievals of personal affect but, in fact, new forms of social action (Wetherell 2012, 129). While one needs to have an understanding of the nature of narrative accounts and thus also the limits of methods focusing on participants' accounts, we argue, with Wetherell (2012, 20), that "human affect is inextricably linked with meaning-making and with the semiotic (broadly defined) and the discursive" and that this meaning-making is, in fact, what research will need to aim to understand.

In this chapter, we had a very pragmatic aim. We wanted to emphasize the role of affect in understanding how translators experience the situations they are in, and we wanted to explore the possibilities of studying this empirically. The three cases described above are only partial and preliminary answers to the "huge theoretical and practical challenge" (Wetherell 2012, 11) that affect presents to researchers. We hope that sharing our personal experiences will inspire other

scholars to experiment with these and other methods and so increase our understanding of translators' embodied meaning-making of translating in different social contexts.

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The ergonomic impact of agencies in the dynamic system of interpreting provision

An ethnographic study of backstage influences on interpreter performance

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Interpreters are part of a complex system involving multiple human and technological agents, some of which are aggregated into the form of interpreting agencies. Interpreting is shaped by the ergonomics of the agency as well as by those of the courtroom, hospital or conference centre. The changing British economic climate and contractualism across the public services have brought the role of agencies to the fore. Drawing upon ethnographic data, the chapter explicitly links the effect of agency management to practices on the ground and investigates the ergonomic barriers perceived by interpreters. We identify a set of organisational imperatives for recruitment, work allocation, professional ethics and collaborative working. As a key information interface, agencies do not always interact effectively with interpreters or consider their own ergonomic impact. We conclude that there is a need for more research on agencies as workplaces and employers of interpreters in the community.

Keywords: public service interpreting, interpreting agencies, ergonomics, work process, professionalisation

1. Public service interpreting in the UK: Professionalisation from above

Recent decades have witnessed growing demands from professional bodies for re-landscaping the field of public service interpreting (PSI) in the UK (Townsley 2007). High-level efforts to regulate the professions abound, including the launches of the Diploma in Public Service Interpreting (DPSI) in 1991 and the National Register of Public Service Interpreters (NRPSI) in 1994, plus the recent success of legislative endeavours (e.g., EU directives 2010/64) in promoting the classic pathway towards securing occupational autonomy. However, paradoxical to the

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seemingly promising future of PSI's ongoing professionalisation (Larson 1977; Macdonald 1995) is the unglamorous nature of everyday interpreting, characterised by low prestige (Pöchhacker 2004), cheap labour (Mikkelson 1996), ad-hoc provision (Hale 2007) and other discouraging components. This sharp contrast is likely to trigger disruption in the efficacy of frameworks for interpreters' self-regulation.

In fact, in contrast to the enthusiasm for top-down restructuring, interpreters increasingly find their status questioned by policy-makers. The reality of frontline interpreting has not been substantially changed by regulatory intervention. This can partly be explained by the introduction of contracted agencies — characteristic of neo-liberalism, which favours flexible specialisation, blurred boundaries and centralised management control (Freidson 2001) — into the PSI sector. The pursuit of higher quality service in the PSI field has little to do with respect for knowledge or a shared 'service ethic' (Wilensky 1964) shaped through years of professional training. Rather, it comes as a result of the bureaucratic measurement and external monitoring, which force interpreters to behave in a manner considered professional. This professionalisation process of PSI is therefore initiated "from above" rather than "from within" (Evetts 2011), signalling a shift of work sovereignty from individual interpreters to the organisational (agency) managers. The dynamic system of interpreting provision often pivots on the competence of agencies in interpreter selection, job allocation and communication with public sector clients. Their backstage influences on interpreters performance can no longer be underestimated when PSI is arguably becoming a member of the 'hybrid professions' (Noordegraaf 2007; Colley and Guéry 2015) — a cluster of occupations (e.g., homecare workers, paralegals, midwives) in the public sphere that merely take on the look of professions without having actual jurisdictional control over practice (Evetts 2011).

Current socio-political changes set the scene for a re-examination of the contemporary role of agencies in organising the work of interpreting professionals. Whilst the interpreter's workplace is often construed as "that space in which communication is mediated by interpreting", every practitioner knows that what happens backstage is in fact critical to delivery of frontline services. The work involved in the provision of interpreting is therefore shaped by the ergonomics of the agency as well as by those of the courtroom, hospital or conference centre. Our overarching aim in this chapter is thus to appraise the intended compatibility between interpreters and their work systems, accounting for the managerial and regulatory work undertaken by agencies, and to understand the impact of these relationships on the working lives of interpreters and the profession at large. Pivotal to this tripartite relation between the interpreter, the organisation (agency) and the profession is the management that propels the PSI work system. Accordingly,

our research objective necessarily involves identifying the organisational and managerial tasks that regulate the work, so that a rational evaluation of their impact on interpreting practice can be implemented in future work. This leads to the first question to be addressed: To what extent are human factors incorporated in the organisational design and management of PSI practice?

The second objective is to explore the ergonomic effectiveness (see our explanation of 'cognitive ergonomics' below) of the measures implemented, focusing on the experiences of human operators who perform the work tasks. To that end, we are particularly keen to know: what are the ergonomic concerns that remain unaddressed in practice? An ergonomic analysis of the work process is employed to understand the importance of maintaining compatibility between organisational principles and the needs of human operators. Specifically, we build upon earlier findings (Dong and Napier 2016) and further explore ergonomic issues emerging from an interpreting agency case study. Through a qualitative thematic analysis (Hale and Napier 2013) of observational data and semi-structured interviews, the viewpoints of managers and interpreters regarding work process issues are compared in order to reveal hitherto under-appreciated aspects of the psycho-geographical environments within which PSI practitioners operate.

The following section reviews the extant research on agencies as workplaces and the employment status of interpreters. We then identify and discuss, in the light of our data, the research gaps where an ergonomic perspective can contribute. We conclude by stating how our study augments understanding of the work and wellbeing of interpreters.

2.   Interpreting agencies: Beyond the "third client"

It is hard to get to grips with agency-interpreter relationships without attending to the emergence of managerialism and contractualism in British social and welfare professions since the 1980s (Flynn 1990). In this context, agencies arise as a result of reduced expenditure on public service provision and political reliance on a free market that favours flexible labour and 'lean' employment relationships (Purcell, Purcell, and Tailby 2004). As a vital part of contemporary workplace, many agencies do not merely act as neutral go-betweens but exercise various modes of control over the non-standard workforce (Gossett 2006). While the organisational modes of agencies vary, it is their role in managing contingent workforces that has hitherto appealed to researchers (King, Burke, and Pemberton. 2005; Hoque and Kirkpatrick 2008; Carey 2013). A major problem is that agency personnel are often hired in a selling capacity against a sales-oriented work culture. They often "have an inferior knowledge of the task environment in which candidates will be

required to work" (King et al. 2005, 987), restricting the chance to match a satisfactory person to the task. Agency workers typically cover the full spectrum from highly-skilled free agents at one end to low-valued, easily replaceable labour at the other (Kunda, Barley, and Evans 2002). The latter are often faced with undesirable work conditions and limited professional support (Kirkpatrick and Hoque 2006).

While British PSI work may seem to epitomise flexible employment in many ways, the interactions between PSIs and agencies remain under-researched (cf. Ozolins 2007). Scant examination has been dedicated to the specifics of managerial activities taking place within agencies, though the scandals of outsourcing legal interpreting services in the Criminal Justice System spurred huge anger from many practitioners (PI4J 2012). In the wider literature, accounts of the structural changes generated by changing patterns of employment tend to be merely summative. In Australia (Ozolins 2000) and Sweden (Norström, Gustafsson, and Fioretos 2011), as well as in Scotland (Pérez et al. 2006), interpreting provision is predominantly delivered by freelancers and rarely by permanent staff employed either by agencies or directly by the authorities, making the interpreters' situation in the international labour market highly insecure. The Swedish case study (Norström, Fioretos, and Gustafsson 2012) on the working conditions of community interpreters shows that professionalism was undermined by worsening salary structures, low social status and poor employment support. In particular, the authors point out that the deregulation of the market leads to competition between many agencies, forcing down prices and compromising quality. No public supervision is exercised to monitor their management, nor is there any guarantee that they will send qualified or authorised professionals to deliver services. On the other hand, interpreters in the Swedish study report that they are rarely informed of assignment details by agency representatives and are thus unable to be emotionally prepared for potential challenges. The work process can be further complicated by the convoluted layers of stakeholders nested in the system. Harrington (1997) identified some management forms adopted by sign language interpreting providers, ranging from agencies funded by local authorities on a corporate basis, to those contracted by responsible authorities such as social services departments. Yet uncertainty remains as to how effectively multiple parties' expectations are communicated via relevant channels of information to the point of service.

Discussion of the employment status of interpreters is equally noteworthy. Harrington (1997) compared the working conditions of freelance and salaried interpreters. Given the two co-existing working modes, he asserted that agencies, in order to continue employing qualified interpreters, should formulate equivalent policies for both part-time and full-time practitioners. One particular concern was that managers did not allow interpreters to comment on inappropriate assignments and working conditions via a formal grievance procedure. Most relevantly,

Ozolins (2007) pointed out that many self-employed PSIs fail to recognise that agencies are actually their 'third client' — besides the two main parties (i.e., the service providers and users) in common interpreting encounters. Agencies are, however, not just clients of interpreters: the inter-dependence between the two is much more complex than a client-provider relationship would suggest. We therefore take the view that an investigation into how agencies act *beyond* the perceived clientele role is necessary. There is an ongoing tension between agencies' requirements and interpreters' autonomous decision-making. Understandings of professionalism sometimes diverge and managerial priorities may not always coincide with the interests of interpreters. This may, in part, be due to an unequal distribution of power between the parties. Given agencies' exclusive access (under the procurement mechanisms currently widespread in Britain) to public sector clients, and variations in management competence, it is hard to imagine that individual interpreters can actually respond to all three 'clients' in the same fashion.

In sum, two major gaps in the study of the agency-interpreter relationship are identified. On the one hand, the scarce research so far has only implicitly touched upon some dimensions of working conditions as experienced by interpreters. Agency-related factors that may prevent interpreters from functioning effectively at work have been subject to little in-depth investigation: much of what has been claimed proceeds from a weak empirical base. Secondly, studies of the actual work process choreographed by interpreting agencies have, at best, been rudimentary. The effect of managerial control at the operational level is rarely linked explicitly to shop-floor practices. Concomitantly, mutual expectations of this 'cooperative pair' have rarely been contextualised or cross-examined. This calls for a systematic approach to examine the components of managerial practice *in situ* and to see how they impact upon the work process of interpreters.

3.   An ergonomic perspective: In search of the "fit"

Ergonomics, also known as the analysis of 'human factors', is concerned with the understanding of interactions among humans with other elements of a socio-technical system (IEA 2000). Lying at the heart of the discipline is the enduring search for design methods and principles to optimise human well-being and overall system performance (Bridger 2003). This sets the agenda in practice for ergonomic professionals, who are particularly responsible for making the system (e.g., artefact, facility, group, organisation or society) compatible with the abilities, needs and limitations of people. In the organisational context, this means matching the work with the people, tools, environment, rewards and other artefacts in the system. We find this line of thought highly relevant to our inquiry in that agencies

can be perceived as a layer of information interface nested in the complex system of PSI (Figure 1).
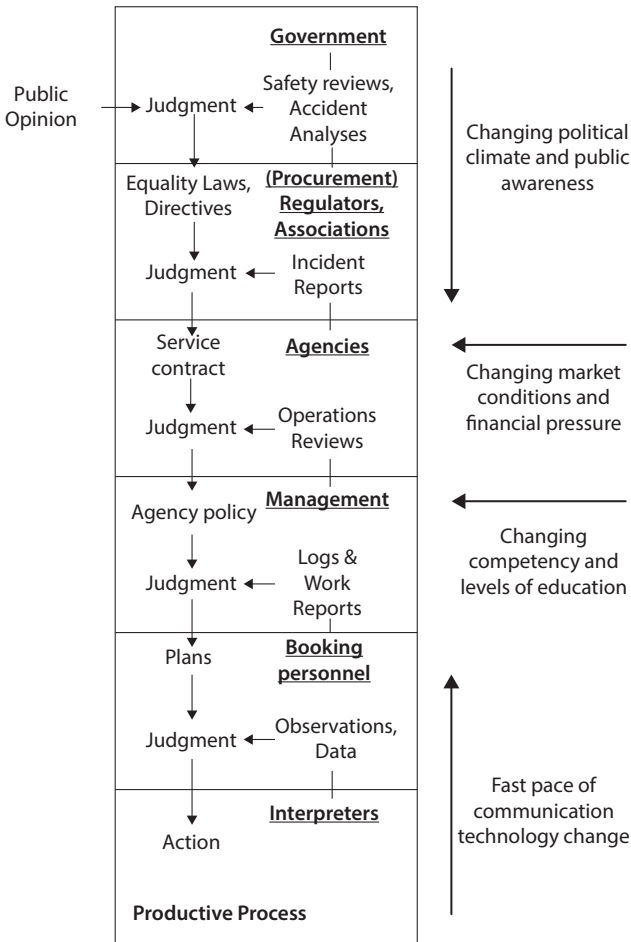
Figure 1. PSI workplace as an integrated part of the social-technical system (adapted from Rasmussen 2000)

In this system, the agency, situated between the service requestors and suppliers, functions to dispatch suitable interpreters to meet the demands of clients. The core task of agencies, in light of the definition of ergonomics, is therefore to match the right interpreter with the right assignment at the right workplace, i.e., to enable a balanced compatibility or 'fit'. Of vital importance here is how information about the work — without which the ergonomic judgement of the fit can hardly be established — can be transmitted from the requestor via agencies to reach interpreters and *vice versa*.

In this connection, organisational and cognitive ergonomics lay foundations for conceptualising management activities and interpreting practice respectively. Organisational ergonomics deals with the optimisation of organisational processes, including the social design of communication systems, interaction routines within working groups, organisational culture and quality management (IEA 2000). Ergonomists consider workers and their working environment as a highly interactive joint cognitive system (Hollnagel and Woods 2007) where determinants of performance failures should not be sought only in work. As stated by Curie and Hajjar (1987, 38, cited in Daniellou 2005, 414), "Each sub-system of activity is motivated by, and receives information from, what is happening in the other systems". This means the functionality of the agency sub-system would invariably affect the practice of interpreters. Accordingly, system ergonomics focuses on examining, accounting for, and enhancing the design of a system, and people's interactions with it, so that workers and the work can be organised to the best effect (Wilson 2014). Built on this rationale, we explore the extent to which human factors are incorporated in the organisational design and management of PSI practice.

