INTRODUCTION

Translation practice in the field[1]

Current research on socio-cognitive processes

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1. Introduction

This Special Issue of Translation Spaces focuses on recent research that studies translators, interpreters and translation project managers in their authentic work situations and environments, i.e., as embedded in a specific temporal and spatial context. In an attempt to extend the scope of analysis of translation process research from individuals and texts to subjects or collectives in their social and material worlds, particular attention will be paid to the following areas: current translation and interpreting practice, the genesis of translations, the handling and completion of translation projects in real working environments and the factors shaping these translation/interpreting situations.

Most of the papers in this Special Issue were originally presented at the fifth Translation Process Research Workshop (TPRW5) in December 2016 at the University of Graz. The biannual TPRWs are dedicated to current research on cognitive and behavioural aspects of translation. As local hosts, we took the liberty of giving TPRW5 an additional agenda by highlighting socio-cognitive approaches and workplace research. This focus has its roots in our own current research project, Extended Translation: Socio-Cognitive Translation Processes in the Workplace (ExTra), which is financed by the Austrian Science Fund (FWF). In this project, as in the articles in this Special Issue, we study the translation process while taking account of the technological and social embeddedness of translators in their real working environments. Our primary objective is to contribute to expanding the established tradition of experimental translation process research (TPR) with an ethnographic approach

that permits insights into the diversity and complexity of translation practice, aspects that cannot really be reconstructed in a laboratory setting.

While the specific theoretical foundations of the individual articles in this volume might differ and range from situated cognition and ergonomics to practice theory, they all nonetheless agree on the situatedness of translation, interpreting and related processes, one of the main assumptions of our research. Of particular interest are the processes at the workplace, the actions of those involved – as embedded in a specific environment – and how such workplaces develop over time, i.e., the process dimension of translation work. Accordingly, it seems appropriate to begin with an overview of the notion of the translation/interpreting process in Translation Studies before moving on to introduce and discuss those elements of workplace research that are of relevance for this Special Issue and for contemporary translation studies research.

2. The derivation and diversification of translation process research

Interest in TPR has continued to grow since the first pioneering works emerged in the 1980s (e.g., Gerloff 1986; Krings 1986; Lörscher 1987). The study of translation as a process complements research that focuses on source/target text relationships or the cultural and literary systems of which they form part. TPR applies empirically sound cognitive science approaches to observe and describe translation processes in order to identify patterns in the behaviour of translators/interpreters under different conditions and draw inferences on their cognitive processes. Theories and models initially from the cognitive sciences, cognitive psychology and cognitive linguistics in particular are used to describe and explain the connections in this behaviour and obtain a better understanding of translation processes (e.g., Risku 2010; Muñoz 2010a; 2010b; Martín 2013). TPR looks at factors related to people, tasks and (work) settings, studying, for example, whether bilingual laypersons translate differently to advanced translation students (Hansen 2003); whether and how creativity shows itself in the translation process (Kußmaul 2000; Bayer-Hohenwarter 2009); how contextual information influences translation (Rydning and Lachaud 2010); how reading and writing processes are distributed during translation (Dragsted 2010); or the special challenges faced in sight translation (Shreve, Lacruz, and Angelone 2010).

Substantial parts of translation/interpreting processes take place in the brain or, in the case of translation, on the screen and are therefore difficult to observe with the naked eye. Thus, TPR uses various data collection methods (e.g., introspection, EEG measurement, think-aloud protocols, retrospective self-reflection, screen recording, keystroke logging, pupillometry and eye tracking), often in combination, to increase the reliability of the results (cf. triangulation; Alves 2003; Lachaud 2011). In the case of interpreting, separating the process from the

product for analysis purposes is difficult; this is applicable above all in field studies (see Englund Dimitrova 2005 for a stance on combining process and product analysis). Accordingly, the methods commonly used in TPR have so far been applied less frequently in studying the interpreting process. Indeed, the very nature of interpreting makes the use of methods like think-aloud protocols or screen recordings difficult (Tiselius 2013, 140; for eye-tracking studies, see Hyönä, Tommola, and Alaja 1995; Seeber 2012), not least because it is impossible to verbalise the process while interpreting, and interpreting is usually not reliant on a computer screen to the same extent as translation. Some studies have, however, used the immediate introspection method, with the interpreters describing the process and processing difficulties immediately after interpreting (e.g., Ivanova 1999; Vik-Tuovinen 2006; Englund Dimitrova and Tiselius 2009; Tiselius and Jenset 2011; Tiselius 2013).

