

UNIVERSIDADE DE LISBOA

FACULDADE DE LETRAS



UNIVERSITEIT GENT

FACULTEIT LETTEREN EN WIJSBEGEERTE



**Perceived and observed translational norms in biomedical translation  
in the contemporary Portuguese translation market:  
a quantitative and qualitative product- and process-oriented study.**

Susana Santos Ângelo Salgado Valdez

Supervisors: Dr. habil. Alexandra Assis Rosa (Faculdade de Letras, Universidade de Lisboa)  
Professor Sonia Vandepitte (Faculteit Letteren en Wijsbegeerte, Universiteit Gent)

Submitted in fulfilment of the requirements for a PhD thesis in international co-tutelle in English and American Studies, within the scientific domain of Translation and in the specialty of Translation of the Scientific and Technical Text (Universidade de Lisboa), and in Translation Studies in the scientific domain of Linguistics and Literature (Universiteit Gent).

UNIVERSIDADE DE LISBOA

FACULDADE DE LETRAS



UNIVERSITEIT GENT

FACULTEIT LETTEREN EN WIJSBEGEERTE



**Perceived and observed translational norms in biomedical translation  
in the contemporary Portuguese translation market:  
a quantitative and qualitative product- and process-oriented study.**

Susana Santos Ângelo Salgado Valdez

Supervisors: Dr. habil. Alexandra Assis Rosa (Faculdade de Letras, Universidade de Lisboa)  
Professor Sonia Vandepitte (Faculteit Letteren en Wijsbegeerte, Universiteit Gent)

Submitted in fulfilment of the requirements for a PhD thesis in international co-tutelle in English and American Studies, within the scientific domain of Translation and in the specialty of Translation of the Scientific and Technical Text (Universidade de Lisboa), and in Translation Studies in the scientific domain of Linguistics and Literature (Universiteit Gent).

Panel:

Chair: Dr. Paulo Jorge Farmhouse Simões Alberto, Professor Catedrático, Faculdade de Letras, Universidade de Lisboa

Members:

- Dr. Christina Schaffner, Professor Emeritus, Aston University
- Dr. Sonia Vandepitte, Professor, Faculteit Letteren en Wijsbegeerte, Universiteit Gent
- Dr. Rui Manuel Gomes de Carvalho Homem, Professor Catedrático, Faculdade de Letras, Universidade do Porto
- Dr. Margarida Isabel de Oliveira Vale de Gato, Professora Auxiliar, Faculdade de Letras, Universidade de Lisboa
- Dr. Sara Gonçalves Pedro Parente Mendes, Professora Auxiliar, Faculdade de Letras, Universidade de Lisboa



## **ABSTRACT**

At the intersection of Descriptive Translation Studies and Social Sciences, this interdisciplinary, empirical, experimental and descriptive study addresses the question of ascertaining whether and to what extent translators' decision-making processes are influenced by what translators believe to be the expectations of other agents, namely revisers and readers. Whereas preferences by translators have previously been described and explained in the literature, it is still unclear what revisers' and readers' translational preferences are and what expectations they have about translators and the translated text. In addition, there is still a lack of understanding about how translators translate, how translators think they should translate, and what translators believe to be the expectations of other translators, revisers, and readers. In order to address these issues, this study focuses on the distinction between observed and perceived norms in the translation of biomedical texts from English to European Portuguese in contemporary Portugal. It zooms in on preferences regarding source and target orientation in translation, comparing both the practice and beliefs of sixty agents with different roles and levels of experience: novice translators, experienced translators, revisers, and health professionals (representing the intended audience of the target text). In particular, the specific question which drives this research is: considering English to European Portuguese biomedical translation in the contemporary Portuguese market, are the observed translational norms and perceived translational norms of translators, revisers and readers similar or different regarding source and target orientation?

Mainly informed by the metatheoretical, theoretical, and methodological discussions of Toury (1995, 2012), Hermans (1991; 1996; 1999a; 1999b; 2000), Bicchieri (2006, 2017a, and 2017b), and Rosa (2016c), norms and expectations emerge as a powerful descriptive tool in studying norm-governed behavior and specifically to capture and further understand the complexities of decision-making processes in translation.

Based on an exploratory and preliminary case study, this dissertation first sets out to explore the practice of biomedical translation in Portugal to understand who the agents involved in biomedical translation are, what they do, what for, in what types of texts, with what function and for whom. To this end, a mixed corpus of 700,000 words of different text-types of medical and biomedical content translated from English to European Portuguese was analyzed, including e-mail exchanges between translators and project managers. This analysis shows that biomedical translation involves a complex structure of translation agents performing different translation tasks, among which revisers play a pivotal role. The most common text-type identified is instructional texts about medical devices aimed at health professionals.

Following this preliminary assessment, for the main study, a mixed methodology based on quantitative and qualitative product- and process-oriented approaches was employed to study (i) thirty translations of an instructional text about a medical device intended for health professionals, (ii) the translational preferences of fifteen revisers and fifteen health professionals regarding the same instructional text, and (iii) the expectations of these translators, revisers, and health professionals about biomedical translation.

The experiment involved eliciting data from fifteen novice translators and fifteen experienced translators asked to translate an instructional text. The data included keylogging and screen recording data, interim versions and target texts, and it was triangulated to produce an empirical description of translation phenomena of biomedical content. The data was analyzed in terms of (i) the translators' translation problems, (ii) the corresponding observed translation solutions, and (iii) the source and target orientation of the solution types.

In addition, the thirty translators, together with fifteen specialized revisers and fifteen health professionals, were asked to answer a questionnaire aimed at eliciting different types of beliefs and expectations to (i) analyze the translators' expectations and perceptions about how they should translate and how other translators, revisers, and readers believe translators should translate, (ii) identify the revisers' and health professionals' translational preferences, and (iii) describe an elaborate network of beliefs and expectations affecting the translators' decision-making processes that result from the interaction of several agents with different roles and levels of normative control, and (iv) to propose explanatory hypotheses for the identified translation phenomena.

From the product analysis, the study found that (i) the novice and experienced translators opted for both source- and target-oriented translation solutions, while (ii) the revisers and health professionals opted for the most target-oriented translations. The most common target-oriented translation solutions (i.e., explicitation, implicitation, hyponymy/hypernymy, omission, addition, and other information changes) were also analyzed in terms of their textual function and potential motivations to propose explanatory hypotheses. From the process analysis, the comparison of the translators' interim versions and final versions indicated that while (i) the novice translators proceeded from less source-oriented versions to more source-oriented ones, (ii) the experienced translators proceeded from more source-oriented versions to less source-oriented ones. From the analysis of the beliefs and expectations, the study found that (i) while the novice and experienced translators described the appropriateness of a translation using both source- and target-oriented criteria, (ii) the revisers and health professionals reported target-oriented criteria as the most important to describe the appropriateness of a translation.

Overall, the novice and experienced translators' behavior and expectations suggested initial norms of source and target orientation, revealing that aspects of both the source and target cultures and languages are valued. The analysis of the processes of the novice and experienced translators also suggested that there are other possible motivations for source and target orientation connected with (i) the number of translation problems and (ii) the time taken to translate the source text. Revisers' and health professionals' behavior and expectations suggested an initial norm of target orientation, revealing a higher valuation of the target culture, language, and prospective reader. The study also found that even though accuracy (a source-oriented criterion) is a common expectation among all agents, expectations regarding literal translation (source-oriented), transparency, and invisibility (target-oriented) are not shared by translators, revisers, and health professionals.