Cognitive ergonomics, on the other hand, examines whether the solutions adopted suit the needs and characteristics of the users (IEA 2000). While its ultimate goal is also to improve work processes, the point of departure and the focus of cognitive ergonomics is the human being: it seeks to account for and respond to the implications of workers' mental processes — "how a person attends, remembers, makes decisions, communicates and acts in a particularly designed work system" (Cañas, Velichkovsky, and Velichkovsky 2011, 6). This necessitates an exploration of the workers' perceptions of constraining factors (e.g., communication barriers, health and safety, stress) that might affect their work performance. The essential task in cognitive ergonomics is trying to identify and understand the challenges posed by workplace processes and the adjustments workers implement in order to address them, thereby providing useful information in advance or fixing faulty systems to minimise concerns (Hollnagel 1997). We are therefore interested in those ergonomic concerns relating to agency-managed interpreters that remain unaddressed in practice.

We believe an ergonomic perspective with its focus on work process (organisational ergonomics), users' experiences (cognitive ergonomics) and their interaction is particularly applicable to our enquiry. This is, in fact, not an entirely novel endeavour in our discipline. Colleagues in translation studies have already entered the workplace and reaped fruitful outcomes from work-process research. Studies focusing on the organisation and management of translation services (e.g., Gouadec 2007; Risku, Windhager, and Apfelthaler 2013; Kuznik and Verd 2010) renew attention to translation as work and employment. Ergonomics provides a

framework to assess how translators use highly technologised tools. While interpreters have fewer technological barriers to overcome (or assistive devices to call upon, depending upon one's point of view), they do in many contexts work face-to-face with information interfaces of all shapes and sizes, with agencies being one of the most important interfaces. From this angle, it is safe to say that the ergonomic challenges that translators and interpreters are confronted with are not entirely the same but that their nature is revealingly comparable.

4. Case and methods

Fieldwork for this analysis was conducted under a generic case study strategy (Yin 2003). Commonly adopted by organisational researchers, this approach is regarded as useful in "understand[ing] how the organisational and environmental context is having an impact on or influencing social processes" (Hartley 2004, 325). We approached a national PSI service provider to negotiate entry into its business venue where day-to-day interpreting work is organised.[1] The company Insight was "purposively sampled" (Patton 2002, 230) because it is one of the very few major agencies in the country run by managers with interpreting experience and has secured key indications of government approval including responsibility for certain high-stakes national training provision.[2] These features suited our search for an information-rich example, where an independent research perspective would constitute a welcome learning opportunity for the business, thus bringing to life the concept of empowerment through knowledge exchange (Turner and Harrington 2000).

Data collection and analysis went hand in hand over a number of months in the field, but for the purpose of clarity, we present the process here in separate stages. Firstly, observational data (detailed description of the types of data in Table 1) were collected over three months during which Dong was assigned to a dedicated workstation so that she could work relatively unobtrusively alongside agency colleagues. It was agreed that Dong could come to the office two to three days a week, depending on her availability. With the permission of the general manager, field notes were taken manually to record informal interaction, incidents, and the observation of work procedures, ranging from lunch breaks and in-car conversations to chance encounters on the stairs. Further descriptive accounts were noted down after the event, so that what was left out due to the strain of keeping pace with

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1. The research design had been pre-approved by our institutional ethics committee.

2. *Insight* is a pseudonym.

the ongoing communication could be filled in, in a timely manner. On occasions, including formal events such as board meetings, job interviews and training sessions, audio-recording was conducted with complementary notes. Additionally, a research journal was written to record the researcher's own reflections.

Table 1. Overview of data

Data type	Quantity	Source	Original data (intended) audience
Questionnaire	22 questions	25 interpreters who newly registered with Insight attending the induction session at Insight.	Analysis for the study.
Field notes (observational)	25,000 words (250 hrs)	Conversation between staff; comments on emerging incidents; applicant screening and recruitment process.	Internal staff; job applicants; analysis for the study.
Meeting minutes	5,000 words	One board meetings and training planning meetings.	Meeting attendees (board members and training team).
Audio-recording of the induction	4.5 hours	Key-note speech and presentation slides.	Interpreters who newly registered with Insight.
Research journal	3,000 words	Reflective notes on participant observation.	Analysis for the study.
In-house archival data	50 pages	Email communications; corporate rules and norms.	Freelance interpreters.
Artefacts/ websites	N/A	Organisational logos, symbols and information leaflets.	Prospective interpreters; stakeholders; general public.
London PIJ seminar	4 hours	Seminar discussion, remarks of manager from Insight.	NRPSI interpreter representatives across the country.

While a large amount of "naturally-occurring data" (Silverman 2006, 21) addressing managerial activities was made accessible owing to the advantage of participant observation, it was equally important to gather "research-provoked" data which would allow interpreters to give voice to their work experience with agencies and their perception of professionalisation policies (especially, when their voices are mostly unheard in the organisational discourse). Moreover, controversial issues emerging from the unobtrusive data could then be triangulated and further clarified by the parties concerned. For this reason, semi-structured interviews were conducted with five agency members and 15 freelance interpreters who take

assignments not only from Insight but also from other agencies. The background of informants can be found in Tables 2 and 3. During the individual interviews, the protocol of "grand tour questions" followed by "mini-tour questions" (Spradley 1979, 86–88) was adopted. Examples of the questions we asked include: "How did you start to work as an interpreter?" and "Could you describe your understanding of professionalism?" The aim of such interviews is to "encourage informants to ramble on and on" and "offer almost unlimited opportunities for investigating smaller aspects of experience" (Spradley 1979, 86–88). These interviews, each of which lasted from 60–90 minutes, were digitally recorded, fully transcribed and thematically coded.

To make sense of the full data-set, a grounded-theoretic approach (Glaser and Strauss 1967) was adopted. We began by assembling all of the collected evidence into a single digitalised file. With the aid of N-Vivo 10 software, we then used open-coding to identify relevant concepts by scrutinising the document line-by-line, and grouped them into first-order codes, seeking traces of the ergonomic considerations in the work processes and their precedents.[3] Built on these elementary codes where terms and accounts are adequate at the level of meaning of the informants (Van Maanen 1983), axial coding was further performed to examine the relationships between and among the first-order codes, the results of which were later consolidated into higher-order themes. This iterative process of comparing analytical reasoning and interpretation with evolving categories continued until the empirical data failed to reveal new findings (Strauss and Corbin 1990).

As is shown in Table 2, interpreters were locally sampled from the company database taking into consideration the diversity of languages (European and Asian languages) and ethnic backgrounds, years of working experience (ranging from one to twenty years), qualifications and training records. As such, four management staff of Insight (Table 3) and the group of practising interpreters naturally form the two units of analysis for the case study, with each attending to specific issues but altogether generating a global picture of the complex demand-supply system of PSI. The following section reports the findings.

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3. Information on using N-Vivo can be found at: http://download.qsrinternational.com/Document/NVivo10/NVivo10-Getting-Started-Guide.pdf. Accessed April 8, 2016.

Table 2. Interpreters' backgrounds

No.	Gender	Age (Years)	Years of interpreting experience	Most frequent work settings	Education background ("TI" is short for "Translation and Interpreting")	Working languages	Main providers of professional development training ("prf" is short for "professional")	No. of contact agencies
1	female	30–39	2–3	Hospital	MSc in TI and languages	German, Italian	agencies	2
2	female	30–39	3–5	Hospital	BA in laws, DPSI	Slovak, Czech	agencies	8
3	male	50–59	5–7	Court	DPSI	Latvian, Russian	agencies	6
4	female	>60	>10	Court	BA in languages, DPSI	Czech	CIOL, agencies, Home Office	6
5	female	30–39	7–10	Hospital	MA in education, DPSI,	Polish	prf bodies, agencies	7
6	female	30–39	7–10	Court	MA in TI, DPSI	German, French	agencies	6
7	female	30–39	3–5	Court	BA in laws, DPSI	Russian	prf bodies, agencies	6
8	female	30–39	3–5	Court	MSc in TI	Spanish	prf bodies, agencies	7
9	female	40–49	2–3	Court	BA in languages	Slovak, Czech	agencies	6
10	male	30–39	1–2	hospital	BA in languages	Hungarian	agencies	1
11	female	20–29	<1	hospital	BA in other fields, DPSI	Cantonese	agencies	1
12	female	40–49	7–10	Court	BA in other fields, DPSI	Mandarin	agencies, Home Office	5
13	female	30–39	3–5	Court	BA in other fields, DPSI	Lithuanian	prf bodies, agencies	5
14	female	40–49	3–5	hospital	others	Somali/Arabic	agencies	2
15	male	30–39	5–7	hospital	BA in other fields, DPSI	Polish	agencies	6

Table 3. The backgrounds of members of *Insight*

No.	Gender	Age (Years)	Responsibilities in the agency	Years of interpreting experience	Education background
1	male	30–39	Booking management	2–3	MA in TI
2	female	30–39	Booking management / Training support	2–3	BA in languages
3	female	30–39	Training officer	5–7	BA in languages, DPSI
4	female	40–49	Executive director	>10	DPSI, MBA

5. Interpreting work management: Compact, complex and competitive

Insight shares many traits of virtual enterprises in that it does not employ any in-house interpreters but has over 200 registered sessional workers at its disposal. Only two managers are permanent staff, with two self-employed interpreters contributing several hours a day in the office to deal with booking and other administrative work. Insight therefore has a compact management structure covering a wide range of responsibilities, which can be broadly categorised into human resources management (HRM), booking management, behavioural management and consultancy.

5.1 HRM: "Picking the right frame of mind"

HRM accounts for a large proportion of Insight's internal activities. Each interpreter with Insight has to go through a 1.5-hour assessment (sometimes longer) comprising interviews and interpreting assessments. This line of work is not handled as it would be at comparable mainstream interpreting agencies which collect candidate practitioners' CVs online and file copies of certificates, at best followed by a brief phone chat with the candidate. "No matter what they claim on the paper, we check. We don't assume", said one of the managers [A-mng-1].[4] For them, the interview is not only a channel to become acquainted with the applicants and scrutinise their command of relevant non-linguistic knowledge (e.g., professional ethics, work motivation and cultural inclusivity), but functions more as a test of the 'person-organisation fit'. In other words, those who are linguistically competent but do not suit the organisational culture are likely to be excluded. Of central

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4. To mark the different sets of data, A refers to naturally-occurring data and B to elicited data: mng = manager, int = interpreter, doc = documentary data. Individuals within each category are assigned a number.

importance is that "people get into this profession with the right frame of mind" [A-director]. In the words of a manager who commented on a candidate:

> What I find most difficult is when you have someone who is not too sure, a bit hesitant about certain meaning, and he thinks that it is ok or actually better than someone who says the complete wrong thing — that is a very dangerous act! [A-mng-2]

Such remarks point to the agency's preference for those who are honest in revealing the complexity of an interpreter's decision-making or show no trace of over-assertiveness. Often, candidates making a poor impression in this round appear to stand little chance of being selected, no matter how well they perform in the following assessment. The sequence of these two procedures also reflects Insight's intention to implement a set of organisationally-defined criteria in PSI practice. Language skills are tested through role plays in the three general settings of PSI — legal, medical, and local government — which models the DPSI exams. Most importantly, the kind of setting(s) at which a candidate excels will be noted down in his or her profile for booking purposes.

Informants described their assessment experiences as 'challenging', 'stressed' or 'surprising', since none of them had been checked by other agencies to such an extent. Indeed, there remains a tacit rule in the market that quantity supersedes quality — in other words, agencies build reputations simply by showing how much work they have undertaken for previous clients (number of assignments, number of languages used, size of the pool of practitioners hired to provide services, and so forth). When Insight was approached by a larger agency with the opportunity of collaborative provision, the director commented:

> He said he gonna use the old ones in their book. It's not been updated for years. He doesn't even know if they [the interpreters] have changed job or still stay there but, they won't check…you know, these days no one would bother until the point we know we won the contract, that's how procurement drives. [A-director]

Such a situation has been verified by a few interpreters who "have never seen the face behind the phone every time they [agencies] call" [B-int-6]. One stated:

> They found me from the Translator's Café and didn't ask me for anything before sending me to the job. Every time I spoke to a different person and I don't think they are keen on knowing me.

The above quotes allude to a view that some agencies thrive on tendering for and securing procurement contracts. The lack of investment and interest in this profession is seen as rendering HRM an unused practice in such agencies, and 'real' interpreters (i.e., educated, capable and available) a precarious occupational group.

HRM is also exemplified in the extent of support that Insight gives to interpreters. Before each assignment, the administrative team will brief interpreters with contextualised information that can help to reduce the uncertainty of the workplace. Advice includes, for example, "if you don't see the solicitor, the police guarding at the door of the courtroom is usually your man. He's got a list of names to call" [A-mng-2], or "the nurse may ask you to stay in the ward but make sure you wear the blue disposable gown outside, just next to handrail" [A-mng-1]. In turn, interpreters find Insight colleagues extremely good at helping them to "learn the ropes of the job" [B-int-5]. They mostly feel that they are able to obtain suggestions that could not have come from elsewhere. In fact, the majority of the participants express their confusion at the procedural knowledge that comes to play in specific work settings. Yet such knowledge is "very hard to obtain from those who haven't done the job" [B-int-7]. Some participants convey their hesitation to call agencies with queries for fear of being labelled as incompetent or losing jobs: "I am a bit scared to tell them what I feel difficult about, because they might be judgy of me and nothing gonna be resolved anyway." [B-int-11]

To tackle the above, the director of Insight describes their strategy as a "non-agency approach", the rationale of which is explained thus:

> I don't want a thousand names on our book. That's not the type of agency we are. We need to know every single person who is working for us and have some sort of relationship with us, and feel that they belong to us, somehow. [A-director]

5.2   Booking management: "Travel time matters"

Booking management is perhaps the most basic function of all interpreting agencies. Just as individual interpreters are salaried by assignments, agencies are rewarded by meeting each booking request from client organisations. One fundamental principle of booking is "dispatching the right person to the right place at the right time" [A-mng-1]. In reality, it is much more easily said than done. The first reason is that Insight's choice is largely limited by being the *secondary* supplier for many contracts, i.e., only offered work assignments that a primary contractor cannot satisfy. As most 'popular jobs' will go straight to the first-tier contractor, Insight is inevitably faced with what members call the "leftovers" — typically last-minute requests or at remote locations. As a result, booking becomes a more exacting task, as the chances of locating an available and qualified interpreter become smaller. Worse still, the 'law of the jungle' that applies in the market does not allow managers much time to hesitate: "Clients won't wait, and there are plenty of agencies will say yes if we can't cover" [A-mng-2].