Recognition of the situatedness of translation processes has encouraged their study in their natural environment. Consequently, the approaches used in contemporary TPR can now range from experimental laboratory research to ethnographic workplace studies, apply both participant and non-participant methods, and include studies from the emic ('insider'/participant) as well as the etic ('outsider'/observer) perspective. Seeing the specific translating/interpreting situations not as constraints, but as resources and components of the process inevitably reshapes the concept of the translation process and thus the research object of TPR. Now seen as an interaction process (Risku 2014), the translation process then includes elements inside and outside the brain and the body, as well as objects within the environment (Clark and Chalmers 1998). If the process has no a priori definable 'inside' and 'outside', and the relevant components of the cognitive system only become visible in action and in situ (Hutchins 1995a), the concept of the translation process – and the scope of TPR – becomes broader.

As the articles in this Special Issue show, TPR can now draw on a range of diverse theoretical frameworks, study designs, research foci and key concepts to investigate and describe the process. Depending on the framework, the specific process entities examined might then include activities, actions, tasks, patterns or practices, and be studied with a focus on knowing, doing, or saying. To accommodate this diversity and enrich the current concept of the translation process, it thus also makes sense to incorporate corresponding elements of workplace research.

3. Workplace research

Workplace research explores work-related practices, actors, networks and environments. It analyses and interprets investigated behaviours in terms of how work-related tasks and social and environmental constraints such as time, technology, knowledge, roles and expectations are identified, conceptualized and interpreted. To grasp a specific work-related practice, workplace research explores how practitioners experience it in an everyday work context. The

underlying assumption is that the observed practice, which is seen as "lived work" (Button and Harper 1996, 272), differs from the idealized functional representations and abstract specifications of the tasks it entails. It thus raises the need to look into "what work consists of as it is lived as part of organizational life by those who do it" (Button and Harper 1996, 272; see also Bergmann 2005; Clancey 2006).

As developments like globalisation and technologisation increasingly transform the way we work, interest in the study of work environments and work as a situated activity has grown, leading to the emergence of a sociological research approach known as Studies of Work (SW). Its origins lie in ethnomethodology (see Garfinkel 1986), which aims to identify and investigate mechanisms and principles that allow actors to construct a meaningful structure and order for their actions and social interactions. SW use observations, descriptions, and analyses of real work processes to determine the situated, embodied practices in which the specific knowledge and skills required materialise (Bergmann 2005, 639–640). Accordingly, alongside the temporal, spatial, material, and social context of an activity, SW also look at the embodied knowledge that becomes evident when an activity has been carried out successfully and the specific practical skills that are needed to do so.

The inclusion of further research approaches and perspectives has led to the development of other fields of research in SW, including Workplace Studies (WPS), which focus on the empirical study of work, technology, and interaction in complex organisations. Many of the frequently interdisciplinary WPS initiatives, interests, and research projects involve collaborations between academia and industry to analyse the design, deployment, development, and success or failure of advanced technology in supporting work and collaboration (Heath, Knoblauch, and Luff 2000, 300; Luff, Hindmarsh, and Heath 2000, 12). These initiatives stem from research fields like computer-supported cooperative work, socially-distributed cognition, human-computer interaction, artificial intelligence, social anthropology, ethnomethodology, ethnography and/or conversation analysis (Luff, Hindmarsh, and Heath, 2000, 13; Knoblauch, and Heath 2006, 141–142).

WPS investigate authentic work-related activities from a theoretical and analytical perspective based on Suchman's (1987) concept of "situated action", wherein the "rationality of the action" depends on the "rationality of the situation" (Knoblauch and Heath 2006, 144). They consider not only an activity's orientation towards a certain goal but also its situative context, and the adaptation of the involved actors and technical tools to this context (Suchman 1987). A methodological consequence of Suchman's thesis is that to understand technologies, their involvement in day-to-day practices and the meanings attached to them by those who use them, researchers must "turn away from the experimental, the cognitive and the deterministic, to the naturalistic, the social and the contingent" (Heath, Knoblauch, and Luff 2000, 303). That is precisely what this Special Issue is all about: extending our view of cognitive processes to social and environmental factors as they emerge in specific translation practices.