By showing how perceptions and expectations about source and target orientation may influence translators' textual regularities, the findings of this descriptive, target-oriented study add to our understanding of translational norms in general and in biomedical translation in particular.

The main implications of this study are of four different types: theoretical, methodological, practical and didactic. This study raises theoretical implications that have a bearing on translational norms. In particular, it proposes a definition of translational norms that (i) allows for a distinction between object- and meta-level discourses (building on Rosa 2016c), (ii) explicitly includes the role of agents' expectations as a driver of behavior, connoting what is considered appropriate and inappropriate (adapted from Bicchieri 2017a), and (iii) stresses the need to address different and sometimes conflicting perceptions of what is considered appropriate and inappropriate in a particular community.

In addition, the study also offers methodological tools to address norms by proposing that translational norms can be further studied through the comparative analysis of a detailed taxonomy of beliefs, attitudes, and expectations elicited from different agents with various roles (adapted from Bicchieri 2017a). It also describes how translation problems can be identified based on keylogging and screen recording data through a fine-grained classification of translation units based on primary and secondary indicators of translation problems (building on Krings 1986; and Göpferich 2010b) in order to reconstruct the decision-making processes of the translator and, in particular, the methodological distinction between an interim solution and a consciously postponed decision.

The described regularities and expectations expressed by the data also have implications for translation practice and translator training. The findings can be used to develop concrete solutions to address translation competence and best practices for the language industry. It is recommended

that students should be specifically trained to raise self-awareness to monitor and assess, in their translation and revision decision-making processes, how their expectations about translation and their perceived expectations about revisers and readers can be related to their translation solutions.

Given that communication between professional translators and revisers can be a factor for the distinct perceptions identified regarding expectations, best practices for peer feedback are also proposed. In addition, universities are called to action to promote communication among professional translators, revisers and readers in specialized domains, addressing at the same time the gap between academic work and the language industry.

Keywords: Descriptive and target-oriented study, translation norms, perceived norms, expectations, scientific-technical translation, medical and biomedical translation.

## RESUMO

Posicionando-se na intersecção dos Estudos Descritivos de Tradução e das Ciências Sociais, o presente estudo interdisciplinar empírico-experimental aborda a questão da influência dos processos de tomada de decisão dos tradutores pelo que os tradutores acreditam ser as expectativas de outros agentes, nomeadamente se os processos dos tradutores são influenciados pelas expectativas das expectativas de outros tradutores, revisores e leitores e em que medida.

Embora as preferências dos tradutores já tenham sido descritas e explicadas na literatura, as preferências tradutórias de revisores e leitores, assim como as suas expectativas referentes aos tradutores e ao texto traduzido, foram ainda pouco abordadas. Uma outra lacuna na literatura diz respeito a como os tradutores traduzem, como os tradutores pensam que deviam traduzir e o que os tradutores acreditam ser as expectativas de outros tradutores, revisores e leitores.

Para abordar estas questões, o presente estudo centra-se na distinção entre as actuais normas observadas e as normas presumidas na tradução biomédica no par de línguas inglês-português europeu em Portugal. O foco recai sobre as preferências referentes às culturas e línguas de partida e chegada na tradução, comparando práticas e convicções de sessenta agentes com diferentes cargos e níveis de experiência: tradutores júnior, tradutores experientes, revisores e profissionais de saúde (em representação do público-alvo do texto de chegada). Assim, a questão que norteia esta investigação é: no contexto da tradução biomédica contemporânea no par de línguas inglês-português europeu, serão as normas tradutórias observadas e presumidas de tradutores juniores e experientes, de revisores e de leitores relativamente às culturas e línguas de partida e chegada semelhantes ou diferentes?

As normas e as expectativas, fundamentadas pelos debates metateóricos, teóricos e metodológicos principalmente de Toury (1995, 2012), Hermans (1991; 1996; 1999a; 1999b; 2000), Bicchieri (2006, 2017a, and 2017b) e Rosa (2016c), apresentam-se como uma ferramenta descritiva robusta para o estudo do comportamento regido por normas e, em particular, para descrever e aprofundar o conhecimento em relação às complexidades dos processos de tomada de decisão em tradução.

Com base num estudo de caso exploratório e preliminar, a presente dissertação estabelece como primeiro objetivo explorar a prática de tradução biomédica em Portugal, de forma a compreender quem são os agentes envolvidos na tradução biomédica, o que fazem, com que objetivos, em textos de que tipo, qual a função dos mesmos e para quem. Neste sentido, foi analisado um *corpus* de 700 mil palavras de diferentes tipos de texto de conteúdos médicos e biomédicos traduzidos de inglês para português europeu, incluindo mensagens de correio eletrónico trocadas entre tradutores



e gestores de projeto. Esta análise demonstra que a tradução biomédica envolve uma rede complexa de agentes de tradução que levam a cabo diferentes tarefas tradutórias, nas quais os revisores desempenham um papel fundamental. O tipo de texto mais comum identificado é o texto instrutivo de dispositivos médicos dirigidos a profissionais de saúde.

No seguimento desta avaliação preliminar, para o estudo principal foi adoptada uma metodologia mista com base em abordagens quantitativas e qualitativas do produto e processo, de forma a estudar (i) trinta traduções de um texto instrutivo de um dispositivo médico dirigido a profissionais de saúde, (ii) as preferências tradutórias de quinze revisores e quinze profissionais de saúde relativamente ao mesmo texto instrutivo e (iii) as expectativas destes tradutores, revisores e profissionais de saúde sobre a tradução biomédica.

A experiência envolveu a eliciação de dados de quinze tradutores júnior e quinze tradutores experientes, a quem foi pedido que traduzissem o texto instrutivo. Os dados incluíram registo de movimentos no teclado do computador e gravação do ecrã, versões preliminares e textos de chegada; os mesmos foram triangulados de modo a possibilitar uma descrição empírica do fenómeno tradutório de conteúdos biomédicos. Os dados foram analisados em termos (i) dos problemas tradutórios dos tradutores, (ii) das correspondentes soluções de tradução observadas e (iii) da orientação dos tipos de solução para as culturas e línguas de partida e chegada.

Estes trinta tradutores, conjuntamente com os quinze revisores especializados e quinze profissionais de saúde, foram também convidados a responder a um questionário com o objetivo de eliciar os diferentes tipos de convicções e expectativas, de forma a (i) analisar as expectativas e perceções dos tradutores sobre a forma como estes traduzem e como outros tradutores, revisores e leitores acreditam que os tradutores deviam traduzir, (ii) identificar as preferências tradutórias dos revisores e dos profissionais de saúde e (iii) descrever uma rede complexa de convicções e expectativas que afetam os processos de tomada de decisão dos tradutores e que resulta da interação entre vários agentes com diferentes cargos e níveis de controlo normativo (iv) para propor hipóteses explicativas referentes ao fenómeno de tradução identificado.