It is perhaps for these two reasons that specific procedures are designed by Insight to minimise the chance of missing any offer of jobs. Operators are instructed to follow pre-set steps that "always secure an interpreter first and then immediately assure the client". The response time for each request is measured to underpin their corporate strength in "providing the fastest possible response to clients" and to "remind people to speed up" [A-director]. There are a number of factors affecting work allocation. Among others, being (un)able to drive and the distance to the workplace are frequently raised when booking interpreters:

> We pay travel time, but do you drive? We think travel time matters because we don't want to charge our clients three-hours travel time if we can avoid it. So I think the job in [name] area would be nearer to you… [A-mng-2]

On other occasions, driving ability becomes a criterion even in the early selection process of trainees, as revealed in a conversation by two members:

> A-mng-1: So she's studying Health [option] but she failed the main part of the exam [DPSI], only got a letter of credit.
> A-mng-2: Yeah but she drives. That's great. And also she doesn't get a lot of jobs from others.
> A-mng-1: Yeah. That's a plus, because we then won't only have you [who can] drive.

Informants also report that using Google Maps to measure their actual travel time is problematic: "I often end up spending more on waiting for the bus or stuck in traffic" [B-int-10]. Some claimed that underestimation of the travel time would make them feel their work was underappreciated: "I wouldn't have taken the job if I knew my travel is not properly paid. It took me three hours total on the way for only a 10-minute assignment" [B-int-3].

Effective matching of interpreters to assignments requires consideration of human variables as well as rapid calculation of the financial costs of hiring one practitioner or another. Insight meticulously classifies each interpreter's expertise in the entry assessment. Yet we found that the recorded strengths of a specific practitioner can easily go unnoticed amongst the list of practical matters that have to be weighed in the balance. These include the rareness of the language in the respective country, since DPSI qualifications are not readily available for all languages, and gender requirements imposed for the assignment (there being fewer male than female interpreters). The degree of urgency may also be a factor — there may be insufficient time to get hold of the ideal person — as may transport costs and accessibility. It may be impossible to reschedule the appointment, even if this would improve the interpreting, which may mean that the event must go ahead whatever the quality of interpreting available. When all these factors come

into play simultaneously for a particular appointment, making the best match can become impossible.

Interpreters can therefore feel pressure to cover the job, especially when the agents sound desperate. Some informants reveal that managers in Insight "can be a bit of pushy as well, but in a nice way" [B-int-13]. Over half of the interviewees indicate that it is not always straightforward to say 'no' to certain agencies. One was concerned about losing work: "they would remember the times I refuse the job and tend to phone me less afterwards" [B-int-9]. Others believe "some agencies would blacklist me if I don't do the job or ask them to pay more" [B-int-4].

In the case where the constraining factors are kept to the minimum, the key to reducing work uncertainty and performance errors lies in the amount and the quality of the information passed on to interpreters to prepare. As commented by the director:

> Our clients tell us that they would like to share more details but they are also re-stricted by confidentiality. It takes time for them to understand our profession but we always ask them for more, or advise them at least [to] brief interpreters before the meeting. [A-director]

This point is strongly confirmed by interpreters, many of whom seem to have many years' familiarity with the unpredictability of the conversations they are ex-pected to interpret between the primary participants:

> I guess that's part of our job. I mean I can do whatever I can based on what I have at hand. If they are reluctant to share information, then they have to be respon-sible for my mistakes too. [B-int-7]

The above quote seems to indicate that the interpreters' code of ethics, which in-cludes an adherence to confidentiality just as other professionals have, does not seem to be widely recognised (and perhaps trusted) by the public.

5.3 Behavioural management: "If someone hands you a red packet…"

To enhance performance at the actual place of the interpreting assignment, Insight's managers have designed a set of internal work rules. These rules bear strong corporate traits in that they are not always constituted as standard parts of the code of practice but in many ways create a procedure out of the behaviour of interpreters at work. It was found that there are more 'identity rules' designed to mark members' collective identity than 'security rules' that are mainly concerned with the safety of interpreters.

Typically, interpreters are required to follow the bespoke dress code to "rep-resent Insight in a responsible manner" [A-mng-1]. In the words of the director:

> We are probably the only agency that insists on people's dressing to do interpret-
> ing, because we're trying to forge a professional image. We want to make sure the
> people sent out by us are presentable, not like, just rolling out of the bed.
> [A-director]

Each interpreter is given a company badge on which an ID photo and his or her
name is placed below Insight's trademark. Before an assignment starts, interpret-
ers are obliged to recite the "Self-Introduction" text at the back of the badge, which
starts with: "My name is _____ from Insight" and proceeds with a succinct expla-
nation of the role of interpreters and key interpreting protocols. The purpose of
that, as explained by one manager, is to "make this as a procedure" because "it's
important to establish the boundary at the beginning" [A-mng-1].

The organisational imperative is also shown in managers' rule-based con-
strual of interpreting ethics. Insight interpreters are often reminded to "maintain
confidentiality at all times" and told that the failure to do so will be regarded as
"breaching the code" [A-director]. Similarly, "being impartial" has been redirect-
ed to novice interpreters as "keep[ing] a professional distance from the clients"
[A-int-4], which some feel obliged to do but struggle in practice to obey: "In my
culture, if someone hands you a red packet in some occasions, you can't really
refuse! It's very rude to say no" [A-int-12].[5]

Hardly any formal measures against work environment hazards are in place,
apart from a "home-visit protocol" note attached to the details of assignment sent
to interpreters (Figure 2) [A-doc]:

Please call the tenant on 07███████ to confirm this appointment.

In line with the protocol for home visits, please wait outside for the official to arrive and enter the premises together, i.e. do not go into the client's home yourself. If the official has not arrived 5 minutes into the appt, please inform the office and we will find out what is happening. When the assignment is finished, please leave with the official and do not stay behind on your own.

****
You are required to read and comply with the following:

Terms & Conditions

Figure 2. Screenshot of an email from the documentary data

But even the original intention for this message is not entirely related to the con-
cerns of the security risks that interpreters might be exposed to. As explained by
the director:

> Someone went in with the family in the house, by the time the official arrived, they
> are there having a cup of tea. The official didn't like that. When the appointment

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5. In China and other East Asian countries, a monetary gift wrapped up inside a red packet or
an envelope may be given to mark a special occasion such as a wedding, graduation or the birth
of a baby.

> finished, the interpreter stayed behind and finished the tea. Later we got a complaint for that. [A-director]

Not all participants are comfortable with such required practices. Concerns are sometimes raised when interpreters arrive earlier than the official at the respective premise:

> I have never managed to arrive at the same time with the health visitor. When I'm waiting around a dodgy area, to be honest I feel a bit scared. I actually feel safer with the clients at home than standing outside. [B-int-7]

None of the interviewees mentioned any training to assess the risks of the workplace, nor have they ever been informed of the potential dangers posed by particular clients and places. Although they agreed that the health and safety measures are inadequate, they were not sure who to consider responsible for that:

> We are self-employed so I guess we have to take care of ourselves. Besides, agencies are not necessarily reliable, if we are warned of danger, who gonna do their jobs? [B-int-15]

One police interpreter mentioned the danger of wearing their ID badge in the cell: "I'm not sure about this because those criminals can remember my name easily and our community is quite small" [B-int-2]. Company rules like this disregard the mental burden added to the interpreters at work and pose a threat to their security outside the workplace, thus compromising the characteristics and needs of the human operators — the central concern of cognitive ergonomics in the work system design.

5.4 Consultancy

Consultancy work tries to harness the extensive efforts of the stakeholders to improve working conditions of interpreters. This mainly consists of providing training and advice to two audiences: other local interpreting agencies and public sector bodies. In search of the substance of this kind of expert insight, we found one email especially illuminating in that it points out some common ergonomic barriers created by agencies (Figure 3) [A-doc]:

Key points that are highlighted are the omissions of client's age, ambiguous instruction of time and place, and unclear subject information. Such issues may appear to be trivial in the eyes of many booking operators, but matter substantially for interpreters' frontline performance. Through working with local agencies, managers believe that they can "raise standards on a national scale by subscribing their partners to a common set of standards" [A-mng-1].

Hi ███

A few minor things. They are not really a big issue at the moment but will be helpful in the long run. There is also one issue about the Service Level Agreement I want to bring up before your meeting later.

(1) Patient's age or DOB: it is useful for the interpreter to know roughly the age of the person they are interpreting for. For example, the patient may be a baby or young child so the likelihood is the interpreter will be interpreting for the parents instead. Having the DOB makes it easier for the hospital to identify the patient when the interpreter arrives. Sometimes wrong spelling of names or wrong department or something else may mean the interpreter/NHS staff cannot find the patient for whom the interpreter is booked for.

(2) Include day of the week before the date: I swear by this method to avoid getting the dates wrong. It doesn't take much to do but it is very effective.

(3) Use 24-hour clock: Again to minimise potential mistake in taking down the time.

(4) Subject/nature of the appointment: This is not always clear from the venue or department, I think it should be a separate piece of info. For example, a patient is going in for Day Surgery, this could be absolutely anything. It helps the interpreter to get to the right place, but doesn't help them to prepare for the assignment other than something general about day surgery.

Figure 3. Screenshot of an email from the documentary data

In doing so, Insight allows for sharing information and good practice. Their approach has been adopted by several other agencies and has penetrated into the daily practice of local interpreters. Two local councils have requested their support in recruiting interpreters and organising training. Also, in its engagement with national healthcare providers, Insight was entrusted to devise a collaborative working guideline clarifying the responsibilities of health service providers, patients with preferred communication other than spoken English and interpreting agencies. These indications underline the organisation's status among relevant partners.

6.   Discussion

At the beginning of this chapter, we referred to the sharp contrast between the growing number of regulatory frameworks and the deteriorating working conditions for interpreters. While it is outside the scope of this chapter to investigate the political motivation behind the professionalisation scheme, the fact that the agencies' professionalisation policies produce limited effects on front-line interpreting work makes clear that something is malfunctioning in the current institutional network-system of PSI. This assumption leads us to refocus on the ergonomics of interpreting agencies which not only shape the worker/work interaction, but also in many ways reconstruct the model of interpreting professionalism in practice for the entire occupational group. Centring on this overarching aim, we addressed the first research question about the extent to which human factors are incorporated

in the organisational design by identifying a set of organisational imperatives for recruitment, work allocation, professional ethics and collaborative working. While some of the measures in place have presumably been introduced to enhance knowledge exchange and interprofessional communication, others were felt to have tightened managerial control above individual autonomy and even put interpreters' safety at risk. As to the second objective, i.e., identifying the ergonomic issues which remain obstructive in practice, the findings illuminate the impact of management measures upon interpreting practice and reflect practitioners' perceptions of workplace ergonomics. Specifically, interpreters drew attention to, among other things, the lack of information provided for the assignment, lack of training and support, incompatible reward, stress and anxiety arising from being found incompetent by the agency, safety hazards in the workplace, and conflicting identities. Significant aspects of these ergonomic factors are discussed further on.

The study identified a range of management activities taking place within Insight. Seen from the viewpoints of managers and interpreters, these attempts by and large underpin an improved organisational design that enables a better fit between interpreters and the specific work they are offered. Bridger (2003, 1) argues that a better human-machine/system interaction can be achieved by "designing in" a better interface to make the system more compatible with the task and the user. By this logic, the core "designing-in" mechanism that runs such compatibility tests in Insight is the HRM team, a managerial component commonly missing from mainstream agencies. For ergonomics, the human constitutes an integral part of the system and must be fully incorporated into the system design: "Human requirements are thus system requirements, rather than secondary considerations" (Bridger 2003, 3). However, we did not find that interpreters were treated in the same way as ergonomists might expect. Instead, agencies on the whole are still responding to the job demands in a rather shallow fashion, and often without an in-depth understanding of either the person supposedly being matched or of the work itself. This triggers debate on whether PSIs are essentially high-skilled knowledge workers or low-paid, blue-collar labourers who are only indulged in the illusion of professionalisation. Interpreters face similar ergonomic risks to those characterising precarious employment elsewhere in the workforce (e.g., call-centre staff), typically including limited access to work, little freedom to refuse inappropriate tasks and ineffective communication — see Quinlan and Bohle (2004). A robust recruitment process, such as that which is being rolled out by Insight, can possibly reduce some chaotic arrangements. It not only draws a clearer occupational boundary to prevent the employment of untrained, lay interpreters, but also filters out candidates who might be bilingually competent yet lack the intercultural mediation skills to manage co-construction processes (Turner 1995) and triadic interaction (Pöchhacker 2008). Moreover, through face-to-face

interviews, practitioners' strengths and weaknesses can be identified and recorded for later-stage management.

Worth mentioning here are Insight members' efforts to acculturate new candidates. Their intention to shape the habits of interpreters and expect them to embody a certain organisational 'character' again indicates that an organisational template is taking shape to unify an otherwise diverse, flexible workforce. This resonates with their intention to humanise the work of interpreters, i.e., treat individual interpreters with more care and respect. As reinforced in the interviews, interpreters' human needs do not normally earn the attention of agencies (either because agencies are not motivated or else lack expertise). Interpreters' social and collegial needs are largely unmet owing to the fragmented nature of the work. The communicative gaps between individual interpreters and agencies are thus widened, which is bound to deepen the incompatibility problem arising from lack of effective matching of practitioners to assignments.

Two key consequences emerge from the data here. Firstly, the procedural knowledge produced in the process of doing interpreting jobs cannot be properly circulated and codified. The "network of practice" (Barley and Kunda 2004, 271) that serves as the major channel of information exchange for itinerant workers is interrupted as agencies are imposing prohibitive rules. Secondly, interpreters hold a sense of distrust toward agencies, which are thought to control a pool of jobs but not necessarily to allocate them based on ergonomic rationality. The suspicion and fear of losing the job is thus likely to strain the occupational limits of interpreters while concurrently intensifying their anxiety and estrangement at work. The situation is worsened by dominant agencies operating under non-expert management with inadequate understanding of the work tasks — a common source of disorder for contingent employment relationships (Kunda et al. 2002). In this connection, Insight's HRM activities — in particular, the attention they pay to vetting and support — substantially ease the ergonomic tensions perplexing PSIs in addition to the challenges presented by the delivery of actual linguistic services.