WPS focus primarily on the connections between work activities and the technological systems that feature in them. They thus help us to better understand not only the technologies themselves and how they influence work practices and processes, but also the characteristics of this work and the people who use them (Heath, Knoblauch, and Luff 2000; Luff, Hindmarsh, and Heath 2000). WPS can therefore often take the form of applied research, accompanying the development of a technology, documenting its successes/failures and subsequently also influencing its development or the way people use it (Knoblauch and Heath 2006, 142).

In WPS, technology is investigated in its social context, i.e., its role in social actions and interactions, the sense and relevance attached to it by its users and its contribution to enabling and supporting the cooperative work of often spatially distributed individuals (Knoblauch and Heath 2006). The goal is to gain an understanding of how tools and new technologies – from simple artefacts to advanced devices and applications – feature in day-to-day organisational conduct and interactions by focusing on their situated and contingent character. WPS also look, for instance, at how artefacts are integrated in a given workplace, how they are used to overcome everyday work challenges as well as how seemingly 'personal' devices like computers are used and how this depends upon a complex social organization of which they form part (Heath, Knoblauch, and Luff 2000, 299–300).

According to Garfinkel (2002, 175–176), familiarity with and a grasp of the field of research are the key requirements for the ethnomethodological study of sensemaking and sense-structuring mechanisms. The research method itself must therefore be part of the field, a requirement that can be met using, for instance, ethnographic observation methods. WPS are therefore generally qualitative studies that draw on ethnomethodology and conversation analysis. In field studies, observation methods and video recordings (Knoblauch and Heath 2006, 146) can be augmented by other methods like interviews or artefact analysis. To gain a deeper understanding of work and work-related practices, patterns and behaviours, methods such as those mentioned in Section 2 can further augment those used in WPS. In TPR, for instance, eye tracking, think-aloud protocols, screen recording, keystroke logging, introspection, retrospective protocols, artefact analysis or surveys can all be suitable methods.

4. Researching translation practice in the field: Theoretical frameworks

Translation researchers draw on a variety of theoretical and analytical perspectives to explore translation/interpreting work practices. However, the previous gap between the cognitive and the sociological camps is closing when it comes to studying the translation/interpreting workplace. Cognitive approaches – especially situated, embedded cognition – look not only at mental processes but also at social and material environments; they deliberately consider

networked structures and take account of the situatedness of actions. Sociological approaches relating to the meso levels (organisation, company) and micro levels (group, individual) simultaneously consider not only social trends and developments but also the individual. These approaches enable the study of work as a social practice in concrete, situative contexts – increasingly also in its technological mediation or agency.

Despite a few notable exceptions – e.g., Kuznik and Verd's (2010) application of a model of factors constituting workload, or Kuznik's (2016a) combined sociology of work and organisational ergonomics framework – the study of translation work practices still rarely borrows from sociological approaches to work, even though its research object does constitute a classic sociological and organisational development domain. This may be because translation or translation-related tasks were for a long time predominantly conceptualised less as work and more as (non-) professional practices (for a sociological approach to profession, see Monzó 2006; Tyulenev 2015). Indeed, a number of studies into the professional status and occupational conditions of translators and interpreters do not directly consider their actual workplaces (Sela-Sheffy and Shlesinger 2011; Dam and Koskinen 2016). Nonetheless, their findings do deliver a very important context for the topics discussed in this Special Issue. The translation task is also approached in sociologically-oriented translation research using Actor-Network Theory (Buzelin 2005; 2007; Abdallah 2014) or Bourdieu's habitus/field theory (Vorderobermeier 2013; 2014; Hanna 2016). However, especially the latter is usually set at a higher analytical level and cannot therefore take account of the situatedness of action and its embeddedness in a specific work environment or examine its artefact mediation in any detail. A differentiated conceptualisation of translation as work can therefore only serve to benefit future research in this field. Olohan (this volume), for instance, augments such approaches with an innovative practice theory approach that includes the notion that praxis is mediated both materially and through discourse and is created or embedded in a specific spatial and temporal situation.