Com base na análise do produto, o estudo concluiu que (i) os tradutores juniores e experientes optaram por soluções de tradução regidas pelas culturas e línguas de partida e chegada e (ii) os revisores e os profissionais de saúde optaram pelas traduções maioritariamente regidas pela língua e cultura de chegada. As soluções de tradução regidas pela cultura e língua de chegada (i.e., explicitação, implicação, hiperonímia/hiponímia, omissão, adição e outras alterações de conteúdo) também foram analisadas quanto à sua função textual e potenciais motivações para propor

hipóteses explicativas. Com base na análise do processo, a comparação entre as versões preliminares e os textos de chegada indicou que, embora (i) os tradutores juniores progredissem de versões menos orientadas para a partida para mais orientadas para a partida, (ii) os tradutores experientes progrediram de versões mais orientadas para a partida para menos orientadas para a partida. Com base na análise das convicções e das expectativas, o estudo concluiu que (i) enquanto os tradutores juniores e experientes recorreram a critérios regidos pelas culturas e línguas de partida e chegada para descrever a “correção” de uma tradução, (ii) os revisores e os profissionais de saúde indicaram critérios regidos pelas culturas e línguas de chegada como sendo os mais importantes para descrever a “correção” de uma tradução.

Em suma, o comportamento e as expectativas dos tradutores juniores e experientes apontam para as normas iniciais de orientação para a cultura e língua de partida e de orientação para a cultura e língua de chegada, revelando assim uma valorização de aspetos de ambas as culturas e línguas. Também se apontam outras possíveis motivações para as orientações para as culturas e línguas de partida e de chegada baseadas na análise dos processos de tradutores juniores e experientes referentes (i) ao número de problemas de tradução e (ii) ao tempo empreendido para traduzir o texto de partida. O comportamento e as expectativas dos revisores e profissionais de saúde apontam para uma norma inicial regida pela cultura e língua de chegada, revelando uma valorização superior das culturas e línguas de chegada e do leitor prospetivo. O estudo concluiu também que embora a exatidão (um critério regido pela cultura e língua de partida) seja uma expectativa transversal a todos os agentes, as expectativas referentes à tradução literal (regida pela cultura e língua de partida), transparência e invisibilidade (regida pela cultura e língua de chegada) não são partilhadas pelos tradutores, revisores e profissionais de saúde.

Ao descrever como as perceções e as expectativas referentes à regência das culturas e línguas de partida e chegada podem influenciar as regularidades textuais dos tradutores, as conclusões do presente estudo descritivo constituem um contributo para o aprofundamento do conhecimento sobre as normas tradutórias, em geral, e da tradução biomédica, em particular.

As principais implicações do presente estudo são de quatro tipos: teóricas, metodológicas, práticas e pedagógicas. Ao nível teórico, este estudo propõe uma definição de normas tradutórias que (i) considera a distinção entre discursos ao nível objeto e ao nível meta (baseando-se em Rosa 2016c), (ii) inclui explicitamente o papel das expectativas dos agentes enquanto força motriz de comportamento, conotando o que se considera “correto” e “incorreto” (adaptado de Bicchieri 2017a) e (iii) enfatiza a necessidade de abordar perceções diferentes e, por vezes, contrárias em relação ao que é considerado como “correto” e “incorreto” numa comunidade específica.

Além disso, o estudo apresenta também ferramentas metodológicas, propondo que o estudo das normas tradutórias possa ser aprofundado através da análise comparativa de uma classificação pormenorizada de convicções, atitudes e expectativas elicítadas de diferentes agentes com cargos diversos (adaptado de Bicchieri 2017a). Também descreve como os problemas tradutórios podem ser identificados com base em dados dos registos de movimentos no teclado do computador e gravação de ecrã através uma classificação detalhada das unidades de tradução baseada em indicadores primários e secundários de problemas tradutórios (adaptado a partir de Krings 1986 e Göpferich 2010b) para reconstruir os processos de tomada de decisão do tradutor e, mais especificamente, a distinção metodológica entre uma solução preliminar e uma decisão conscientemente adiada.

As regularidades descritas e as expectativas expressas também têm implicações para a prática de tradução e para a formação de tradutores. Os resultados podem ser integrados na prática tradutória e na formação de tradutores, de forma a desenvolver soluções concretas para abordar as competências tradutórias e boas práticas na indústria das línguas. Recomenda-se que os estudantes sejam formados especificamente no sentido de se promover a consciencialização de modo a monitorizarem e avaliarem, nos seus processos de tomada de decisão de tradução e revisão, de que forma as suas expectativas sobre a tradução e as suas expectativas presumidas sobre os revisores e leitores têm impacto nas suas soluções de tradução.

Dado que a comunicação entre tradutores profissionais e revisores pode contribuir para as perceções distintas identificadas relativamente às expectativas, também são propostas boas práticas para o feedback entre pares. Além disso, as universidades são chamadas a atuarem para promoverem a comunicação entre tradutores profissionais, revisores e leitores nos domínios especializados, contribuindo simultaneamente para colmatar o fosso entre as comunidades profissional e académica.

Palavras-chave: Estudos descritivos de tradução, normas tradutórias, normas presumidas, expectativas, tradução técnico-científica, tradução médica e biomédica.

## **SAMENVATTING**

Op het snijpunt van de beschrijvende vertaalwetenschap en andere sociale wetenschappen legt deze interdisciplinaire, empirische, experimentele en beschrijvende studie zich toe op de vraag of en hoe de besluitvormingsprocessen van vertalers beïnvloed worden door wat ze denken dat de verwachtingen van andere actoren zijn, namelijk die van revisoren en lezers. Hoewel voorkeuren van vertalers al eerder zijn beschreven en toegelicht in de literatuur, is het nog onduidelijk wat de voorkeuren zijn van revisoren en lezers op het gebied van de vertaling en welke verwachtingen zij hebben van vertalers en de vertaalde tekst. Daarnaast is er nog een gebrek aan inzicht over hoe vertalers vertalen, hoe vertalers denken dat ze zouden moeten vertalen en wat vertalers denken dat de verwachtingen van andere vertalers, revisoren en lezers zijn. Om deze kwesties aan te pakken, richt deze studie zich op het verschil tussen waargenomen en vermeende normen in de vertaling van Engelse biomedische teksten naar het Europees Portugees in het hedendaagse Portugal. De studie zoomt in op de voorkeur voor bron- en doeloriëntatie in vertaling, waarbij zowel de praktijken als de overtuigingen van zestig actoren met verschillende rollen en mate van ervaring vergeleken worden: beginnende vertalers, ervaren vertalers, revisoren en professionals in de zorgsector (die het beoogd publiek van de doelttekst voorstellen). De specifieke vraag waar dit onderzoek vooral om draait is: gelet op Engels-Europees Portugees biomedische vertalingen in het hedendaagse Portugal, zijn de waargenomen en vermeende normen op het gebied van vertalingen van beginnende en ervaren vertalers, revisoren en lezers gelijksoortig of verschillend wat betreft bron- en doeloriëntatie?

Voornamelijk geïnformeerd door de metatheoretische, theoretische en methodologische discussies van Toury (1995, 2012), Hermans (1991; 1996; 1999a; 1999b; 2000), Bicchieri (2006, 2017a, en 2017b), en Rosa (2016c), duiken normen en verwachtingen op als een krachtig beschrijvend instrument om normgeleid gedrag te bestuderen en, in het bijzonder, om de complexiteit van besluitvormingsprocessen in vertaling vast te leggen en beter te begrijpen.