This is, however, not to say that the actual task of matching practitioners to assignments is solely based on the capabilities of interpreters. Despite the fact that interpreters have been organised according to levels and areas of competence, the booking priorities in reality are often subject to change as a result of environmental constraints. While many participants attribute their deteriorating working conditions to the unethical conduct of agencies, the results reveal that even agencies such as Insight are still struggling to offer clients better treatment in practice. Suffice it to say here that the top-down contractualism prevalent in the British public sector is liable to reproduce the current ergonomic obstacles for PSIs. This perhaps accounts for the identified decisions made by the managers (e.g., travel time, last-minute requests) that sometimes tip the scales in favour of minimising

costs rather than maximising compatibility between interpreter and assignment. The managerial imperatives (e.g., response-time monitoring and Google-Map checks) set in place can therefore be understood as ways to enhance workers' performance or, perhaps more convincingly, to exercise disciplinary power over professional discretion, the intention of which hardly does justice to the ergonomic needs of interpreters.

Apart from reflecting upon the innate limit and characteristics of human operators, what equally matters to the compatibility equation is the configuration of the workplace environment. In other words, the improvement of a system can also be done by designing-out factors in the workspace that degrade the interactions between human and the milieu (Bridger 2003). While this appears to be beyond the direct control of agencies, the quality of the information they co-produce with the client organisations shapes the professional efficacy of interpreters' work. Feedback from the participants indicates that the lack of industry consensus on what and how much information should be shared prior to work poses various ergonomic challenges to PSIs. The absence of pre-assignment detail prevents them from conducting full risk assessments; nor is it feasible to predict the physical, cognitive, and emotional difficulties arising from the variety of work settings, be they hospitals, prisons or private homes. The sparse infrastructure for reporting protection failures and managing interpreters' safety chimes with the research on broader categories of agency workers and precarious work (Aronsson 1999; Quinlan, Mayhew, and Bohle 2001). Here, we provide evidence of another vulnerable occupational group, PSIs, who work closely with the service providers on the ground but are left isolated from the work planning conversations happening backstage. Surrounded by market-oriented managerial rhetoric, hardly any constructive suggestions based on the actual ergonomic experiences of interpreters can directly feed into the work process design at the policy level. In our case, it is apparent that Insight's consultancy capacity benefits wider groups of interpreters. Certain problematic procedures (e.g., disregarding "patient's age or DOB" in Figure 3) that have been employed for years are brought to light owing to their collaborative working strategy with the stakeholders. As shown in one of the examples, agencies should be aware that the day of birth (DOB) of the client can be a piece of important information for interpreters. For example, in cases where the patient is a baby or young child, the interpreter may end up interpreting for the parents instead.

Previous research also reports that agency workers suffer from a number of ergonomic discomforts at work, such as mental stress, volatile work pace, irregular working hours, low pay, problematic job locations and workplace disorganisation (Underhill and Quinlan 2011; Quinlan, Bohle, and Rawlings-Way 2015). We confirm the presence of these factors in the provision of PSI services and identify

issues that have not been discussed explicitly, including interpreters' conflicting identities and agencies' rule-based interpretation of ethics. The former creates a dilemma about the extent to which interpreters should follow the rules of agencies. Their self-employed status is overshadowed by the power of agencies — so much so that they no longer treat agencies as their clients (Ozolins 2007). Rather, they abide by the rules of wearing badges as if they are employed and thus representing their employers. This is even done at the expense of exposing their names to potentially threatening clients, or staying in an unsafe environment to keep their role 'neutral' (in the home-visit example).

Furthermore, regulating the practice of ethics by giving strict "dos and don'ts" to interpreters does not seem to relieve their decisional pressure at work. On the contrary, it has been argued that an over-proceduralisation of their work restricts interpreters' ability to think analytically and cope with the multifaceted challenges at work (Dean 2015) — the core component of any knowledge-based profession claiming jurisdiction by the body of inaccessible knowledge (Abbott 1988). Previous research (e.g., Tate and Turner 1997) has critically evaluated the rule-based understanding of interpreting ethics in practice. Our findings indicate that this trend is probably in part driven by the managerial zeal to standardise work procedures and tighten control over professionals' decision-making. From the perspective of ergonomics, this inevitably reduces interpreters' scope to adjust their work activities according to personal conditions such as fatigue, anxiety or the fear of the consequences of breaching a code of employment.

Through an ergonomic investigation of the work process of PSI in the UK, it thus becomes clearer why high-level professionalisation efforts have so far generated relatively little traction. We argue that this is fundamentally down to the power of the front-line organisations that are centrally involved in interpreting practices. Among others, agencies are particularly pivotal in formulating the workplace order and managing ergonomic challenges through working with service providers. Yet our study shows agencies' ambiguous role in advancing this cause, or even steering practising interpreters away from the broader social-technical systems of PSI. The evidence presented leads us to conclude that ergonomic problems are inherent in the current design of a PSI system comprising various organisational interfaces that intersect with interpreting practice. Given that the constraining factors are, in many ways, affecting the quality of situated interpreting activities, we contend that there is a need for research to extend the notion of interpreting workplace beyond the space where communication-mediation tasks are performed, to where interpreting services are planned, organised and managed. Further research should therefore explore the ergonomic experience of interpreters and describe the implications arising from this flexible mode of employment.

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Automatic Speech Recognition
in the professional translation process

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In a language services industry currently feeling the pressure of ever-faster translation turn-around times, Automatic Speech Recognition (ASR) offers a variety of advantages for professional translators, yet also presents challenges. Anecdotal evidence shared on translators' community platforms support the former, but the latter has not received as much attention. This chapter reports insights into professional translation practices with ASR, based upon a survey on the use of ASR as well as a study in a naturalistic setting. By examining which translation tasks professionals have been using ASR for, how successfully, and in which workflows, this chapter highlights some of the main advantages and disadvantages of ASR adoption in the professional translation world. The conclusion is that ASR has the potential to increase the productivity and creativity of the translation act, but the advantages can be overshadowed by a reduction in translation quality unless thorough revision processes are in place.

1. Introduction

The language services industry is a truly fascinating research area because of its complexity, rapid change, and seemingly happy coexistence of radically different views. Within the same country, even the same city, one can often find language technology innovation taking place alongside outspoken resistance to such change. Some of the recent implementations by the industry — for instance, in areas such as machine translation (MT) — have been increasing the pressure on rates and have had a negative impact on the quality of the translated work (Drugan 2013, 188). Going further back in time, the introduction of computer-assisted translation (CAT) tools by the same industry has also had — in addition to positive outcomes such as consistency of terminology and faster target text production

time — a range of negative results including tiered, lower rates for freelancers, increased standardisation of target texts, and higher potential for propagation of errors due to the growing use of translation memories (TMs).

Recent years have seen a new initiative (from professional linguists, this time) often presented within the translators' community as an effective method to increase productivity: the use of Automatic Speech Recognition (ASR) technology to dictate translations at a faster rate compared to touch-typing the target text. Beyond the resounding success stories, though, what the professionals have not fully reported is the cognitive load added by the integration of ASR into translation and localisation workflows, and the significant ways in which these workflows need to be adapted in order to counteract the negative impact of this technology. A more balanced view of the manner in which ASR can both help and hinder the translation process is suggested here, as well as an outline of the influence it can have on the quality of the translation product.

This chapter investigates the impact on professional workflows, productivity and ergonomics brought about by the latest developments in ASR and text-to-speech (TTS) technologies. Why is it the case that, in 2016, professional translators could potentially enjoy complete freedom of movement while translating and revising, but rarely do? The arguments are supported by the findings of a survey and of an experiment conducted in the University of Leeds Centre for Translation Studies with professional translators reporting on their experience using ASR systems within their customised professional workflows and environments. Two questions are addressed: (1) what are the similarities and differences between translation workflows which use ASR and those which do not? And (2), what is the impact of ASR on the translator's productivity as evidenced by the analysis of empirical data?

2.   Voice in the translation process

ASR has been around for several decades, although its accuracy has not always recommended it as a viable tool for sustained use in translation production activities. About 50 years ago, the ALPAC report (Pierce et al. 1966) included "the observation that the productivity of human translators can be increased by a factor of as much as four, with no measurable degradation in quality, by asking them to make sight translations" (Brown et al. 1994, 177). It is crucial to note that, at the time of the ALPAC report, the function which ASR would eventually take over was fulfilled by human typists. While the potential of ASR for boosting productivity, optimising ergonomics, and enhancing creativity may have been anticipated, the potential for increasing cognitive load, fragmenting the translation process even further, and lowering the quality of the target text were not mentioned.

Recent advances in the recognition quality of a number of ASR tools — both freely available and commercial, and covering a range of languages — as well as similar advances in eye tracking and keylogging techniques have allowed researchers to investigate in greater detail the positive and negative implications of using speech in the translation process. The quality of ASR systems in a range of languages has been evaluated (Ludovik and Zacharski 2000; Tufiş, Boroş and Dumitrescu 2013; Duarte et al. 2014), and the optimal implementation of ASR in the area of subtitling has been researched (Romero 2011). The integration of ASR in translator training programmes (Dragsted, Mees and Hansen 2011; Mesa 2014) has been investigated, together with the potential of using ASR to enhance the translator's working environment and increase the productivity in post-editing MT tasks (Moran, Saam and Lewis 2014; Zapata 2014a, 2014b).

Despite these recent studies, though, the use of speech in workflows, whether involving a human typist or an ASR system, seems to have caught on relatively little in the professional translator community as evidenced by two professional surveys conducted in the last 15 years with members of the UK Institute for Translation and Interpreting (ITI) and the Chartered Institute of Linguists (CIoL; see Aparicio, Benis and Cross 2001; CIoL and ITI 2011). Despite the 10-year gap between these two surveys, the same figure of 10% of the respondents (a little over 100 individuals) reported using speech in their workflows, as well as benefiting significantly in terms of productivity and income because of it.

An ideal environment that integrates ASR efficiently allows the professional translator to produce the target text at a much faster pace by speaking it rather than writing it, yet limitations associated with the practical integration of speech processing have led to three scenarios since the ALPAC report: first of all, synchronous speech processing (at the same time as the production of the spoken translation); secondly, quasi-synchronous speech processing (within seconds of the production of the spoken translation); and thirdly, asynchronous speech processing (which takes place minutes, hours, or days after the production of the spoken translation).

The agent processing the translator's speech has also changed gradually since 1966, both regarding the translation and the revision acts. At first, the translation workflow involved human-to-human (HTH) communication — from a human translator to a human transcriber. In recent years, however, the human transcriber has increasingly been replaced by ASR, also known as 'speech-to-text' or STT technology. In addition, the translation revision process which used to involve exclusively HTH communication, from the human reviser to the human translator, is also being impacted on by the latest speech processing technology. There are initiatives nowadays to replace the human reviser by human-sounding, machine-to-human, text-to-speech (TTS) technology, which can be used to read the translated

text aloud, thus potentially triggering enhanced cognitive focus on the part of the translator doing self-revision.

Taking the 1966 ALPAC report, the 2001 and 2011 CIoL & ITI surveys, and the 2016 survey by the University of Leeds Centre for Translation Studies as milestones on a timeline of synchronous, quasi-synchronous, or asynchronous use of predominantly human-to-human (HTH), human-to-machine (ASR/STT), or machine-to-human (TTS) speech processing within professional translation and revision workflows, the pattern in Table 1 emerges.

Table 1. Integration of human and artificial speech processing within professional translation workflows (1966–2016)

Milestones	Speech processing			Ergonomics — degree of freedom of movement on the part of the translator
	Synchronous	Quasi-synchronous	Asynchronous	
1966	HTH		HTH	Complete (synchronous); Restricted (asynchronous)
2001 & 2011	ASR	TTS	HTH	Restricted (synchronous); Complete (asynchronous)
2016	ASR	TTS	ASR	(Potentially) Complete

The last column in Table 1 indicates how much freedom of movement professional translators have gained or lost as a result of the integration of speech processing technologies into their workflows. This aspect is important given that the ergonomics of a translator's work space also influences the quality of the translated output (Ehrensberger-Dow and Massey 2014, 61).

Table 1 illustrates the significant changes in the use of speech processing in translation which have taken place over the last 50 years. In 1966, there was little speech processing technology available, which meant that translators would either dictate the translation to a human typist for synchronous transcription, or record themselves dictating the translation and send the recordings to typists for them to subsequently transcribe it (i.e., asynchronously). While dictating for live, synchronous transcription, the translator's movements were not restricted by having to use any particular piece of hardware or technology. On the other hand, while recording for asynchronous transcription the translator's movements were restricted by the need to be in the vicinity of a fixed microphone.

Several decades later, in the 2000s, the ITI and CIoL surveys found that, perhaps also because of the much lower cost of high-quality voice recording technology, the majority of speech users were now working asynchronously. To a certain extent in 2001, but especially in 2011, ASR technology was considered sufficiently accurate by some professional translators — at least, in the case of English — to be

integrated synchronously into the translation production process. The translator would dictate the translation to the ASR tool which would transcribe it in real time and display it on the translator's computer screen. What is interesting to notice is a reversal of the translator's freedom of movement as a result of introducing new technologies in professional workflows — dictaphones in the asynchronous process, and ASR in the synchronous process. The translators using dictaphones gained complete freedom of movement, but the translators who replaced the human typist with ASR software lost their freedom of movement because of the need to always be in front of their computer screens to check speech recognition quality or troubleshoot software crashes.

During the 2000s, some translators also started to use TTS technology which could be activated shortly after the dictation stage in order to read back what had been transcribed by the ASR software. In this set-up, TTS sometimes replaced the human reviser, just as ASR had replaced the typist. The human support mechanism of the translator was therefore being replaced by a technical support mechanism which was meant to ensure the speed, accuracy and consistency of the translation process and product. In fact, this set-up put even more cognitive pressure on the individual translator, who could no longer rely on other humans to detect and flag errors in the target text.

The relevance of this research is justified by the changes visible in the language services industry, such as the growing dependence on language technologies; the growing restrictions on translators' freedom of movement due to the increasingly complex software set-ups needing continuous on-screen attention; the disappearing support of human transcribers and revisers; the fact that the language services industry has often taken control away from translators, causing them to work on isolated "terms and phrases" (Pym 2014, 126), sometimes missing necessary contexts or even the complete source text; and the absence of new workflow stages designed to counteract some of the negative consequences of adopting ASR for productivity purposes.