Ergonomics theories, concepts and methods have also found their way into translation studies in a trend set by two conferences at Stendhal University in Grenoble (in 2011 and 2015) and the corresponding special editions of the journal ILCEA (Lavault-Olléon 2011b; 2016). These focused on the ergonomics goal of putting people back at the centre of work-related research, i.e., adapting work to people and not vice versa. This calls for a holistic approach that analyses, questions, and improves the relationship between the working persons, their individual work tools, methods, and environment from a physiological, cognitive, and social perspective (Lavault-Olléon 2011a, 6; see also Ehrensberger-Dow and Hunziker Heeb 2016). It also places the emphasis on embedding observed activities in a local framework of interaction and a specific (material) environment (Lavault-Olléon 2011a, 7). Ergonomics studies serve not only the critical analysis of the current state of affairs; the insights gained should also flow back into the object of study and bring about an improvement in the observed praxis (Kuznik 2016a, 2–3).

Ergonomics shares the notion of situative embeddedness with current approaches in situated and embodied cognition. These (especially Suchman 2007; Clark 1997) emphasise that thought, bodily activities and interaction with the social and physical environment inseparably constitute the systemic unit of cognition, thus underlining the importance of embodied, sensomotor coordination, the affordances of the environmental objects and artefacts (Gibson 1977), and the distribution of knowledge and intelligence in the environment and social interaction (Hutchins 1995b). Seen from this perspective, we can only study socio-cognitive processes when we observe them in situ. A number of translation studies research endeavours adopt this approach. However, only a few of these are also actually based on empirical studies at real workplaces. Krüger (2015), for instance, draws on this approach in his work on the translation process, although his actual model is not based on concrete empirical workplace findings. Tercedor (2011) applies the concepts of situated and embodied cognition to terminology work, but uses an experimental research design in her study of terminological variation. Risku delivers a first empirical look at the socio-cognitive processes in the translation workplace, e.g., with regard to work and project management processes (Risku et al. 2013), the use of tools (Risku 2016), the writing and translation sub-processes (Risku, Milosevic, and Pein-Weber 2016), (perceived) roles and responsibilities (Risku, Pein-Weber, and Milosevic 2016) or situated knowledge (Risku, Dickinson, and Pircher 2010). This Special Issue also contains further examples of its application, e.g., to the macro-level work dynamics of literary translators (Kolb, this volume) and to (organisational) ergonomics in different settings (Ehrensberger-Dow and Massey, this volume).

5. Topics in translation/interpreting workplace research

Translation workplaces have been studied in various fields and settings, e.g., specialised translation (Kuznik and Verd 2010; Olohan and Davitti 2017; Kuznik 2016b; Risku 2016; Risku, Pein-Weber, and Milosevic 2016), literary translation (Flynn 2004; Kolb, this volume), the translation of technical documentation (Kastberg 2009) and advertising materials (Vandal Sirois 2011), and transcreation (Pedersen, this volume). Abdallah (2012) provides important insights into the work processes in subtitling production networks, while Marinetti and Rose (2013) offer insights into the work and text design processes in theatre translation. Although interpreting research only rarely looks explicitly at the workplace (and some of the studies mentioned below have a rather specific focus that does not serve solely to illuminate interpreting workplaces), a number of important – usually ethnographic – studies have also been carried out in this field. These deliver insights into the working conditions, interaction frameworks and factors of influence on the interpreting situation and process in different settings, e.g., interpreting for asylum seekers (Scheffer 1997; Pöllabauer 2005), sign language interpreting via a video remote interpreting service (Brunson 2008), court interpreting (Kinnunen 2010a, 2010b; Hale and Napier 2016), conference interpreting (Duflou 2016), the

provision of community interpreting services (Dong and Turner 2016), and interpreting in religious contexts (Hokkanen, this volume, 2017; Hild 2017).