Op basis van een verkennende en voorbereidende casestudy, streeft dit proefschrift er eerst naar de praktijk van biomedische vertaling in Portugal te verkennen om te begrijpen wie de betrokken actoren bij biomedische vertaling zijn, wat ze doen, waarvoor, voor welke soort teksten, met welke functie en voor wie. Daartoe werd een corpus geanalyseerd van 700.000 woorden van verschillende soorten tekst met medische en biomedische inhoud die vertaald waren uit het Engels naar het Europees Portugees, waaronder de uitwisseling van e-mails tussen vertalers en projectmanagers. Uit deze analyse blijkt dat er bij biomedische vertalingen sprake is van een complexe structuur van actoren die verschillende taken uitvoeren, waarbij revisoren een sleutelrol spelen. De meest

voorkomende soort tekst die gesignaleerd is, zijn instructieve teksten over medische hulpmiddelen, gericht op professionals in de zorg.

Na deze eerste evaluatie werd, voor het hoofdonderzoek, gebruik gemaakt van een gemengde methodiek gebaseerd op kwantitatieve en kwalitatieve product- en procesgerichte benaderingen ter bestudering van (i) dertig vertalingen van een instructieve tekst over een medisch hulpmiddel bestemd voor professionals in de zorg, (ii) de vertaalvoorkeuren van vijftien revisoren en vijftien professionals in de zorg aangaande dezelfde instructieve tekst en (iii) de verwachtingen van deze vertalers, revisoren en professionals in de zorg over biomedische vertalingen.

Het experiment had als doel het ontlocken van gegevens van vijftien beginnende vertalers en vijftien ervaren vertalers die gevraagd waren een instructieve tekst te vertalen. De gegevens omvatten data van toetsaanslagen en schermopnames, interimversies en doelteksten, en werden door triangulering verwerkt tot een empirische beschrijving van vertaalverschijnselen bij biomedische inhoud. De gegevens werden geanalyseerd in functie van (i) de vertaalproblemen van de vertalers, (ii) de overeenkomstige waargenomen vertaaloplossingen en (iii) de bron- en doeloriëntatie van de soorten oplossingen.

Daarnaast werden deze dertig vertalers, samen met vijftien gespecialiseerde revisoren en vijftien professionals in de zorg, gevraagd om een vragenlijst in te vullen die gericht was (i) op het uitlocken van verschillende soorten overtuigingen en verwachtingen over hoe ze zouden moeten vertalen en hoe andere vertalers, revisoren en lezers menen dat vertalers zouden moeten vertalen, (ii) om de voorkeuren van revisoren en professionals in de zorg op het gebied van vertalen aan te duiden en (iii) een uitgebreid netwerk te beschrijven van overtuigingen en verwachtingen die van invloed zijn op de besluitvormingsprocessen van vertalers, voortvloeiend uit de interactie van meerdere actoren met verschillende rollen en niveaus van normatieve controle (iv) om verklarende hypothesen voor te leggen voor de vastgestelde verschijnselen inzake het vertalen.

Uit de product-analyse werd het in de studie duidelijk dat (i) de beginnende en ervaren vertalers kozen voor bron- en doel-georiënteerde oplossingen voor de vertaling en dat (ii) de revisoren en professionals in de zorg vooral kozen voor doel-georiënteerde vertalingen. De meest voorkomende doel-georiënteerde oplossingen voor de vertaling (d.w.z. explicitatie, implicitatie, hypernymie, omissie, toevoeging en andere wijzigingen in de informatie) werden ook geanalyseerd ten aanzien van hun tekstuele functie en mogelijke beweegredenen werden in verklarende hypothesen voorgesteld. Uit de procesanalyse waarbij de interim-versies en definitieve versies met elkaar vergeleken werden, kwam naar voren dat dat hoewel (i) de beginnende vertalers van minder

letterlijke versies naar meer letterlijke overgingen, hetgeen een verschijnsel van literalisatie suggereert, (ii) de ervaren vertalers overgingen van meer letterlijke versies tot minder letterlijke, hetgeen een verschijnsel van deliteralisatie suggereert. Uit de analyse van de opvattingen en verwachtingen bleek voorts in de studie dat (i) terwijl de beginnende en ervaren vertalers de geschiktheid van een vertaling beschreven met zowel bron- als doel-georiënteerde criteria, de (ii) revisoren en professionals in de zorg doel-georiënteerde criteria benoemden als de belangrijkste om de geschiktheid van een vertaling te beschrijven.

Over het algemeen suggereren het gedrag en de verwachtingen van de beginnende en ervaren vertalers beide initiële normen van bron- en doeloriëntatie, wat laat zien dat er zowel waarde gehecht wordt aan aspecten van de bronculturen en -talen als aan de als doelculturen en -talen. Er wordt ook gesuggereerd dat er andere mogelijke motivaties zijn voor bron- en doel-oriëntatie, op basis van de analyse van de processen van de beginnende en ervaren vertalers in verband met (i) het aantal vertaalproblemen en (ii) de tijd die nodig was om de brontekst te vertalen. Het gedrag en de verwachtingen van revisoren en professionals in de zorg suggereren de initiële norm van doel-oriëntatie, hetgeen een hogere waardering van de doelcultuur en -taal en de beoogde lezer aan het licht brengt. Uit de studie bleek ook dat hoewel accuraatheid (een bron-georiënteerd criterium) een gemeenschappelijke verwachting onder alle actoren is, verwachtingen over letterlijke vertaling (bron-georiënteerd), transparantie en onzichtbaarheid (doel-georiënteerd) niet gedeeld worden door vertalers, revisoren en professionals in de zorg.

Door parallellen aan te tonen tussen enerzijds opvattingen en verwachtingen over bron- en doel-oriëntatie en anderzijds de tekstuele patronen van vertalers, dragen de bevindingen van deze beschrijvende, doel-georiënteerde studie bij tot een dieper inzicht in de normen op het gebied van het vertalen in het algemeen en die op het gebied van biomedische vertalingen in het bijzonder.

De voornaamste implicaties van deze studie kunnen als volgt samengevat worden: theoretisch, methodologisch, praktisch en didactisch. Deze studie werpt theoretische implicaties op die betrekking hebben op vertaalnormen. Met name wordt er een definitie van vertaalnormen voorgesteld die (i) een onderscheid mogelijk maakt tussen beschrijvingen op object- en meta-niveau (Rosa 2016c), (ii) expliciet de rol van de verwachtingen van actoren omvat als een veroorzaker van gedrag, waarbij mee in overweging genomen wordt wat als gepast en ongepast wordt beschouwd (Bicchieri 2017a), en (iii) de nadruk legt op de behoefte om verschillende en soms tegenstrijdige opvattingen aan te pakken over wat in een bepaalde gemeenschap als gepast en ongepast wordt beschouwd.

Bovendien biedt de studie methodologische hulpmiddelen om normen te bestuderen: vertaalnormen kunnen namelijk nader bestudeerd worden via een vergelijkende analyse van een gedetailleerde taxonomie van overtuigingen, opvattingen en verwachtingen die verkregen zijn van verschillende actoren met verschillende rollen ( Bicchieri 2017a). Die studie beschrijft tevens hoe vertaalproblemen kunnen worden geïdentificeerd op basis van het vastleggen van toetsaanslagen en schermopnames via een fijnkorrelige indeling van vertaaleenheden, gebaseerd op primaire en secundaire indicatoren van vertaalproblemen (building on Krings 1986; and Göpferich 2010b). Op die manier kunnen besluitvormingsprocessen van de vertaler gereconstrueerd worden, in het bijzonder, een methodologisch onderscheid gemaakt worden tussen een interim-oplossing en een bewust uitgesteld besluit.