3.   Methodology

Two research methods were used to elicit quantitative and qualitative data based on professional translators' personal experience with ASR in a naturalistic setting (Saldanha and O'Brien 2013, 5). First of all, a 20-question online survey was created using Google Forms, with results fed into a spreadsheet. The survey asked 13 quantitative and 7 qualitative questions, and was completed between September and October, 2014, by 45 professional translators contacted through three online professional communities: the Professional Translators and Interpreters (ProZ.com)

LinkedIn group, the memoQ users Yahoo group, and the Speech Recognition for Translators Yahoo group. The participants had different first languages, yet all the questions and answers were in English. More details on the survey set-up are available in Ciobanu (2014).[1]

Despite explicit instructions that the survey was aimed exclusively at current users of ASR technology, four professionals who stated that they had never used or were no longer using ASR also filled it in. Their insights, although presenting a minority view in the context of the survey, are likely to overlap with views held more widely by the 90% of professional translators who are not currently using ASR. These insights are therefore reported in this chapter as well. The codes SN1 to SN4 are used to identify these *non-active* ASR users. When quoting the remaining participants' responses — i.e., the responses of the 41 *active* ASR users — the codes SP1 to SP41 are used to identify Survey Participant 1 to 41.

Secondly, an experiment was designed for professional translators to track their productivity before and after adopting ASR and log both qualitative and quantitative data.[2] Three professional translators working as freelancers were recruited, and each one was provided with a licence for the English-language Dragon NaturallySpeaking (DNS) Professional v13 ASR software. In addition, Logitech USB microphone headsets were also provided to two of the translators. The choice of software was determined by the findings of the survey mentioned above and reported in Ciobanu (2014), which identified DNS as the automatic speech recognition tool used by 100% of the respondents. The professional experience of the translators taking part in the experiment was 2, 6, and 7 years respectively. Two months into the experiment, however, the most experienced professional translator withdrew. The data submitted by this individual was deleted, and a new participant with 3 years of professional experience was recruited as a replacement.

The experiment comprised three phases. During Phase 1 — from 1 July 2014 to 31 October 2014 — the professionals (henceforth referred to as EP1, EP2, and EP3) logged a range of anonymised information about the real projects they were working on. Due to the late recruitment, EP3 only logged work completed during the last seven weeks of Phase 1. All three translators filled in an online form which

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1. Certain findings from the analysis of the quantitative data recorded through the survey have already been published in Ciobanu (2014), and are therefore not repeated here. These include disability information regarding the respondents; proportion of full-time vs part-time translation employment; language(s) used with ASR; ASR tool(s) used; amount of daily ASR usage; and CAT tool(s) used with ASR.

2. The experiment was funded through the University of Leeds Ignite initiative. The three professional translators completing the project received remuneration for their contribution to the study.

stored the entries in a linked spreadsheet. The information submitted concerned the task (back-translation, technical translation, literary translation, revision, other); the time spent on the task; the output in number of words; whether the source text had been sent in electronic format or hardcopy; whether they had used a CAT tool; whether the aim of the task was to: (a) "Create a translation/transcreation/revision ready for publication" or (b) "Create a draft of the final translation/transcreation/revision"; and any other information regarding the nature of the task which was not confidential and could therefore be shared with the present author.

Phase 2 involved each translator installing DNS on their own workstations, followed soon after by attending a 1.5-hour individual software set-up and training session on the use of DNS Professional v13 on 1 November 2014. During Phase 3 (1 November 2014 to 1 February 2015), each translator returned to their customised work environments and continued to submit data about their workflow using the same online tool as in Phase 1. One additional question was included about whether DNS had been used for the particular task logged.

4. Results

The group of 41 professional translators who stated that they were active users of ASR when completing the survey reported having between less than 1 year and up to 45 years of professional experience at the time of data collection — the majority of respondents had been translators for between 10 and 25 years. In addition, 36 out of the total of 45 respondents were full-time professional translators, and 43 out of 45 worked in individual offices, with only two working in a shared office.

The participants in the experiment reported a large number of tasks, hours and words, but their reports did not include the full amount of the work they carried out during that period. A substantial number of projects were confidential and therefore they complied with their contracts and did not share information about such projects. The three freelancers logged 536 hours of work in total, during which they had completed 103 tasks: 82 technical translations, 10 revisions, 4 literary translations, 3 back-translations, and 4 other tasks (which included subtitling, as well as translations that were not of a technical or literary nature). Over the seven months of the experiment, the three translators processed 363,855 source words, sent to them by their clients in electronic format for 100 tasks and as hard copies for 3 tasks. CAT tools were used in 96 tasks; in the remaining 7 tasks, either the source text had been sent as an uneditable PDF or the task involved revising a translation sent by the client as columns in a spreadsheet.

The next sections analyse the empirical data from the perspective of the two research questions: (1) the similarities and differences which appear between

workflows which integrate ASR and those which do not; and (2), the impact of ASR on the productivity of professional translators.

4.1   Similarities and differences between translation workflows with or without ASR

Regardless of the way professional translators envision the development and potential of integrating speech processing technologies into their current workflows, ASR and TTS are here to stay. They are both indispensable *accessibility* tools already built into computer operating systems and available in various forms on recent models of smartphones, tablets, laptops and desktops. Therefore, the first major point is that, without quality ASR and TTS, the door to the translation profession would be firmly shut for blind and visually-impaired individuals. In addition, translators suffering from a variety of other physical impairments — such as repetitive strain injury (RSI) — would also find it extremely difficult to work. In the survey, both SP1 and SP5 reported having a disability affecting the efficient operation of the keyboard and mouse:

> I started using [ASR] because I had a bad arm injury that made typing incredibly painful. I mostly use [ASR] for first draft gist translations and business admin — writing emails, typing, etc. It speeds up these elements a little (you still have to correct it). Mostly I like using it to save my arm (still not 100%) in situations where I have to type a lot. It saves me some time but more importantly reduces pain. (SP1)

From an ergonomic perspective, and regardless of the trigger for introducing ASR into one's workflows, the advantages brought about by this technology are manifold:

> The most important benefit of using speech recognition is a more relaxed translation environment and the ability to keep my eyes on the source text for longer periods of time. The ability to move about, change positions with my hands and generally be free creates a more relaxing work environment. (SP33)

Other survey respondents also supported this view: "[ASR] made my life easier; [it] gives me freedom to move around. No worries. No criticism" (SP21). "I recommend it highly as a means to avoid injuries to the wrists and arms, as well as making translation more enjoyable and more accurate" (SP33). "It is invaluable if you have a lot to get through in a short time as the strain on your arms and shoulders is much less if you use the keyboard mostly for post-editing" (SP34).

When starting to use ASR, however, some translators might find that "some adaptation [is] required, i.e., [it] needs a bit of customising to suit individual needs, but [it] can greatly improve speed and accuracy whilst reducing risk of RSI" (SP20). Translators should not go from one extreme to another, however,

and start subjecting their voices to harmful strain by expecting to be able to speak their translations for as long as they are currently used to typing; integrating ASR comfortably into one's workflows takes time (see Ciobanu 2014).

Having said that, adopting ASR and TTS when physical disabilities do not require it is still unusual — as shown by the low number of users in the 2001 and 2011 CIoL & ITI surveys. This suggests that there are indeed differences between translating with and without ASR, differences that not all professional translators are comfortable with. One of the most important ones is using one's voice instead of the keyboard. This is a skill to be acquired following a change of mind-set, not to mention a choice influenced by the nature of the translation task, as shown in the next section. Another survey respondent made a comment to this effect:

> I think it's useful when it comes to working with temporary or permanent disabilities, but now that I'm regaining the use of my right hand slowly, I use ASR less and less. I think orally translating a written text is not ideal. (SP5)

In recent years, the well-defined and continuous picture of "translation as a process" — which did not involve much technology and had a clear purpose, with distinct human-controlled stages — has been gradually changing. In 2016, translating is often a heavily truncated, overlapping, hurried, and uncertain process. The traditional translation-editing-proofreading (TEP) model continues to be disrupted by flowing online content requiring different treatment (García 2012). In this context, the enhanced functionalities of ASR tools, while appreciated by some professional translators, need a significant adjustment of workflows in order to ensure the high quality of the translation product.

This adjustment, particularly the interruption of the translation process during synchronous translation and editing stages performed with ASR, worries a number of professionals and was summarised by SN1: "a voice recognition system would interrupt the flow of translation. I am also worried about revisiting material previously dictated in order to correct or amend my translation." This is an interesting statement, as it assumes that there is indeed such a flow, which the translator never interrupts. However, another respondent mentioned:

> I tend to translate in stops and starts, and fragments of sentences, changing things and reordering as I go. The end result is often nothing like what I originally type, so what puts me off is the 'mode change' between dictate-with-microphone and edit-with-mouse/keyboard, especially when I'm a fast enough typist for my thought processes. This reordering/fragmentary approach is particularly common when I'm going from German to English, as the word order can differ markedly. If it's a long sentence, I may re-order the German into an English order, before, during or after translating little bits from the sentence. (SN4)

Despite SN1's comment about flow being interrupted, it may actually be the case that translators tend to work more like SN4, and it is simply the change of approach (from typing to speaking) that is the major concern, and not the other reasons mentioned.

It is also worth noting that typing is an activity with an instantaneous result: each key press has a visible effect on the user's screen. Noticing and correcting errors can be done almost at the same time as making them. Dictating with ASR, however, is characterised by a brief delay between speaking into the microphone and seeing the words appear on the screen. Moreover, if one speaks in longer phrases in order to maximise the chances of the ASR system correctly disambiguating homophones, the brief pauses made after uttering the longer phrases are followed by the automatic transcription appearing all at once with varying degrees of accuracy. This can interrupt the speaking flow, as the translator's eyes are drawn to the words that have just appeared on the screen, and the translator's attention is called upon to validate the accuracy of the transcription while also possibly still thinking about the translation of the source sentence. It takes practice and skill to learn to trust the accuracy of the automatic recognition, look away from the screen while translating, and only start the correction process after finishing the full dictation of the translation.

Revisiting and correcting a dictated translation can be easily done with ASR in most translation environments once the necessary voice commands are learnt. In addition, TTS technology can 'speak' the translation out aloud. Replacing the human reviser with even the most capable TTS engine, however, as SN4 reported having done on numerous occasions, still runs the risk of missing errors in the target text caused by the insertion of incorrectly-disambiguated homophones. TTS does not highlight punctuation and capitalisation errors either.

The differences mentioned above regarding using ASR within the translation and revision processes do not necessarily slow down the translator. On the contrary: one of the participants of the experiment described combining two stages of the workflow into one for a project:

> I'm using Trados in conjunction with Dragon which means that I can't use all of Dragon's features, but I thought it was worth it anyway. There is a little in-file repetition and a fairly useless TM provided by the agency. As the text is a contract, it is quite clear and well-written so it isn't too difficult to translate-dictate and I don't have to think too hard, apart from the legal terminology. My usual translation process is: translate the whole text as accurately as possible, regardless of how ugly it is → edit heavily, which usually takes about as long as the rough translation → proofread for style and coherence → final check-through. This time I tried translating and editing at the same time, which I thought would be slower but with a good source text and Dragon it is actually a very straightforward translation (and

hopefully this will save me time in the editing/proofreading process). I find that using Dragon helps this process, as it forces me to read longer phrases, sometimes even segments, otherwise it gets confused between homophones. This means that I can hear my translation aloud when I dictate and I can tell quicker whether I am spouting translationese or good English. Hopefully this results in a better translation the first time round. (EP3)

Furthermore, high-quality ASR can transform the act of translation into sight translation (Agrifoglio 2004), with proven productivity and quality benefits (Dragsted and Hansen 2009). Using ASR to focus less on the computer screen and instead shift this focus to the source text as a whole, as well as all the other cognitive and physical processes and activities that make translation a "multi-activity task which can easily cause cognitive overload and stress" (Ehrensberger-Dow and Massey 2014, 60) can also boost creativity and lexical variation of the target text.

More creative implementations of speech technologies can further transform the act of translation into one of interpreting. Further directions for research would be to investigate the impact of the absence of the time constraints of an authentic interpreting situation, as well as whether a simultaneous interpreting approach would be more appropriate than a consecutive interpreting one. This can be done by combining source-language TTS for source text reception purposes with target-language ASR for target text production. From a physical ergonomics point of view, just being able to look away from the screen while dictating reduces eye strain and leads to a more user-friendly work environment: "I can afford looking out of the window while I'm dictating, which is very relaxing" (SP29).

Working in this new set-up will therefore be in keeping with seeing the act of translation as an intellectual, demanding, and creative process — or "expert task" (O'Brien 2013, 8) — instead of a simple word transfer activity. It is also likely to address the literalness that can be brought about by extensive use of CAT and MT (Schaeffer and Carl 2014; Zampieri and Vela 2014). The current tendency is to pre-translate source segments using TM and MT resources at the beginning of a project, and subsequently post-edit these suggested translations. Currently, the most frequently used MT engines are statistical ones (SMT), which approach the translation of texts segment by segment in a literal rather than an idiomatic manner. When these technology limitations are combined with increasing time pressures on professional translators, it is not surprising that post-edited translations are more literal and less idiomatic than when the professional linguist translates from scratch (García 2011). Translation with ASR may once again become what transcreation is nowadays considered to be: "a type of creative translation which clearly differs from rendering a literal translation into the target language, and rather favours achieving a particular effect in the target audience" (Fernández 2014). Domestication strategies (Venuti 1995) may also see a more general revival

— they are currently believed to be one of the defining characteristics of the process of localisation (Jiménez 2013, 14), but feature less when discussing translation in the current market.

The quality of the translated text has a significant impact on the nature and speed of the revision workflows. On the one hand, the translated output is sometimes reported to be less literal, which in turn leads to faster checks: "I would definitely agree that a text translated using Dragon rather than keyboard typing tends to be more natural-sounding in terms of style and structure" (EP1). On the other hand, the oral mode of working can also result in the use of an inappropriate register in the target text, which would take additional time to correct: "I also find I tend to translate more colloquially when speaking, so sometimes [I] have to edit for a more formal style" (SP34). In addition, ASR can introduce incorrectly-disambiguated homophones into the translation, which require much more thorough revision workflows to identify and correct problems. Writing about the peculiarities of dictating in a Romance language, one of the survey respondents highlighted the fact that:

> especially with French (a language with lots of homophones and mute [silent] letters), you have to be extra vigilant [because ASR] makes spelling mistakes (singular/plural, wrong conjugation, homophones, etc.). I try to correct the mistakes as I go along and I spend more time proofreading. (SP6)

The process of spotting the new kinds of errors that ASR tools introduce is difficult not only in the case of Romance languages, though. One of the participants of the experiment, who translates into English, thinks that spell-checkers are no longer useful tools when using speech recognition technology to dictate the target text:

> for now, I have to edit translations even more carefully when I've done a draft with Dragon than otherwise (I thought I would notice errors as I went, but I find that I miss most of them until I come to the editing stage)… perhaps this is because as I am dictating the translation, I am far less focused on the screen? (EP1)

SP39 shared an identical concern, namely "That I don't pick up on a mis-dictated word, as the concentration isn't on the screen. I worry that sometimes it may increase the time needed to review the first draft." This main kind of error introduced by ASR technology (misrecognised homophones) was dubbed "speakos" by SP10 and the difficulty of correcting other translators' errors was brought to the fore: "It can be difficult to guess what was meant by other people's speakos (when they are detected!); [they are] much worse than OCR [Optical Character Recognition] or typing errors" (SP10). This observation, combined with SP18's warning that "you need to really, really pay a LOT of attention to proofreading afterwards, as homophones are a PLAGUE to spot", emphasises the vital importance of enhancing traditional revision processes when adopting ASR.