Studying the actual processes and interactions at translation and translation-related workplaces affords a current look at dynamic, volatile work practices whose structures and processes are clearly changing due to globalisation and digitalisation (e.g., Gouadec 2007; Abdallah 2012; Cronin 2013; Risku et al. 2013). Kuznik and Verd (2010) found an "almost residual presence of translation itself in the in-house jobs of the translation agency" they analysed. Hébert-Malloch (2004) made similar observations in her analysis of the video-recordings of a translator at work. Risku and Windhager (2013), Risku et al. (2013), Olohan and Davitti (2017), and Risku (2016) shed light on the role of translation agencies and the long ignored area of project management. These studies show that project management coordinates and facilitates the translation process, and that it contributes to shape and structure it (for the role of interpreting agencies in the provision of community interpreting services, see Dong and Turner 2016). Risku (2014; see also Risku, Rogl, and Pein-Weber 2016) also shows that frequently, when closely scrutinized, the translation process involves far more actors than originally assumed, who collaborate in an increasingly long chain and in increasingly complex networks. A complete translation can thus be the work of a whole group of actors, e.g., a translation manager, a translation memory, a freelancer, a validator, a layouter, and, in some cases, even the client. This clearly shows that modern-day translation and interpreting must be seen as a social praxis in a dynamic, networked production framework (see Buzelin 2006; Abdallah and Koskinen 2007; Abdallah 2012). Researchers have also elaborated on trust (Abdallah and Koskinen 2007; Olohan and Davitti 2017), on the role of collective decision-making, on the effects of asymmetric information/goal conflicts and the interplay between ethics and quality (Abdallah 2010), and on the role of cooperation and conflict in collaborative work environments (Marinetti and Rose 2013).

These changes, especially the new technological demands, bring fresh challenges both for translators and (to some extent) interpreters (e.g., remote interpreting, see Roziner and Shlesinger 2010; Braun 2013; Bower 2015). Risku (2016) showed the central role of technology in the translation workplace in her longitudinal ethnographic study of a translation agency, where she found that translation processes are often restructured following changes in technology, especially those related to translation project management. Likewise, LeBlanc (2017) observed shifts in business and administrative practices in a translation agency after implementing CAT tools. Studies on the attitude of translators to technology, their willingness (or lack thereof) to use technology and adapt to software changes (Gough 2011; Grass 2011; Olohan 2011; LeBlanc 2013), and the related influence of organisational culture (Ehrensberger-Dow and Massey, this volume) have also delivered important insights. Such studies bear witness to the fast-moving pace of translation practices.

In the debate surrounding the role of translation tools, ergonomics research reminds us not to lose sight of the translators themselves – the ones who actually use the tools and whose needs

they should address. Pym (2011), Bundgaard, Christensen, and Schjoldager (2016), and Christensen and Schjoldager (2016) have been looking more closely at how translators use CAT tools and at the impact of such tools on the realities of translation work (with regard to their possibilities to survive and succeed in the translation marketplace, see Grass 2011). Massey and Ehrensberger-Dow (2011) and Teixeira and O'Brien (this volume) have sought to approach these questions from the cognitive ergonomics perspective. Toudic and Brébisson (2011) studied the organisational and technological requirements at translation workplaces from the translator, translation agency, client and end-user perspectives – in particular, whether the increased use of translation tools goes hand-in-hand with a potential loss of autonomy and responsibility for translators. New technologies also lead to new work practices, e.g., the use of machine translation and post-editing (Brunette and O'Brien 2011; O'Brien et al. 2014; Cadwell et al. 2016; Martikainen and Kübler 2016), which likewise have the potential to transform translation work realities.

Early interpreting research and recent physical ergonomics research in translation studies have explored the effects of working conditions on translators/interpreters and potentially related health issues. In the case of interpreting, the initial focus lay primarily on the working conditions of conference interpreters (overview in Grbić and Pöchhacker 2015). A study commissioned in the early 1980s by the AIIC analysed interviews, stress logs kept by interpreters and survey data. It provided insights into conditions in interpreting booths, task-related factors, interpersonal relations, the home/work interface and how these aspects affect the work and stress loads of interpreters (Cooper, Davies, and Tung 1982). Further studies have provided a more detailed picture of specific aspects such as fatigue (Brasel 1976), conditions in interpreting booths (lighting, Steve and Siple 1980; CO_2 levels, Kurz 1983; temperature, Kurz and Kolmer 1984), occupational stress and its causes and physiological effects (e.g., Williams 1995; Kurz 1997, 2002, 2003), workload (AIIC 2002), and burnout (Bower 2015). Some of these aspects were also explored in community interpreting (Norström, Fioretos and Gustafsson 2012) and sign language interpreting research (Maßmann 1995; McCartney 2006; Schwenke, Ashby and Gnilka 2014). Particular areas of attention included aspects such as vicarious trauma and secondary traumatic stress (Bontempo and Malcolm 2012) and emotional stress (Valero 2015). However, many insights were obtained in experimental settings or through surveys. Observational or ethnographic research still remains rare; for an example, see Hokkanen's contribution on the role of interpreters' emotional involvement (this volume).