De beschreven patronen en verwachtingen hebben ook implicaties voor de vertaalpraktijk en de vertaalopleiding . Uit de bevindingen kunnen concrete oplossingen worden ontwikkeld en geïntegreerd in beide domeinen ter bevordering van vertaalcompetenties en best practices voor de taalindustrie. Aanbevolen wordt dat studenten specifiek getraind worden om hun zelfbewustzijn te vergroten door hun besluitvormingsprocessen in vertalingen en revisies te monitoren en te evalueren hoe hun verwachtingen over de vertaling en hun vermeende verwachtingen van revisoren en lezers invloed hebben op hun vertaaloplossingen.

Aangezien de communicatie tussen professionele vertalers en revisoren een factor kan zijn in de vorming van de verschillende opvattingen met betrekking tot verwachtingen, worden er ook best practices voor onderlinge feedback voorgesteld. Daarnaast worden universiteiten opgeroepen om de communicatie tussen professionele vertalers, revisoren en lezers in gespecialiseerde domeinen te bevorderen, om zo tegelijkertijd de kloof tussen de universiteiten en de taalindustrie aan te pakken.

Trefwoorden: Beschrijvende en doel-georiënteerde studie, vertaalnormen , vermeende normen, verwachtingen, wetenschappelijke vertaling, technische vertaling, medische en biomedische vertaling.

## **ACKNOWLEDGEMENTS**

You would not be reading this dissertation were it not for the inspiration, work, generosity, and friendship of a number of people and institutions. I would like to use this space to try to convey my deepest appreciation for the part they have played during my studies, although I fear words cannot do it justice.

My first words of thanks go to my supervisors, Dr. habil. Alexandra Assis Rosa and Professor Sonia Vandepitte. I met Dr. Alexandra Assis Rosa in my final year of a BA in Languages and Literature at the University of Lisbon. She was teaching Applied Linguistics and had just submitted her own PhD dissertation. The subject and her teaching and advice were paramount to my decision to pursue a specialization in translation. Her guidance started then and I can safely say that she has shaped my professional and academic career. Her constant willingness to provide help, feedback, and support (often at short notice) have far exceeded all expectations. I take with me her exemplary conduct in research, teaching, and academic life, and I only hope I have the privilege to carry on being considered her student. I thank Professor Sonia Vandepitte for her guidance, availability, and the careful attention that she has dedicated to my research, and for the in-depth knowledge she has so generously shared with me throughout these four years. Her engaging propositions—which made it possible for me to develop responsibility and empowerment—were decisive for the strength of my academic voice. I am truly grateful to have had the privilege of working with these two remarkable academics and amazing women. I would also like to take this opportunity to thank Dr. Klaar Vanopstal, the other member of my doctoral guidance committee. Her input during our meetings was greatly appreciated.

This PhD in co-tutelle is the result of the joint efforts not only of two dedicated supervisors, but also of two universities that made themselves available to work together, solely motivated by this research project. I wish to express my gratitude for the efforts of all the people involved, and I particularly thank Professor Dr. Paulo Alberto, Director of the School of Arts and Humanities at the University of Lisbon at the time of the agreement, and Professor Dr. Marc Boone, Dean of the Faculteit Letteren en Wijsbegeerte, Universiteit Gent. A special thank you also to Dr. Denise Matos Moura of the External Relations Department at the School of Arts and Humanities for all her support with the agreement.

As a visiting PhD student at the Faculteit Letteren en Wijsbegeerte, Universiteit Gent in the first six months of 2016, I thank the Department of Translation, Interpreting and Communication, the head of department, Prof. Dr. Veronique Hoste, and the English section, its researchers, professors, and



staff in particular. The valuable lessons learnt during my time at the department will stay with me. The institution's rich bibliographic resources were highly valuable for my research.

Some of the activities carried out during this PhD would also not have been possible without the financial support of the Lisbon Center for English Studies at the School of Arts and Humanities, University of Lisbon. I would particularly like to thank the Center, its current and former directors, and the Reception and Translation Studies research group for their support. I would also like to thank my research group for the context they provided and their friendly words. On a similar note, I am also grateful to the Center for English, Translation and Anglo-Portuguese Studies, and in particular to the Anglo-Portuguese Studies section and its head, Professor Zulmira Castanheira.

To the NOVA School of Social Sciences and Humanities, the Modern Languages, Cultures and Literature department, the Dean, Professor Francisco Caramelo, the former head of department, Professor Carlos Ceia, and the current head, Professor Carlos Carreto, the coordinator of the BA in Translation, Professor Zulmira Castanheira, the coordinator of the MA in Translation, Professor Gabriela Gândara, and the remaining professors, colleagues, and friends, thank you for your support throughout the six years since I started teaching at this university. A special word of thanks to Professor Iolanda Ramos and Professor Isabel Oliveira Martins for their trust in my professional ability as both a teacher and a translator. Thanks to Professor Rogério Puga and Karen Bennett for lending me bibliography.

To the School of Arts and Humanities, University of Lisbon, to the Department of English Studies and the Department of General and Romance Linguistics, to the Dean, Professor Dr. Miguel Tamen, to the head of the Department of English Studies, Professor Adelaide Meira Serras, and to the head of the Program of Translation and Interpretation, Professor Anabela Gonçalves, to Professor Guilhermina Jorge, to Professors Eduarda Cabrita, Isabel Mealha, and Margarida Vale de Gato, and to the remaining professors, colleagues and friends, thank you for your confidence in my work as a teacher and a researcher. A special thank you goes to Professor Margarida Vale de Gato for her leadership in the PEnPAL project, the stimulating discussions and the shared bibliography, along with Professor Rita Queiroz de Barros.

To my students at both universities, and in particular to students whose work I co-supervised, it has been a challenge and a privilege to have the opportunity to share my translation experience with you, to learn from your questions and inquisitive minds, and to see you become young translators and researchers.

To the professors at the 25th CETRA Research Summer School at KU Leuven and in particular to Professors Luc van Doorslaer, Andrew Chesterman, Yves Gambier and Sara Ramos Pinto, the lessons learnt, feedback received and shared bibliography have had a profound impact on this study and I am sure they will continue to have an impact on my future research. I especially recall a conversation with Professor Chesterman about patterns and several discussions after the course with Professors Yves Gambier and Luc van Doorslaer. These discussions have resonated deeply on the meta-theoretical and theoretical sections of my dissertation.

To the Center for Research and Innovation in Translation and Translation Technology at the Copenhagen Business School and to its instructors and researchers, I was also privileged enough to attend the fifth international PhD course in Translation Process Research in 2015 and the theoretical and technical lessons that I learnt in that period have had a great impact on the methodological and analytical sections of this dissertation. A special thank you must go to Professor Arnt Lykke Jakobsen for his wisdom, kindness and generosity, to Professor Michael Carl for his feedback on my project, and to Professor Moritz J. Schaeffer for his patience and shared bibliography.

Thank you to Dr. Bruce Maylath of North Dakota State University (and to Professor Sonia Vandepitte), founders of the Trans-Atlantic & Pacific Project (TAPP). I have been working with Dr. Maylath and the different technical writing instructors of North Dakota State University on the TAPP project since 2003. The insight gained from exchanges with the writing instructors and the future technical writers was particularly relevant in informing the pre-translation phase and defining the readers of biomedical translations.