4.2 Impact of ASR on the productivity of professional translators

Within the last 50 years, the ALPAC report (Pierce et al. 1966) as well as the UK ITI and CIoL surveys (Aparicio et al. 2001; CIoL and ITI 2011) have mentioned the positive impact on productivity associated with introducing speech recognition into the translation workflow.

In the survey of the present chapter, 36 out of the 41 respondents who used ASR reported productivity gains (two saw no productivity gains, and three were still evaluating ASR impact). According to the data submitted, the median productivity gain was 35%, with top and bottom extremes of 500% and 10% respectively (Ciobanu 2014). SP15 reported "enormous productivity/daily output increase for certain types of translation", SP18 translated "much, much faster", SP23 thought ASR was "Excellent. I wouldn't be without it.", and SP11 even stated:

> I count myself fortunate to have worked as a translator in a decade when Trados and Dragon appeared in the marketplace and enabled substantial increases in productivity coupled with a reduced risk of physical problems (RSI, etc.). To sum up, I have found that [ASR] boosts both the quality and quantity of my work. I use [ASR] at every opportunity — such as dictating my words here. (SP11)

Even before the start of the translation stage, source file preparation, such as converting uneditable scanned PDFs, which pose problems to current OCR engines, into editable formats compatible with CAT tools can be done faster with ASR than by typing — as also stated by one of the participants of the experiment (EP3).

The positive feedback from the 36 survey respondents should be put into perspective, however, as there were still four risk factors reported to impact negatively on productivity, output quality, and ergonomics. These are (1) the availability of powerful computers and fully compatible translation environments; (2) the suitability of the source text; (3) the absence of thorough revision processes; and (4), the experience of the translator. Three of these factors were summarised by one of the respondents as follows:

> [increased productivity] depends crucially on the kind of translation. It works best for free-flowing speech. [It is] also heavily dependent on the quality of the headphones, and you need to check your work in a different way. (SP3)

Let us consider them in order. The first factor — the compatibility between ASR and the translation environment combined with the availability of a powerful computer to run this advanced set-up — was described by SP14 as follows: "I find [ASR] hard to use when combined with CAT, so I use it only when having to type longer texts from scratch, or when the segments are at least longer chunks of running text." In addition, SP3 mentioned the need to use high-quality headphones, and SP15 and SP35 completed the picture: "to use the voice commands

consistently, you would need a LOT of RAM" (SP15). As SP35 put it: "It all depends on the computer and Internet access. If I am underpowered it is faster not to bother with speech recognition."

The obvious need of increasingly powerful workstations to handle increasingly powerful CAT, MT, and ASR tools led me to include a question in the survey about how many professionals were using cloud-based word processing and CAT tools. The result was underwhelming: only one respondent out of 41 had used ASR to dictate into a cloud-based word processing environment, and only 11 of 41 had used ASR to dictate into a cloud-based CAT tool. However, when local resources are not sufficient to run complex applications, using cloud-based services can be a viable alternative. In addition to the advantage of not needing much more than a reliable Internet connection to access these services, other advantages include securely backed-up storage. Nevertheless, some of the confidentiality agreements which translators sign with their clients prevent them at times from using cloud-based services — especially cloud-based MT engines. This can be one explanation for not making more of these online opportunities.

Specifically on the topic of ASR, cloud-based options such as Google Voice, Dragon Dictate, Apple Siri, or Microsoft Cortana support many more languages than the handful offered by Dragon NaturallySpeaking and the quality is acceptable. Tufiş et al. (2013, 2–3) tested Google Voice with Romanian, which is a lesser-used language, and for which the amount of training and testing data is limited and non-standardised. They reported accuracy rates between 92% and 96%, depending on ambient noise and the clarity of the speaker's pronunciation. This is very encouraging news for the wider community of translators, as it signals a significant leap in just a dozen years from up to 30% error rates reported in Ludovik and Zacharski (2000, 293).

Second, when evaluating the suitability of the source text, the survey respondents advised considering the text type, difficulty of source content (including terminology), file format, and number of tags needing to be placed in the CAT tool. In the words of SP11:

> [the productivity increase] varies with the nature of the document. If [working on a] flowing text (e.g. marketing document, literary work), [then] productivity [is] up by 30%. If [working on a] technical text with tables, abbreviations, etc., [the productivity increase is closer to] 10%.

SP12 also wrote along the same lines: "[productivity] depends on the task: [ASR] saves 30% to 50% time on longer fluid sentences and complex words (e.g., medical). But it's no help at all for short bullets, [or] corrections." SP19 said: "With some texts (longer sentences in particular and without new terminology) I can achieve double or triple the output (first draft only)", while SP40 confessed: "I don't use it

for all texts ([e.g.] those with complex vocabulary which need more training, or with many tags)". These tags are important nonetheless and must be preserved because they maintain the layout and formatting of the files being translated.

Third, as already discussed in the previous section, all the respondents agreed that high quality could not be achieved by using ASR without also having extremely thorough revision processes in place. All productivity gains made by dictating the first draft of the translation were thus reduced to some extent by observing a comprehensive revision stage. SP34 mentioned that "I probably draft about double the volume. However, it takes longer to edit than a keyboarded translation", and SP18 stated that "[I translate] four times as fast, but reviewing takes more time, eating up [to] half of that."

As a fourth risk factor, survey participants suggested that novice translators were less suited for ASR than experienced ones. SP31 stated: "I think maybe you have to be a relatively experienced translator to use it well, as it helps if you speak in full sentences rather than look up every other word." Some versions of ASR can be used to streamline the process of looking up terminology or conducting research online, thus minimising interruptions to the translation flow. However, confidence in using these functionalities comes with practice. Extensive practice and resilience in the profession are also likely to be needed in order to deal with another downside of accurate speech recognition and increased productivity: the perception of increased pressure on the translator. As SP34 put it: "I find [ASR] tiring to work with, which is why I don't do it all day; the faster transcription probably means I have to think faster as well". Workflows need therefore to be adjusted to enable translators to take regular breaks from the sustained concentration required to dictate and simultaneously check the accuracy of the transcription.

Compared to the statistics submitted by the survey respondents, data generated by the experiment participants was quite different: the impact of ASR on productivity was in fact different for each one of them even when working on the same text type. In technical translation tasks (by far the most frequent type of task performed during the experiment), EP1 recorded a notable decrease in productivity of 37% (in words per hour) after integrating ASR. EP2, on the other hand, recorded a small increase of 8%, while EP3 achieved a substantial increase in productivity of 164%. More research with larger numbers of participants is in order before any general recommendations can be made, however.

In addition, the conclusions drawn from the analysis of this data also need to take into account at least two already mentioned technical risk factors: whether the translator's CAT tool supports all the ASR functionalities, and whether the source file received from the client has numerous tags to deal with. ASR tools are optimised for dictation and can also be used productively for editing, yet they still come up against similar challenges to those humans face when heavily-tagged

documents need to be processed. Reflecting on this aspect, one of the experiment participants described the experience of inserting tags when using the CAT tool memoQ in the following way:

> memoQ makes it extremely easy to insert tags [with a keyboard] (press Control and select the string of tags to be placed); this doesn't work so well when using voice recognition. Inserting tags while typing is a very fluid process, but I think that inserting tags by using voice recognition would slightly slow down the process because you either have to go back to the keyboard or the mouse to do so (saying 'press Control' doesn't seem to open up the drop-down menu of tags). (EP3)

It therefore seems realistic to expect most productivity gains to occur when combining speech recognition technologies with efficient keyboard skills. This observation is consistent with previous research suggesting that translators are faster when combining voice and keyboard input than when using either speech or the keyboard on their own (Bangalore 2014). Of the 41 survey respondents, 37 reported actively using ASR in combination with the computer keyboard and mouse.

For those translators who also offer revision and review services as defined by the British Standards Institute (2006, 2015), in order to stay competitive (Dunne and Dunne 2011, 2), integrating speech technologies into their workflows can yield quality and productivity benefits. The industry metrics for these tasks are between 200% and 400% higher than the word count expected to be translated daily (Matis 2010). Speech processing has the potential to enhance productivity in the review and revision stages due to the ASR editing commands, as well as target-language TTS availability for additional checks. Although this latter use of speech technology is still in its infancy, six of the survey respondents mentioned employing TTS alongside CAT tools in what SP23 called the "text-to-speech option for revising/QA [Quality Assurance]". Although not an ASR user, SN4 stated that "I always use text-to-speech as part of my review process", while another respondent also reported:

> I always use [text-to-speech] (although I have to say I don't usually use the built-in TTS in DNS but a separate piece of software). No-one else in my circle of contacts has ever come across using TTS for revising before (except the person who first told me). It's indispensable for me now. (SP23)

Similar ASR and TTS techniques can in theory also be applied to the task of post-editing MT, a controversial service which nevertheless is still offered by certain linguists — according to recent research, this activity can represent up to 80% of the workload of some professional translators (O'Brien 2014), with significant productivity gains brought about by ASR (Moran et al. 2014). However, only two of the survey participants indicated an active use of speech technology in this scenario.

Certain versions of ASR software enable translators to assign voice commands to CAT and other software functionalities and commands, such as confirming segments, performing concordances, running QA checks, etc. Given the growing number of CAT software functionalities — each one with its unique keyboard shortcut combination — as well as the fact that a sizeable subset of translators work with several CAT tools due to client requirements, the possibility of pro-gramming user-friendly voice commands instead of learning arbitrary keyboard shortcut sequences is another productivity enhancement. Having said that, the vast majority of survey respondents still preferred using the keyboard shortcuts for the most frequently used commands.

Outside of translation workflows, respondents have also reported to benefit from the use of ASR in frequently performed additional tasks. For example, 27 of the survey respondents stated that they used ASR for dictating, managing their emails, and at least one of the following activities: transcribing audio (both re-corded files and live speech by using the technique of respeaking borrowed from the subtitling profession, see Romero 2011); writing reports, blog entries, dictating minutes of meetings; searching the web; inputting information into databases; and even learning to speak more clearly.

5.   Conclusions and future work

This chapter has contributed relevant empirical data generously volunteered by professional translators using ASR in a variety of effective ways in their everyday work. In addition to an online survey, an experiment was designed to extract in-formation at the time of introducing ASR into the professional workflow before "the automatisation of expertise" (O'Brien 2013, 9) would set in.

The findings show that, in 2016, advances in both ASR and TTS allow for more flexible, translator-centred, ergonomic workflows and workspaces. In the project preparation stage, ASR is now indispensable to some translators when they have to transform texts sent by clients in uneditable formats (such as scanned PDFs) into editable source files. In the translation proper stage, ASR is used for dictating the target text, with increased accuracy. More languages are supported every year, thus making sight translation a growing reality for translators. On-the-fly vocabulary training of ASR tools such as Dragon NaturallySpeaking, combined with a variety of text-editing voice commands, can also lead to increased transla-tor productivity.

An even more interesting development is the possibility of combining both of the currently available speech technologies: ASR and TTS. Multilingual TTS can be integrated during the translation process in two ways (Ciobanu 2013): first

of all, in the source text language, for reception purposes; secondly, in the target text language, for translation revision purposes. Although not yet a mainstream application of multilingual TTS, this change of working mode can bring the act of translation much closer to that of interpreting, thus opening new avenues of research.

Despite the need for additional research, a more balanced picture of the impact of ASR and TTS on productivity is gradually emerging. When introducing such tools into their workflow, professional translators need to have realistic expectations and test whether all their functionalities are supported by all their other language technologies. ASR and TTS can both enhance productivity at all stages of the translation workflow, but the quality of the output, the real productivity gains, and the translator's ergonomics all depend on designing enhanced processes to mitigate important risk factors such as the need for a very powerful technical set-up, the suitability of the source text, the need for very thorough revision processes, and the level of experience of the translator. If these risk factors are not addressed, ASR can introduce new kinds of errors into the target text, which are much more difficult to identify and correct by the same translator making them, let alone another translator working as a reviser in today's increasingly multimodal, collaborative translation environments.

Researchers have already started to investigate the impact of multimodal environment set-ups on source text preparation and productivity (Zapata 2014a, b), while others are focusing on a return to more traditional approaches, including the potential of integrating technological innovations which replicate classic translation production media such as pen and paper (Alabau and Leiva 2014). When it comes to the revision process, the present author's experience with European Space Agency workflows signals a change in some institutions from the traditional, asynchronous, technology-mediated revision process to a synchronous, HTH approach. In this scenario, the reviser no longer uses tracked changes or comments in a word processor to mark suggestions for improving the target text. Instead, revision becomes a more efficient, synchronous process involving the reviser and translator working together in the same room. The reviser reads the target text aloud from a hard copy, looking for grammatical and stylistic issues, while the translator listens to the reading of the target text. At the same time, the translator silently reads the source text and compares the two in order to identify factual inconsistencies.

Such synchronous collaborative revision practices may hold the answer to producing high-quality translations more efficiently. Given that some lesser-used languages, such as Romanian, have ASR engines trained on language models built from language corpora containing both standard and non-standard language, enhanced collaborative revision practices are needed in order to identify and correct

all non-standard or deprecated language usage in the ASR output. All of these research topics have a wide range of implications, from enhancing the quality of professional workflows and translation output to enhancing translator training programmes worldwide, and addressing issues raised by the professional early adopters at the forefront of technological change.

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Processes of what models?

On the cognitive indivisibility of translation acts and events

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In a recent article, Chesterman (2013) elaborates on Toury's (2012) distinction between 'translation acts' (cognitive process) and 'translation events' (sociological process), and adds a third, superordinate level of 'translation practices' (cultural, historical, anthropological). Such successively nested models seem intuitively correct when applied to categorizing different approaches within translation studies. However, when used within cognitive and psycholinguistic approaches, such categories are found to lead to flawed reasoning. When Chesterman's proposal is considered from perspectives such as the level of abstraction and the dynamicity of the models, many examples provided as illustration turn out to be misleading. The bulk of such errors points to an implicit notion of cognition which is contested by a growing number of researchers within translation process research: a view of thought as an internal, neutral, and logical brain process, mainly focused on problem-solving.