The same holds true for translation. Research frequently looks at the occupational conditions in specific markets (e.g., Dam and Kornig Zethsen 2011 for Denmark; Ferreira-Alves 2011 for Portugal; Pym et al. 2013 for the European Union), in relation to different job profiles (e.g., freelance translation, Fraser 2001) or in a speciality (e.g., subtitling, Mueller 2005). While such research yields important insights into the market conditions, order levels and employment status of translators, very little of it actually looks at the conditions at the translation workplace. Indeed, translation researchers have only recently really taken an

interest in physiological or health issues related with translation work (e.g., Ehrensberger-Dow et al. 2016). Pineau (2011) and Meidert et al. (2016), for instance, investigated how the work equipment of translators can become a source of physiological problems, and suggested ways to adapt it to translators' needs and for translators to learn how to adopt healthier work practices. Peters-Geiben (2016) summarised a series of thoughts on how to incorporate the subject of workplace health into translator education. Finally, very few research projects have focused on translator/interpreter job satisfaction, with some notable exceptions: the studies by Swartz (2006) into sign language interpreting, Liu (2013) on the relationship between translators' visibility and their happiness at work, and Hubscher-Davidson (2016) on Trait Emotional Intelligence and its correlations with job satisfaction, career success, and translation experience.

6. The contribution of this Special Issue

This Special Issue addresses three main topics, each one covered by at least two articles. The three articles in the first section present new insights into the work-related processes in different translation/interpreting settings. Covering fields as diverse as literary translation, transcreation, and church interpreting, they show just how different translation/interpreting workplaces can be from each other; from the literary translator working from home, through the highly specialised functions and working environment in a transcreation enterprise, to the church as workplace, where the work requirements ultimately depend on the interpreters' own (and very different) perceptions of what it means to work in that particular context.

The section begins with Waltraud Kolb's article on macro-level workplace dynamics as recorded in an empirical study of five professional literary translators translating a short story by Ernest Hemingway. Literary translation has long been one of the major objects of study in translation research. However, aside from some more sociologically oriented studies, very few researchers have explored the actual workplaces of literary translators and retraced their work practices in non-experimental settings. Drawing on the notions of the social embeddedness and situatedness of translatorial action and cognition, Kolb sheds light on how translators working from home organize their work and how their social interactions contribute to the hybridization of the translators' voice in their translations. The article tackles important methodological issues regarding the intricacies of data gathering in places where translators' professional and private spheres merge. It discusses challenges related to the (un)obtrusiveness of such an approach and considers questions of research ethics in observational studies. Kolb's study yields results that might not have been possible with an experimental research design, and provides insights into the different working styles and work routines of translators, including the organisation of their work sessions and revision loops. It shows the fragmentation of the translation process in an authentic workplace, the social

embeddedness of translation work even when done alone from home, and the resulting traces of the contextual voices of others in the finished translations.

Daniel Pedersen provides insights into a quite different translational context: the daily work routines of marketing translation project managers. The product of the so-called transcreation service does not differ significantly from those of other forms of translation. However, the process exhibits some very specific characteristics. For instance, the clients and their international marketing strategies define the limits of campaign consistency. Project managers coordinate briefs and tasks, and push for ever new solutions. Copywriters offer several translation suggestions and their corresponding rationales. Copyeditors review the suggestions and also provide further solutions. In addition, project managers forward several final solutions and their rationales to the client to choose their favorite one(s). There is little new in the insights that the translation/transcreation process is a network activity, or that both verbal and nonverbal information are being translated to fit the translation brief. Nevertheless, inspiring outcomes include acquiring details of how project managers continuously push copywriters, copyeditors and ad hoc colleagues who happen to be available to deliver more (adequate) solutions so as to provide the client with multiple translations (or transcreations) and their rationales. Through his ethnographic workplace study, which included a four-week immersion in the work of a marketing agency, Pedersen managed to describe the processes from the insider perspective of transcreation managers.