Regarding shared bibliography and information, I would also like to thank (in no particular order) Professor Laura Maria Pigozzi of the University of Minnesota, Dr. Maria Cristina De Preter of the European Commission, Dr. Zara Almeida, then of the Portuguese Parliament, Professor Alexandra Lopes, Professor Clara Sarmiento, Professor Fernando Ferreira-Alves, Professor Graça Chorão, Professor Isabel Augusta Chumbo, Professor Joana Guimarães, Professor Pedro Dono López, and Dr. Rita Menezes. A special thank you to the translation companies with which I work that made themselves available to participate or provide feedback and in particular to Found in Translation (thank you Nuno and Telmo), Lionbridge, and Vistatec.

To the participants in this study, without whom this research would not have been possible, I thank you for entrusting me with your work and expectations. To my proofreader, Tom Williams, I thank you for your patience. To Francisco Ferreira, I thank you for your close reading. To Liliana Silva and

Andreia Costa, I thank you for your design work. To Karolien van Eck, I thank you for the translation of the abstract to Dutch.

On an even more personal note, I would like to thank my friends and family, and in particular the Book and Food gang (Raquel, Evinha and Nuno, Aida, and Leonor), Tatiana, Zara and Tom, Zulmira, lolanda and Isabel, Martinha, Rita and her family (thank you for the laughs and exchange of ideas), Irene and her family, Wine, Sara, Francisco, Anocas, Bruno and Hugo, our lovely pet sitters (Mariana and Raquel, Rita and her family, and my parents), Diogo, Bárbara, her mum and her family for making me feel human and like myself. Thank you to my parents, who have always pushed me to work harder, and to my grandmother Guilhermina, who taught me how to read and write, and therefore how to think.

## TABLE OF CONTENTS

LIST OF FIGURES .....	XXI
LIST OF TABLES .....	XXII
LIST OF ABBREVIATIONS .....	XXIV
INTRODUCTION.....	1
<b>PART I. THEORETICAL FRAMEWORK .....</b>	<b>15</b>
<b>CHAPTER 1 — NORMS .....</b>	<b>16</b>
<b>1.1. Introduction.....</b>	<b>16</b>
<b>1.2. Culture, values, and norms .....</b>	<b>16</b>
<b>1.3. Norms in Translation Studies.....</b>	<b>18</b>
<b>1.3.1. Toury’s norms and the paradigm shift .....</b>	<b>19</b>
1.3.1.1. A target-oriented definition of translation .....	20
1.3.1.2. Norm as a purely descriptive tool .....	24
1.3.1.3. Types of translational norms .....	27
<b>1.3.2. Hermans’ meta-theoretical outlook.....</b>	<b>29</b>
<b>1.3.3. Nord’s function-oriented conventions .....</b>	<b>32</b>
<b>1.3.4. Chesterman’s norms as dominating memes.....</b>	<b>33</b>
<b>1.3.5. Simeoni’s and Meylaerts’ transition from norms to habitus .....</b>	<b>36</b>
<b>1.3.6. Malmkjær’s attitudinal and behavioral norms .....</b>	<b>39</b>
<b>1.4. Norms in Social Sciences .....</b>	<b>40</b>
<b>1.4.1. Perkins and Berkowitz’s social norms approach .....</b>	<b>41</b>
<b>1.4.2. Bicchieri’s empirical and normative expectations .....</b>	<b>46</b>
<b>1.5. Translation as norm-governed.....</b>	<b>52</b>
<b>1.5.1. From rules to idiosyncrasies .....</b>	<b>54</b>
<b>1.5.2. Alternative and competing norms .....</b>	<b>57</b>
<b>1.5.3. Norms as non-binding constraints .....</b>	<b>59</b>
<b>1.6. Investigating norms.....</b>	<b>60</b>
<b>1.6.1. Translational norm and its dimensions .....</b>	<b>67</b>
1.6.1.1. Textual data.....	69
1.6.1.2. Extratextual data .....	73
<b>1.6.2. Misperceptions .....</b>	<b>80</b>
<b>1.7. Law of interference .....</b>	<b>81</b>
<b>1.8. Summary.....</b>	<b>84</b>
<b>CHAPTER 2 — SCIENTIFIC-TECHNICAL TRANSLATION AND COMPETING TERMS .....</b>	<b>86</b>
<b>2.1. Introduction.....</b>	<b>86</b>
<b>2.2. Scientific-technical DTS .....</b>	<b>89</b>
<b>2.3. Definitions and competing terms .....</b>	<b>90</b>
<b>2.3.1. Critical voices .....</b>	<b>94</b>
<b>2.4. Portuguese case .....</b>	<b>97</b>
<b>2.4.1. Language market.....</b>	<b>97</b>

2.4.2. Research .....	99
2.4.3. Translation teaching .....	100
2.5. Summary and conclusions .....	102
<b>CHAPTER 3 — MEDICAL AND BIOMEDICAL TRANSLATION: BACKGROUND, CONTEXTS AND AGENTS .....</b>	<b>104</b>
3.1. Introduction.....	104
3.2. Medical communication and Translation Studies.....	104
3.2.1. Medical DTS and translational norms .....	106
3.2.2. Expectations about medical translation .....	108
3.2.3. Biomedical translation literature .....	112
3.3. Definition of medical and biomedical translation .....	113
3.3.1. Medical devices and instructional texts.....	114
3.4. Case study.....	117
3.4.1. Translation company .....	118
3.4.2. Translation agents.....	118
3.4.3. Types of tasks.....	119
3.4.4. Text-types.....	121
3.4.5. Target audience.....	122
3.5. Summary.....	122
<b><u>PART II. METHODOLOGY .....</u></b>	<b><u>124</u></b>
<b>CHAPTER 4 — PROCESS- AND PRODUCT-ORIENTED METHODS AND DATA.....</b>	<b>125</b>
4.1. Introduction.....	125
4.2. Experimental data .....	126
4.2.1. Research questions, data, and methods .....	127
4.2.2. Methodological considerations.....	128
4.2.3. Pilot study and lessons learnt.....	130
4.2.4. Participants .....	133
4.2.4.1. Recruitment.....	135
4.2.5. Design of the main experiment.....	136
4.2.5.1. Translation brief and data collection .....	136
4.2.5.2. Source text.....	137
4.2.5.3. Keylogging .....	138
4.2.5.4. Screen recording.....	139
4.2.5.5. Other complementary data.....	140
4.2.6. Data analysis .....	141
4.2.6.1. Defining translation units and problem indicators .....	141
4.2.6.2. Classification of translation solutions.....	147
4.3. Survey data.....	167
4.3.1. Research questions, data, and methods .....	168
4.3.2. Methodological considerations.....	170
4.3.2.1. Mode of data collection .....	170
4.3.2.2. Validity and reliability.....	171

4.3.3. Data collection and informed consent .....	174
4.3.4. Design of the questionnaires and phrasing of questions .....	176
4.3.5. Data analysis procedures .....	187
4.4. Summary .....	190