Keywords: translation act, translation event, translation process research, cognitivism, situated cognition, social cognition

> If one does set out to construct a model, I conclude, it is important to be clear about what kind of process one is seeking to model; i.e., about what kind of model one is building, based on what facts and/or hypotheses, and what assumptions.
>
> (Chesterman 2013, 166)

The goal of any discipline is to understand and hopefully influence a piece of reality that a community of researchers has agreed to chip off in certain ways, for certain purposes. Since reality itself cannot possibly be thought, we use models instead where reality is abstracted. This is why models often are representations of

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such reality, although models may be of very different kinds and not always representational. In 2013, Chesterman published a paper with the title "Models of what processes?" to which this chapter tries to respond. In a nutshell, Chesterman elaborates on Toury's (2012) notions of translation 'act' and translation 'event'. He suggests several kinds of models for the cognitive process of translating and discusses several examples of such models for both cognitive and sociological processes.

I would like to claim that the notions of ACT and EVENT in Chesterman's proposal are actually models themselves and that they may be adequate to map some of the main areas of translation studies, but that using them within the cognitive study of translating and interpreting would be misguided. In order to flesh this out, I will discuss some mismatches between Toury's and Chesterman's views, and will try to show that important perspectives such as the level of abstraction, the range of coverage, and the dynamics, origins and goals of Toury's views on these concepts throw a different light on Chesterman's models of translation ACT and EVENT. Implicit in Chesterman's approach, I will argue, is a view of cognition that is no longer shared by a growing number of researchers in the area. First, I will summarize Chesterman's (2013) paper. Nevertheless, readers of the present chapter are encouraged to read Chesterman's paper in full, because it includes many valuable points that this summary ignores in order to concentrate on the aspects I would like to discuss.

1.   Chesterman's arguments in brief

Chesterman (2013) elaborates on Toury's (2012) more or less explicit distinction between translation ACTS and translation EVENTS. The translation act would refer to the cognitive process, whereas the translation event would be the social framework within which the translation act would take place. In other words, the event would be the sociological or situational context of the act (Chesterman 2013, 156). Chesterman adds a third dimension, that of translation *practice,* where translations would be studied within a "larger process of historical and cultural evolution, marked by changing traditions, norms and fashions, the careers of major influential translators, and so on" (p. 165). He then proceeds to discuss the concept of MODEL in the philosophy of science and settles for an understanding of models as "basically systematic descriptions, descriptive hypotheses, which claim to *represent* something" (p. 157). Thus, a model is "a preliminary kind of theory, one which claims some relation of similarity with the object that is modeled; a model, on this definition, purports to be isomorphic with its object, in some way" (p. 157).

Against this background, Chesterman lays out three kinds of models for the cognitive processes in translating, or translation acts, that are also said to draw on

Toury's notions of translation problem, which Toury dubbed PROBLEM$_1$, PROBLEM$_2$ and PROBLEM$_3$ (2012, Chapter 2). Chesterman's models would respectively be of *virtual, reverse-engineered,* and *actual* processes. Based on intuition or experience, virtual models would be pedagogical or advisory/prescriptive in nature, and they would show the possible strategies to translate a given (potentially problematic) text segment. Examples for such models would be Nida's (1969, 484) three-step process of analysis, transfer, and restructuring, and Nord's (1991, 36–40) *looping* model, where translating is portrayed as a circular path containing a number of smaller circular movements or loops between source text (ST) and target text (TT), and monitoring checks between both texts and their respective environments and situations, between various steps of analysis, and between such ST analyses and TT synthesis. Another example of a model of virtual processes would be Leppihalme's (1997) approach to solving problems in the translation of allusions.

Reverse-engineered models, according to Chesterman (2013, 160), "aim to reconstruct the possible or even probable route taken to a given factual solution (or set of solutions) […]." Gile's efforts models (2009, Chapter 7) — proposed to describe when interpreters are faced with the difficulties of (simultaneously) coping with the cognitive demands of ST listening and analysis, memory, TT production, and the coordination of all three — would be instances of reverse-engineered models "because it looks like a possible representation of conditions for a reverse-engineered process" (Chesterman 2013, 160). The third kind of Chesterman's models of the translation act — models of actual processes — aims to represent cognitive processes in real time, i.e., as they unfold. They are, therefore, descriptive, rather than prescriptive, in contrast to virtual processes; they are not reconstructed or retrospective, as in the case of reverse-engineered processes, but observational. Chesterman exemplifies them with the inductive models by Krings (1986) and Lörscher (1991), where data were collected with think-aloud techniques (Ericsson and Simon 1980), and Jakobsen's (2011) and Carl's (2012), who combined keylogging and eye-tracking.

Chesterman also ventures into models for translation events. Here, the examples he provides include Bly's (1984) very personal account of how he translated sonnet XXI from the first series of *Sonnets to Orpheus* by Rilke, in eight steps. Sager's (1994) four-stage model — which includes (1) specification (contextualization and planning); (2) preparation (compilation and attuning of resources); (3) translation; and (4) evaluation (revision) — is said to be virtual because of its idealized sequentiality. Englund Dimitrova (2005) would also offer a model of the translation event, with three phases: initial planning, text generation, and revising. Other examples of event models include those implicit in Skopos theory (Reiß and Vermeer 1984) and in the Theory of Translational Action (Holz-Mänttäri 1984), the nexus model (Koskinen 2008) and some others based upon Actor-Network Theory (an introduction to this framework is found in Law 1992).

2. Problems with Toury's problems and the attributes of the models

In his discussion of TRANSLATION PROBLEM, Toury (2012, 35–46) distinguishes three *contexts of expert discourse.* In each one of them, he claims, the very notion of PROBLEM acquires different shades of meaning and is used for different purposes. However, Toury makes it explicitly clear that he will not distinguish between levels, phases, or kinds of problems (p. 37). Instead, he seems interested in the very nature of the overall notion of PROBLEM when used speculatively, in terms of translatability (PROBLEM$_1$); when used intro- and retrospectively, in an attempt to trace and explain why a certain solution was arrived at (PROBLEM$_2$); and when observed in somebody else as it dynamically unfolds through interim solutions and reflections (PROBLEM$_3$). As to the differences between these three ways of approaching translation problems, Toury suggests that PROBLEM$_1$ is abstract and potential (as posited often in the literature in terms of translating a linguistic feature or a certain kind of text segments), whereas PROBLEM$_2$ and PROBLEM$_3$ are concrete and reconstructed. In addition, PROBLEM$_2$ is a one-off post-hoc reflection whereas PROBLEM$_3$ is observational and processual (in that it unfolds in time). Chesterman engages in a close reading of Toury's argument but adopts slightly different views in some respects, as discussed below.

2.1 Translation acts

Chesterman claims that his kind of models devoted to virtual processes relates to Toury's PROBLEM$_1$ but Toury concludes that

> [...] there is no way TRANSLATION ACT$_1$ [corresponding to PROBLEM$_1$] can be simulated, simulation being the representation of a certain act through the use of an act of a different kind, in a more or less controlled environment, with a reduced risk of having to bear some consequences. Once again, TRANSLATION ACT$_1$ is no act at all, only a theoretical concept. (Toury 2012, 40)

According to this, PROBLEM$_1$ can hardly be the basis for any model of (real) cognitive processes. In any case, the examples Chesterman offers to illustrate the category of virtual processes seem to be of different natures, when compared both to Toury's notion and to each other. On the one hand, Nida's (1969) and Nord's (1991) models do not focus on any given text segment, but rather on the whole translation process, so that their levels of abstraction are very different. Nida's formulation of the translation process as comprising analysis, transfer, and restructuring is so generic that it can hardly be thought of as a description of the

way people translate.[1] Nord's looping model feels much more realistic but it is in no way either prescriptive or pedagogical, as Chesterman's virtual models are suggested to be.

On the other hand, Leppihalme's (1997, 106–107) problem-solving flowcharts for translating allusions seem to be closer to Chesterman's intended models for virtual processes: they apply to (micro) problem categories — several kinds of allusions — and their goal is clearly pedagogical (e.g., p. 108, Chapter 6). In her flowcharts, translation strategies have been ordered in successive steps according to a theoretical principle — Levý's (1967/2012, 90) *minimax* principle of maximum effect with minimum effort — and the amount of effort associated with each one has been *presumed,* so that the hierarchy of potential solutions is *logically* ordered, the way Toury (2012, 41) suggested. Yet Leppihalme's (1997, 5) flowcharts had actually been *reverse-engineered* from a corpus of some 700 allusions from more than 200 texts.

Incidentally, Mayoral and Muñoz (1997) coincided in time with Leppihalme (1997) in suggesting a flowchart to guide the translation of institutional names in legal and administrative documents. The proposal was based on data from an undergraduate thesis by Eva del Águila at the University of Granada, who compiled an ad-hoc corpus of several hundred real cases. Thus, as in the case of Leppihalme's, the model had been reverse-engineered strictu senso, i.e., reverse-engineering was applied to create the flowcharts, although reverse-engineering is not the goal of these charts. In other words, Leppihalme's flowcharts were reverse-engineered, but they are not for reverse-engineering but to help to find solutions in decision-making. From this moment on, I will distinguish between Chesterman's *reverse-engineering* models and models that *have been reverse-engineered.* The bottom line here is that both Leppihalme's and Mayoral and Muñoz's proposals cannot be said to be speculative, as Chesterman claims for the first case and would probably claim for the second one, and definitely not abstract-theoretical in Toury's sense.

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1. Nevertheless, Nida's model makes much more sense when the historical milieu is taken onboard, with generativism on the rise and translating overwhelmingly considered a mere code-switching operation. Nida's proposal seemed to react against a view of translating as only "a more complicated form of talking or writing, in which one decodes from one language and encodes into another" and warned: "It should be quite evident that the following description of translation procedures can only be sketchy at best" (Nida 1969, 483–484). Nida's model might be both a *minimalistic* idealization — because he may have attempted to include only the core causal factors which give rise to a phenomenon — and a *Galilean* idealization, because with such a reductive approach he deliberately introduced distortions in the theory, probably with the goal of simplifying them in order to make it tractable (cf. Weisberg 2007). For instance, Nida does not mention any ST chunking, but he obviously could not believe that anybody would analyze, transfer and restructure long texts such as the Bible in one go.

As mentioned above, for Chesterman (2013, 160), Gile's efforts models are instances of what I now call reverse-*engineering* models. Chesterman correctly states that Gile's efforts models allow researchers to depart from a given error with the aim of determining its likely causes. It is thus a potentially predictive model because, in principle, it can predict that the presence of certain conditions or aspects of the decision-making process will increase the probability of such errors. But the parallel stops there.

First, Gile's efforts models are not reverse-engineering models in that they do not decompose the cognitive act of translating into successive steps. They do not allow one to "speculate on the most plausible sequence of actions or decisions," which Chesterman (2013, 160) presents as characteristic of reverse-engineering models. In order to do so, we might want to use, for instance, the sequential model that Gile introduces in Chapter 5 in the same book: a streamlined, idealized guidance tool targeted at translation students (Gile 2009, 101) that feels very much like the models of virtual processes Chesterman suggests. Toury (2012, 43), however, notes that the speculative and retrospective nature of the account of translation ACT$_2$ — which is tentatively established by coupling some SOLUTION$_2$ with a given PROBLEM$_2$, and inspires these kind of models in Chesterman's paper — should not be used as a starting point and framework for research in general because it omits self-monitoring, and perhaps some other, equally important factors.

Second, Gile's efforts models are "models of operational constraints, not architectural models, insofar as they do not postulate a particular mental structure and information-processing flow" (Gile 1999, 154). There is thus no isomorphic relationship between the model and the cognitive process, as Chesterman suggests is typical of the models he describes in his 2013 article, and therefore the label 'model' is perhaps not the best choice for it.[2] In fact, Gile himself (1999, 154) states that it is just an operational *tool,* and that it is "not in direct competition with architectural models, at least as long as architectural models cannot make operational predictions." Gile (2009, 158) insists the efforts "models" are *conceptual frameworks* for trainers and trainees, a set of *constructs* for explanatory purposes. The efforts models let researchers look for explanations of errors but cannot say anything about correct solutions beyond the platitude that "everything is working ok." Thus, it cannot do half of what Chesterman's reverse-engineering models would be expected to do, namely find out how *a solution* was arrived at, rather than only explain a mistake.

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2. Alternatively, we might consider Chesterman's models *mechanistic,* for they seek explanations that refer to parts and processes, whereas Gile's efforts models are *functional,* in that they seek explanations related to functions and goals.

As for Chesterman's third kind of models, none of those he discusses seems for him to be completely satisfactory to model the cognitive processes of translating (2013, 161–162), at least in full. He finds that Jakobsen's (2011) micro-cycle in six steps overflows the translation act to include elements of the cognitive event (I return to this point below). Krings' (1986) model is just a grouping of types of strategies into five categories: comprehension, retrieval, decision-making, monitoring, and reduction. Lörscher (1991) pins down more than 20 elements or building blocks of translation strategies — such as problem recognition, search for a solution, preliminary solution, and the like — but he focuses on problem-solving and does not represent the whole of the translation act. Carl's (2012) computational model of the cognitive process of translating shows promise but so far it only deals with "unchallenged" — problem-free, routine — translation, i.e., exactly the opposite of Lörscher's model.

However, Chesterman's criticism is unwarranted. No matter how small the chosen chunk of reality is, the starting point to build a model is the very aim of learning something about that reality, and this leads to abstraction, where much detail, potentially secondary variables, contingencies, and so forth are simplified away. No model can possibly include all aspects, factors, and details of its object of study. Thus, whereas it is true that the models mentioned in the previous paragraph are partial depictions of the cognitive processes involved in translating, there is nothing wrong with that. Using multiple or alternative partial models is the norm in areas of research as diverse as climate change and genetics, and it may indeed be very productive in science to reach different solutions that can later be contrasted (cf. Gentner and Gentner 1983). Multiple partial models are used even when reasoning about a physical device (de Kleer and Brown 1983, 285–287) and is also usual for translation trainees in their thinking about translation (cf. Presas and Martín 2014) — I would venture to say that this is also true of translation scholars.