Hubscher-Davidson (2011, 3) points to the relative lack of studies that focus on translators' emotions and views, and the same can be said for those of interpreters. Sari Hokkanen contributes to closing this gap with her article on the interpreter's role in church interpreting. To do so, she takes an affective approach that views emotions as embodied key factors which depend both on internal characteristics – such as subjective experiences and a person's physiology – and on factors like patterns of enculturation and the material and relational aspects of a person's environments. In an auto ethnographic study where she draws on her own simultaneous interpreting field notes from two different church settings, Hokkanen discusses the subjective feelings of involvement and detachment that might manifest themselves in relation to an interpreted event. She thus compares her own experiences of her role as an interpreter with the prevailing model of the interpreter's role in such settings, i.e., that of a fully uninvolved participant. The results show that the extent of involvement and detachment varies between the two assignments. While an internalized model of an uninvolved interpreter might serve as a good point of orientation and reference, the interpreter's actual subjective experience of his/her role is a complex interplay of personal, emotional, situational, social and material aspects that come into play in an interpreting assignment.

The second section contains two articles on workplace, technology and ergonomics. They provide insights into the increasing use of technology in the translation workplace. Carlos Teixeira and Sharon O'Brien offer a cognitive ergonomic perspective on translation

workplaces, with a particular focus on tools. In order to gain comparative data for the ten translators employed by a language service provider, Teixeira and O'Brien opted for a pre-set fictitious translation assignment at the translators' workplaces. Their data collection methods drew on the typical TPR repertoire: keystroke logging, screen recording and eye tracking, complemented by short, retrospective interviews. The wealth of data allowed for a thorough analysis of how the translators used the two screens and the software tools at their disposal, their use of terminology resources, their shifts between the two screens and the division of their visual attention between different areas in a software interface. Teixeira and O'Brien found that translation tools can represent a source of considerable cognitive friction that might be aggravated by the need to switch between tools and tasks. Their article opens up a variety of future avenues of inquiry, e.g., into the simultaneous use of translation memories and machine translation that now forms part of the work of many translators or the interplay between technological and organisational constraints in translation workplaces. They raise the question of whether development efforts should focus more on the ergonomics of tools and processes than on increasing the speed of translation turnarounds. They show how important it is for translation research to be able to offer insights into the actual technological and ergonomic needs of translators and to participate actively in research and development efforts in the language technology industry.

The article by Maureen Ehrensberger-Dow and Gary Massey also focuses on workplace conditions and investigates ergonomic issues and constraints at translation workplaces. Drawing on the situated cognition framework, their research views translating as an activity situated in socio-technical systems that include tools, computer interfaces, and social networks. They explore translation from an organisational ergonomics perspective in two research projects: Capturing Translation Processes and Cognitive and Physical Ergonomics of Translation, which incorporate data from different translation settings. The data collection methods include screen recordings, retrospective verbal protocols, an online survey, qualitative interviews with translators, ethnographic observation, and the ergonomic assessment of freelance, commercial, and institutional translation workplaces. In their data analysis, they focus on work-related constraints posed by factors like resources and tools, clients and colleagues as well as on identifying positive and negative (stressful) ergonomic aspects of translation work. Their findings point to the importance of the translators' perceived self-determination for the success of socio-technical change and the link between involvement in organisational decision-making processes and willingness to adopt new technologies. They also discuss the need for effective feedback systems that enable exchange between the different actors involved in the translation process as a means of giving translators a voice (and thus allowing them to contribute to organisational change) and mitigating potential socio-technical issues.

The final section contains two articles on translation expertise and knowledge in practice that describe the requirements on, and process patterns of, translators from different perspectives. Expertise has been a prominent topic in TPR over the last 20 years. There are several

definitions and descriptions, most prominently from the perspective of the deliberate practice approach by Ericsson (2010) and Shreve (2006). In lab experiments, comparing the behavioural patterns of lay or novice translators to those of their (semi) professional counterparts has become a prototype of TPR. However, the skillset needed to exhibit high levels of expertise is still a topic for debate. As Erik Angelone and Álvaro Marín show, a myriad of expertise indicators have been proposed, including declarative and procedural knowledge, self-regulatory and metacognitive skills, situational and task awareness, adaptive psycho-physiological traits, automaticity, deliberate bundling, self-confidence, and target text orientedness. Whether or not we actually possess adequate criteria to differentiate between novices, professionals and experts in the first place has also been questioned (Jääskeläinen 2010). Angelone and Marín offer a fresh perspective on the notion of expertise by studying how working translators and translation project managers envision and understand it. In order to gauge their perceptions of translation expertise, they conducted a survey of translators and project managers, the results of which paint a new, emic, situated picture of translation expertise. Angelone and Marín's exploratory study not only sheds light on the similarities and differences in the views of these two groups of practitioners; it also suggests novel defining characteristics of translation expertise and translation task difficulty and revisits the concept of transferability of expertise.