**PART III. RESULTS AND DISCUSSION..... 191**

**CHAPTER 5 — NOVICE AND EXPERIENCED TRANSLATORS' NORMS ..... 192**

5.1. Introduction .....	192
5.2. Textual regularities of the novice and experienced translators .....	193
5.2.1. Number of translation problems .....	195
5.2.2. Temporal aspects .....	197
5.2.3. Source-oriented solution types .....	200
5.2.3.1. Literal translations .....	200
5.2.4. Target-oriented solution types .....	200
5.2.4.1. Explication changes .....	201
5.2.4.2. Information changes .....	204
5.3. Novice and experienced translators' belief statements .....	206
5.3.1. Belief statements about themselves .....	207
5.3.1.1. Personal normative beliefs .....	207
5.3.2. Belief statements about other translators .....	207
5.3.2.1. Empirical expectations .....	208
5.3.2.2. Normative expectations .....	210
5.3.3. Belief statements about revisers .....	210
5.3.3.1. Normative attitudes .....	210
5.3.3.2. Empirical expectations .....	212
5.3.3.3. Normative expectations .....	213
5.3.4. Belief statements about readers .....	214
5.3.4.1. Normative attitudes .....	214
5.3.4.2. Empirical expectations .....	215
5.3.4.3. Normative expectations .....	217
5.3.5. Impact of beliefs .....	218
5.4. Summary and conclusions .....	218

**CHAPTER 6 — REVISERS' AND HEALTH PROFESSIONALS' NORMS ..... 224**

6.1. Introduction .....	224
6.2. Revisers' belief statements .....	225
6.2.1. Belief statements about textual preferences .....	226
6.2.2. Belief statements about themselves .....	226
6.2.2.1. Personal empirical beliefs .....	226
6.2.2.2. Personal normative beliefs .....	227
6.2.3. Belief statements about other revisers .....	227
6.2.3.1. Empirical expectations .....	227
6.2.3.2. Normative expectations .....	228

<b>6.2.4. Belief statements about translators</b> .....	228
6.2.4.1. Normative attitudes .....	228
6.2.4.2. Empirical expectations .....	229
6.2.4.3. Normative expectations .....	230
<b>6.2.5. Belief statements about readers</b> .....	230
6.2.5.1. Normative attitudes .....	230
6.2.5.2. Empirical expectations .....	231
6.2.5.3. Normative expectations .....	232
<b>6.2.6. Impact of beliefs</b> .....	232
<b>6.3. Readers' belief statements</b> .....	233
<b>6.3.1. Belief statements about textual preferences</b> .....	234
<b>6.3.2. Belief statements about themselves</b> .....	234
6.3.2.1. Personal empirical beliefs .....	234
6.3.2.2. Personal normative beliefs.....	235
<b>6.3.3. Belief statements about other readers</b> .....	235
6.3.3.1. Empirical expectations .....	235
<b>6.3.4. Belief statements about translators</b> .....	235
6.3.4.1. Normative attitudes .....	235
6.3.4.2. Empirical expectations .....	236
<b>6.4. Summary and conclusions</b> .....	237
<b>6.4.1. Revisers' norms</b> .....	237
<b>6.4.2. Health professionals' norms</b> .....	240
<b>CHAPTER 7 — DISCUSSION AND CONCLUDING REMARKS</b> .....	<b>244</b>
<b>7.1. Summary</b> .....	244
<b>7.2. Observed and perceived norms</b> .....	248
7.2.1. Translators' norms .....	248
7.2.2. Revisers' and health professionals' norms .....	261
<b>7.3. Translators' perceptions and misperceptions</b> .....	263
<b>7.4. Limitations and suggestions for future research</b> .....	274
<b>7.5. Implications of the findings</b> .....	277
<b>REFERENCES</b> .....	<b>283</b>
<b>APPENDICES</b> .....	<b>313</b>

## LIST OF FIGURES

Figure 1. Perkins' model of social norms approach to prevention (reproduced from Perkins 2003, 11). .....	42
Figure 2. Toury's graded continuum of translators' decision-making ranging between absolute rules and pure idiosyncrasies. ....	55
Figure 3. de Geest's semiotic square of normativity. ....	57
Figure 4. Descending the ladder of abstraction: norms. ....	69
Figure 5. Descriptive diagram of the conditions affecting translation behavior. ....	77
Figure 6. Examples of positive statements that express beliefs: personal normative beliefs, normative attitudes, empirical expectations, and normative expectations (adapted from Bicchieri 2017a; 2017b). ....	79
Figure 7. Descriptive diagram of the identifiable variables for a translational norm.....	80
Figure 8. A visualization of Toury's tolerance of interference law. ....	82
Figure 9. Life cycle of a biomedical translation.....	120
Figure 10. Example of coding in NVivo. Question 18 of the revisers' questionnaire. ....	189
Figure 11. Answer to question 18 of the revisers' questionnaire.....	189



## LIST OF TABLES

Table 1. Summary of conceptual interpretations of “norm.” .....	62
Table 2. Types of definitions of norms.....	63
Table 3. Object-level versus meta-level discourse on translational norms (adapted from Rosa 2016c). .....	64
Table 4. Overview of self-beliefs and beliefs about other agents (adapted from Bicchieri 2017a, Kindle location 1153). .....	78
Table 5. State-of-the-art review of the classifications of translation activity (overview). .....	92
Table 6. Systematization of Gouadec’s main categories of translation (2007, 27–28). .....	93
Table 7. Systematization of Gouadec’s subcategories of specialized translation (2007, 28–54). .....	94
Table 8. Publications on scientific-technical translation in Portugal (data collected in August 2017). .....	99
Table 9. Descriptive translation studies of medical translation (data collected in September 2018). .....	107
Table 10. Expectations medical translation (data collected in September 2018). .....	109
Table 11. Biomedical translation (data collected in September 2018).....	112
Table 12. Mixed Editor Order.....	131
Table 13. Draft data, segment 3 of Novice Translator Graça. ....	145
Table 14. Draft data, segment 14 of Novice Translator Luísa.....	145
Table 15. Draft data, segment 22 of Experienced Translator Amélia.....	145
Table 16. Types of beliefs elicited in this study. ....	178
Table 17. Novice translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. ....	193
Table 18. Experienced translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. ....	194
Table 19. Novice translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the lower number of problems based on the mean of 43. ....	196
Table 20. Novice translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the higher number of problems based on the mean of 43. ....	196
Table 21. Experienced translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the lower number of problems based on the mean of 42. ....	197
Table 22. Experienced translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the higher number of problems based on the mean of 42. ....	197
Table 23. Time spent on the task and novice translators’ source-oriented, target-oriented and other solutions in interim and final versions at group level (seconds). Group with least time spent based on the mean of 3096 seconds.....	198
Table 24. Time spent on the task and novice translators’ source-oriented, target-oriented and other solutions in interim and final versions, group level (seconds). Group with most time spent based on the mean of 3096 seconds.....	198

Table 25. Time spent on the task and experienced translators' source-oriented, target-oriented and other solutions in interim and final versions at group level (seconds). Group with least time spent based on the mean of 3317 seconds. ....	199
Table 26. Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level (seconds). Group with most time spent based on the mean of 3317 seconds.....	199
Table 27. Novice translators' literal translations in the interim versions and target texts, group level. ....	200
Table 28. Experienced translators' literal translations in the interim versions and target texts, group level.....	200
Table 29. Novice translators' explicitation and information changes in the interim versions and target texts, group level.....	201
Table 30. Experienced translators' explicitation and information changes in the interim versions and target texts, group level.....	201
Table 31. Novice translators' explicitation changes in the interim versions and target texts, group level.....	202
Table 32. Experienced translators' explicitation changes in the interim versions and target texts, group level. ....	202
Table 33. Novice translators' information changes in the interim versions and target texts, group level.....	204
Table 34. Experienced translators' information changes in the interim versions and target texts, group level. ....	205
Table 35. Percentage of novice and experienced translators' most commonly mentioned criteria to describe translation appropriateness, global level.....	220
Table 36. Percentage of revisers' most commonly mentioned criteria to describe translation appropriateness, global level.....	238
Table 37. Percentage of readers' most commonly mentioned criteria to describe translation appropriateness, global level.....	241