Be it as it may, it is difficult to discern why Chesterman chose these models over other possible candidates. Toury (2012, 43) underscores the importance of *interim replacements* (interim solutions, translation candidates) and *reflections* as the primary source of information to apprehend TRANSLATION ACT$_3$ (corresponding to PROBLEM$_3$, Chesterman's models for actual processes), and seems to assign lesser (supportive) importance to data-collection techniques such as keylogging and eye tracking. Some approaches to modelling the translation act, such as Englund Dimitrova's (2005), do mention 'provisional labels' related to reflections (p. 108), and provisional solutions with a functional role related to memory offload (p. 104).[3] Alves and Vale (2009, 257) consider the set of interim solutions plus the

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3. Chesterman (2013, 164) does mention Englund Dimitrova's (2005, 4–5, 19–32, 230–231) distinction of initial planning, text generation and revising as a model of the translation event, but

final one a *macro translation unit,* defined as "[…] a collection of micro TUs that comprises all the interim text productions that follow the translator's focus on the same ST segment from the first tentative rendering to the final output that appears in the TT."[4] From this account, it follows that the models in Englund Dimitrova (2005) and Alves and Vale (2009) are closer to Toury's original formulation and might have better exemplified Chesterman's models for actual processes.

In sum, Chesterman (2013, 158) suggests three kinds of models of translators' cognitive processes but he incurs several modeling problems (logical, categorical), both with respect to Toury's original approach and to the logical fit within and between his own models. It is, however, not clear what Chesterman means when he states that his model types are *based on* Toury's (2012) reflections on different ways to approach or study translation problems.

2.2 Translation events

The examples Chesterman offers as models for translation events — e.g., Bly (1984); Holz-Mänttäri 1984; Reiß and Vermeer (1984); Sager (1994) — are also somewhat disparate in terms of category and dynamics. Chesterman comments that Bly's (1984) model is both a representation of an actual process and a virtual model, because it offers prescriptive "advice" (p. 164). Bly's eight stages or steps are also in part both introspective and retrospective, so they also share some characteristics of reverse-engineering models.[5] That a given instance may display characteristics of all suggested categories should obviously be a cause for alarm, but Chesterman does not explicitly state that his three model categories may apply to translation events too, and he probably did not mean them to. Irrespective of this conjecture, Englund Dimitrova's (2005) model was discussed above as a good example of a processual perspective on the translation act. Indeed, her discussion

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there is a clear mismatch between Englund Dimitrova's focus on overall phases in translators' (personal) cognitive processes, as evidenced by her comments on the impact of computers on such phases, and the sociological nature of Chesterman's translation event. Englund Dimitrova's approach seems rather closer to a wider notion of cognitive processing (in that it includes interacting with the computer), such as the one advocated here.

4. *Micro translation units* are defined on the same page (Alves and Vale 2009, 257) as "[…] the flow of continuous TT production — which may incorporate the continuous reading of ST and TT segments — separated by pauses during the translation process as registered by key-logging and/or eyetracking software. It can be correlated to a ST segment that attracts the translator's focus of attention at a given moment."

5. It is worth noting that Bly's (1984) model implies a notion of word-for-word translation as a point of departure (Jin 1991), reminiscent of Nida's (1969) model.

of her model (pp. 21–33) makes it clear that she is adopting a cognitive perspective on the whole task (see also note 3). It is also a model based on empirical data, as opposed to Sager's (1994) model, which draws solely on the experience and the knowledge of its creator. In spite of this, Sager's can also be thought of as a general, deductive or retrospective *cognitive* model.

The rest of the examples that Chesterman suggests are definitely social — probably akin to the functional branch of descriptive translation studies — but they are still lifes where the very complex dynamics of the interacting agents and factors is nowhere to be seen. Skopos Theory and the Theory of Translational Action merely widen and spell out the list of relevant agents and their roles in the translation process.[6] Koskinen's (2008, 44) nexus model places EU translators as a group in center stage and weaves a net of internal and external influences around and through contact points with other EU and non-EU institutions. Models based on Actor-Network Theory (ANT) similarly focus on ties and influences within a network and how a network as a whole behaves like an entity. In ANT models, network nodes do not have to be animate; that is, as noted by Chesterman (2013, 165), all kinds of electronic resources may feature as nodes. Thus, ANT models bring about an improvement on a simplistic model of an isolated, (micro-)cognitive act in that they may closer resemble real translation events involving professionals in developed countries, but they are still images of a state of affairs. They all look more like an organizational chart than like a roadmap or a 'narrative' (see Hokkanen and Koskinen, this volume), because no actual processes are captured in them, but rather the relationships between agents that shape such processes. In short, these sociological models are not process models, for they do not capture the dynamics of translation events.[7]

So why is it that Chesterman's models can be objected to on the basis of the preceding remarks? My take on this is that all these models try to fit into a more basic matryoshka (Russian doll) model in which translation acts are nested into translation events which, in turn, are nested into translation practices, in a neat and tidy relationship of complementarity and containment (cf. Toury 2012, 67). This is intuitively appealing, and also a convenient approach to organize research

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6. Celia Martín drew to my attention that Holz-Mänttäri's model may be said to include parts of the dynamics, for example, when she deductively describes co-adaptation processes between an expert translator and her client (Holz-Mänttäri 1984, 63).

7. Another interesting approach along these lines is offered by Risku, Rogl, and Pein-Weber (2016), who apply Social Network Analysis to study the structure of networks of a freelance translator, a translation department in a technology company, and an online translation network. For the conceptual foundations of a program to capture the cognitive dynamics in translation events, see Risku, Windhager, and Apfelthaler (2013) and Risku (2014).

efforts *within translation studies as a whole.* However, the three-fold division of process models ceases to be helpful when applied *within cognitive and psycholinguistic approaches* to translation and interpreting because it inherits several assumptions about the nature of cognition and the scope of analysis from outdated cognitivist approaches that many current researchers would not subscribe to. The next section considers some of these.

3.   Some views of cognition implicit in the models

Chesterman argues that the cognitive processes of translation cannot be observed, but that the sociological framework where they happen is observable:

> The event is directly observable: one can follow a translator's overt behavior, observe phone calls, emails, use of the internet, physical movements, and so on. But the act is not directly observable, one can only make inferences from the behavior one can see.
> (Chesterman 2013, 156)

I beg to disagree. Social relations and social facts cannot be observed, simply because they are immaterial.[8] Only the entities entering in such relations or creating such facts have *res extensa.* Social relations and facts can only be inferred from the observed existence and interaction of social agents and their tools. This confusion is not new. In the empirical study of translation, the distinction between what can be observed and what is inferred from it has been problematic. Even Lörscher's (1991, 96–108) model of translation strategies, perhaps still one of the more enticing efforts to formalize descriptions of translation problem-solving steps, mixes observed behavior — such as verbalizing a translation problem, rephrasing SL or TL segments — with inferences on mental processes (e.g., realizing a translation problem as hinted at by a pause or a hesitation, or reclassifying a solution to a translational problem as preliminary when the candidate TT segment is *later* changed). Chesterman (2013, 156, 162) describes informants' behaviors, such as using the Internet, and even physical movements, such as typing, as prone to sociological study as part of a translation event. However, such behaviors are also customarily studied as behavioral hints of cognitive processes in translation process research — e.g., Massey and Ehrensberger-Dow (2011) and Enríquez (2014), for Internet searches; Muñoz (2009) and Carl and Kay (2011), for typing. In brief, crucial in our quest for modeling translators' cognition is that often one and the

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8. Here SOCIAL FACT is understood in Durkheim's (1982) sense, i.e., values, cultural norms, and social structures that transcend the individual and are capable of exercising a social constraint. This was probably one of the sources of inspiration for Toury's (2012, 61–92) notion of NORMS.

same observation may be interpreted in terms of mental processing or in terms of social constraints.

The granularity of the cognitive process is another problem for Chesterman's models when considered within cognitive approaches. Chesterman (2013, 157) correctly states that there does not yet seem to be a consensus about how to define the precise start and end of a translation act. Indeed, he settles for ST reading as a starting point and for revision's end as the final point. However, he immediately acknowledges that the details of the brief and the way the intended addressees are conceived are likely to influence the mindset of the translator even before accessing the ST and that the translator may devote further thoughts to the task after finishing it. Interestingly, Chesterman also states that in the translation act, the cognitive process is measured in seconds or microseconds, whereas the translation event is measured in hours, days, and even months. Only a few models, such as Lörscher's (1991) strategies, Leppihalme's (1997) problem-solving process, and Jakobsen's (2011, 48) 'small algorithms' seem to fit in such a small scale. They are, however, only partial models of sections of the cognitive processes involved in a translation task, and they are often devoted to problem-solving. Jakobsen's use of the term *microcycle* for his model points to a higher structure of which his small algorithms would be only a part. However, some models of cognitive processes that Chesterman provides as examples seem to fit both (e.g., Nida 1969; Carl 2012) or to accommodate better to an event time scale (e.g., Nord 1991; Englund Dimitrova 2005). Unless we stipulate that part of the translation event may happen with no mental processing on the part of the translator, translation acts and events must last exactly the same length of time, with all the interruptions of both acts and events that Chesterman comments upon (2013, 156–57). Here, too, the differences between act and event seem much fuzzier and more blurred than we might like them to be.

Chesterman (2013, 156) inherits from Toury (2012, 67) the notion that the locus of cognition is the human brain, but a growing number of today's researchers studying cognition in translation "no longer simply ask what actually goes on in the human brain; we widen the scope of the question to include the whole human being and his/her individual history and environment" (Risku 2010, 95).[9] The situation, the translation event, is *not* complementary: "individual history and the present environment form an integral part of the processes of thought and behaviour" (Risku 2010, 99). Cognitive processes are the consequence of interacting

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9. With today's eyes, the not-so-trivial observation that translating entails the use of tools such as computer screens, notes and reminders that reduce mental load, and of dictionaries and other information sources that entail search, choice, and evaluation, render a distinction between internal and external support (Alves 1995) much less compelling.

with the environment and they affect the environment. They are also influenced by environmental factors, such as the demands placed on users by the design and complexity of computer programs (e.g., O'Brien 2012, 103). The impact of working with language technologies on cognitive processes include working conditions, time and resource management, and emotional factors (Ehrensberger-Dow and Massey 2014, 109).

The environment is also relevant when studying interpreters' cognition. Englund Dimitrova and Tiselius (2016) discuss cognitive models of interpreting and conclude that a new cognitive model is necessary to account for community interpreting, "from the perspective of the interpreter and his/her central position as an acting and reacting human and professional, in an interaction with at least two other primary parties." This would include, for instance, several forms of monitoring and turn-taking control. All in all, many of the current cognitive approaches conflate so-called acts and events: abstract, decontextualized thought is possible, but it is rare. Logical, let alone mechanical, processing is only one part of what is going on in translators' and interpreters' minds.

4.   Conclusion

Chesterman (2013) seems indirectly inspired by Toury's (2012) notions of how PROBLEM is used in translation studies to elaborate on the notions of translation act, translation event, and translation practice. The rationale behind this move seems very solid: culture and history diachronically determine social practices, which in turn synchronically condition translators' particular ways of working and goals and therefore the cognitive process of translating. From this, a perspective of the discipline follows whereby cognitive approaches are embedded in sociological approaches and these, in turn, are hosted by anthropological and cultural approaches. The logic may be spotless when translation studies is considered as a whole. Developing sociological approaches and models to study translation events is definitely a very welcome initiative.

Still, the different strands within TS have grown to become quite autonomous. The necessary internal coherence of any conceptual apparatus has been displaced from the discipline as a whole to become an internal requisite for each separate approach within TS. Thus, when we adopt a meta-theoretical perspective we need to distinguish between two levels, that of TS as a whole and that of each particular strand. When considered within the cognitive approaches to translation and interpreting, the model of the translation act might be used to support a view of thought as rational, decontextualized, disembodied and isolated; the translation event would then apply to contextualized, full mental experiences. This would

be a mistake, however, because these two views of thinking and translating are not complementary but rather mutually exclusive. That is the unresolved tension that Toury shows as he links the translation act with problem-solving instances (e.g., 2012, 39) while at the same time acknowledging that a complete divorce of the mental from the environmental would be absurd in the extreme (p. 67). Most chapters in this volume attest that translation acts and events can at best be thought of as two sides of one and the same coin.

Applying the notions of translation act and translation event within cognitive approaches to translating and interpreting is a self-defeating move with important historical precedents. In linguistics, when it became obvious that referential and propositional understandings of meaning did not exhaust what was thought and communicated, unclassifiable phenomena were simply piled up in the laundry basket of a new discipline called pragmatics, which Levinson (1983, 32) would describe as 'meaning minus semantics,' to then state that semantics was not autonomous. It would take a number of years for linguistics and psychologists to challenge the very foundations of the notion of a conceptual, disembodied meaning and develop cognitive linguistics. Within the early cognitive approaches to translation and interpreting, when Seleskovitch and her colleagues were faced with a notion of logical, rational, truth-conditional meaning that was indelibly stamped onto linguistic units, they shied away from challenging it and resorted to sense and deverbalization (Seleskovitch 1978; Wirl 1958, 22–32; Lederer 2003, 9–18), with negative consequences for the field and for the development of the discipline.

Most of what we have learned in the last ten years points to problems in the foundations of narrow cognitive approaches, those that portray the workings of human minds as hermetically separate from social interaction. Innovations and additions to research methods should not distract us from restoring cognition and the translation process to their full natures, i.e., from recovering aspects of cognition that were discarded for theoretical reasons that no longer apply in the new approaches to the mind. It is becoming increasingly obvious that a less compartamentalized understanding of thought and translation processes might foster progress in the field. In what seems to be the beginning of a third round, we just need to come to terms with the fact that thinking is not what we thought, that meaning is not what it was meant to be, that the translation process is not what we presumed.

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Subject index

The contributions of this volume explore the dynamics of the interface between the cognitive and situational levels in translation and interpreting. Until relatively recently, there has been an invisible line in translation and interpreting studies between cognitive research (e.g., into mental processes or attitudes) and sociological research (e.g., concerning organization, status, or institutions). However, rapid developments in translation and interpreting practices (professional, non-professional) have brought to the fore the need to rethink theoretical perspectives and to apply new research methods. The chapters in this volume aim to contribute to this discussion through conceptual and/or empirical research. Drawing on different theoretical and methodological frameworks, they offer insights into diverse translation and interpreting situations, in a number of different countries and cultures, and their consequences for individual and collective cognition.

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"These papers are rich explorations of the complex ways in which cognition is embedded in context – human, institutional and technical. Explicitly, the studies focus on varieties of translating and interpreting, yet the book is also, implicitly, a fascinating illustration of the role of theoretical concepts and categories as tools for thinking. This special issue volume impresses with its breadth and depth."

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"This well-selected volume of articles offers fascinating insights into the sociocognitive interface of which individual mental processes form part and challenges traditional views on the division between the cognitive and the social in translation."

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"Highly recommended and worthwhile read, not only for graduate students who seek to understand translation and interpreting process research in general but also for more experienced researchers keen to follow advances in the field of translation and interpreting cognition in situ."

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