In her contribution, Maeve Olohan applies the sociological framework of practice theory to translation work and, more specifically, to the relationship between translation practice and knowledge or knowing. Based on an ethnographic study in the translation department of a research organisation, she shows how the traditional understanding of knowledge as a codifiable object that is easily transferable from one person to another falls short of what knowledge and knowing can turn out to be when observed in situ. Her data from the workplaces of three in-house translators and a project manager illustrate how knowledge is not only inextricably linked with a situational context; it is also more adequately viewed as not existing prior to a specific practice but as emergent through translational practice and processual in nature. This accounts for her use of the term "knowing-in-practice". From a practice theory perspective, translators thus become the carriers of translational practice through which knowledge and knowing 'transpire'. The examples from her workplace observations show how knowing in translation practice is embodied, materially and discursively mediated and collective in nature. This situated and embedded notion of knowledge or knowing is a valuable contribution to prior literature on the broad topic of translators' knowledge, competence, or expertise.

7. Conclusions

The contributions in this Special Issue report on inspiring field and workplace research that provides insights into factors that influence translation yet would not become visible in lab or

classroom research, such as the embeddedness of translators in complex networks of interdependent environmental, artefact-mediated and social elements. They complement the current state of knowledge on work-related issues in the translation process and allow us to grasp the intrinsic logic of these work processes and contexts and how they are perceived from the inside (Bergmann 2005).

The articles provide apt examples that help us to reflect on the status of the results of field and workplace research. Such research encourages us to rethink existing theoretical models and concepts by showing that practitioners view the factors that make up and influence their workplace and practices differently from established research positions. This view cannot be simply dismissed as a non-scientific, partial and subjective opinion: the voice of the field is an essential research object in itself, with repercussions for scholarly models and conceptions. Field and workplace research can correct scholarly misconceptions; for instance, those that might arise from the need to reduce and control the variables in lab experiments. We urgently need to grasp the intricacies of the contingent context, especially the interdependencies of the organisational, social, cultural, physical, and media infrastructures of translation. Field and workplace research also has an applied dimension: if the models and concepts of translation research are to be applied to improve translation didactics, curricula, evaluation, technology or social and organisational ergonomics, the expectations and notions of praxis have to be taken into account as factors that determine and influence translation.

Workplace research can also connect academic translation research with the language industry. It allows academics to involve practitioners in their research and to investigate how translation experts adapt their work processes to the changing requirements of dynamic technological environments. In this way, translation research remains grounded and tuned in to the developments in the field, thus putting it in a position to understand, reflect on, criticize and, when needed, help change these developments. Workplace and field methods like ethnography and auto ethnography enable researchers to become part of the examined field and to analyse perceptions of the translation process systematically.

Most contributors to this Special Issue also participated in the fifth Translation Process Research Workshop, which provided us with the opportunity to bring together different strands of TPR and explore their potential for interaction. Others were invited to submit articles to complement the range of perspectives. Rather than trying to define a single unified TPR theory, we are convinced that it is through such broad interdisciplinary encounters and cooperations that an even more comprehensive understanding of the translation process will emerge.

TPR is still a relatively young line of research in translation studies. However, it has already evolved from the early think-aloud protocol studies of problem solving to a multi-method approach that grasps the translation process from a broader, interdisciplinary perspective and on different levels – from neural to mental and socio-cognitive. These different explanatory

levels will continue to require different data acquisition methods and locations, both in the lab and in the field.

Translation practice is on the move, and so are translation theories. TPR will need to tackle the challenges to follow and contribute both to practice and to theory. One of the most important challenges in the development of TPR will be keeping pace with the current insights in cognitive science. As Ricardo Muñoz summed up in the final panel discussion at the 2016 workshop, "thinking is not what we thought": recent revolutions in cognitive scientific views will keep TPR researchers busy developing concepts and methods that concur with the current state of research. With this volume, we hope to be doing our part in contributing to the development of a truly interdisciplinary, up-to-date understanding of the field – and the translation process.

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