## LIST OF ABBREVIATIONS

APT	Portuguese Association of Translators
APTRAD	Portuguese Association of Translators and Interpreters
BITRA	Bibliography of Interpreting and Translation
CAT	Computer-assisted translation tool
DGEEC	Portuguese Directorate-General for Statistics of Education and Science
DTS	Descriptive Translation Studies
ET	Experienced translator
FIT	Fédération Internationale des Traducteurs
HP	Health professional
LG	Latin-Greek
LGP	Language for General Purposes
LSP	Language for Special Purposes
NT	Novice translator
PM	Project manager
PORBASE	National Bibliographic Database
QC	Quality control
RCAAP	Scientific Open Access Repository of Portugal
RV	Reviser
s.l.	<i>sin loco</i>
SL	Source language
SO	Source-oriented
ST	Source text
STM	Short Term Memory
T	Translator
TAP	Think-aloud protocol
TC	Target culture
TL	Target language
TO	Target-oriented
TSB	Translation Studies Bibliography
TT	Target text

## INTRODUCTION

It is hard to imagine going to a movie theater today and not seeing someone eating popcorn. It has become a habit. Not only is it very common to see moviegoers eating popcorn in movie theaters, but when some people think about movies they associate them almost immediately with popcorn. Popcorn and moviegoing have become almost inseparable. It is part of our shared (Western) history. In large movie theaters, especially in shopping malls, you expect to see other people eating popcorn whether you like or not. So it would be unexpected—strange even—if a member of the audience objected to popcorn eating by asking another person to be quiet or stop eating it or simply looked disapprovingly at the person eating popcorn. Popcorn is not prohibited in theaters. In fact, popcorn eating is the norm in large movie theaters to the point where theaters sell popcorn themselves. Audiences expect to be able to eat popcorn inside a movie theater or to see others eating it. No one is under an obligation to eat popcorn, but if they want to they can. This is not written anywhere, but generally speaking everyone knows it to be true. Children learn it by observing others at the theater.

But this was not always the norm. In the past, both in the United States of America and in Portugal, theaters tried to attract a highbrow audience and did not want to be associated with snacks or the distracting noise of eating during showings. In the United States in particular, “[m]ovie theaters wanted nothing to do with popcorn because they were trying to duplicate what was done in real theaters. They had beautiful carpets and rugs and didn’t want popcorn being ground into it” (Smith interviewed by Geiling 2013). It was not until the Great Depression that popcorn was literally introduced into theaters in the United States by moviegoers buying it from vendors outside the entrance. At first, though, it was explicitly banned. Signs prohibiting people from bringing in popcorn started to appear. In Portugal, the situation is not at all that different. Newspaper articles and opinion pieces published in different media testify to this norm change (Garcia 2009; Ribeiro 2000; *Expresso* 2015; Unas 2016).

So, at first it was implicitly forbidden to eat at cinemas in both the United States and Portugal. Filmgoers could not eat popcorn inside theaters. Everyone knew theaters were not a place to eat even if this was not overtly publicized. However, times changed and this rule became less forceful and movie theaters felt the need to explicitly forbid popcorn eating. It did not work, however. The popularity of popcorn made theater owners reevaluate their rules. More and more people bought popcorn from street vendors and wanted to go to the movies with their popcorn. So the explicit rule of prohibition gradually changed to the current norm of non-prohibition.

This brief historical story taken from people's daily lives demonstrates constraints at work in the form of rules and norms. As norm-governed agents, we clearly understand the difference between a rule and a norm, as in this case. Norms express the socio-cultural notions of what a particular community considers correct and appropriate in a specific situation. We also understand that norms can change over time. In a given time and place, we are able to interpret a situation, evaluate the intersubjective socio-cultural constraints at work and decide how to act based on their normative force. If someone entered the movie theater with popcorn at a time when it was not allowed, they risked being asked to leave. Expectations regarding other people's behavior in society play a central role in social interaction. We understand all this without, in most cases, needing explicit instructions. In the context of translation, translators' behavior is also interpreted as being determined by socio-cultural constraints, as will be seen throughout this dissertation.

Translation is assumed to be governed by norms shared within a specific community. These norms inform what is considered appropriate and inappropriate behavior in a certain context. The success of a translator is often assumed to be associated with her/his competence to navigate through the existing alternative and competing norms, knowing what norms are applicable and not applicable to a particular context (e.g., target culture, language and text-type), and understanding when, how, and why such norms should be applied. These decision-making processes of the translator are assumed to be influenced by (i) what the translator believes to be the appropriate and inappropriate behavior and (ii) her/his knowledge of what the community considers to be appropriate and inappropriate behavior.

Translation regularities have already been systematically, descriptively, and empirically studied, mainly in literary and audiovisual contexts. To date, however, little descriptive and target-oriented research has been carried out, on scientific-technical translation in general and on biomedical translation in particular, regarding (i) the translational preferences of revisers and readers and their expectations not only about translators and the translated text, but also about other revisers and readers; (ii) how translators translate and in particular whether and how their decision-making processes are influenced by what translators believe to be the expectations of other translation agents; (iii) how translators believe they ought to translate; and (iv) what translators think the expectations of other translation agents (including revisers and readers) are.

This study sets out to address these questions from an interdisciplinary, empirical, experimental and descriptive perspective, building on the work developed by descriptive translation scholars, and social and philosophical studies on norms (mainly Toury 1995, 2012, Hermans 1991, 1996, 1998, 1999b, 2000, Bicchieri 2006, 2017a, 2017b; Rosa 2016c). Norms in this context are a productive tool for describing the relationship between source and target products and expectations as indicators of norm-governed behavior. Expectations are particularly relevant to describe and further understand how translators' beliefs affect their decision-making processes. Data on the behavior, expectations and beliefs from agents with different levels of experience and roles have been considered: novice translators, experienced translators, revisers, and readers.

Against this backdrop, the main research question is:

Considering English to European Portuguese biomedical translation in contemporary Portugal, are the observed and perceived translational norms of experienced and novice translators, revisers and readers similar or different regarding source and target orientation?

### **So what?**

Research within Descriptive Translation Studies, mainly dedicated to the study of literary works, aims to systematically describe authentic translational phenomena, analyze the relationship between observed regularities and the socio-cultural context under study with the aim of providing explanatory hypotheses for translational phenomena and “to establish general principles by means of which these phenomena can be explained and predicted” (Holmes 2000, 9–10). This is in consonance with Holmes' proposed objectives of Translation Studies as an empirical research discipline. As stated by Hermans (1998, 65), the primary aim of the study of translation is not to impose *direct* change on translation practice by establishing norms, “but to try to account for what happens on the ground, including the ways in which translation has been conceptualized.” Moreover, the main goal of studying translational norms is not to identify norms per se “but rather to account for translators' choices and thus to explore translation in terms of cultural *expectations*” (Schäffner 2010, 240, emphasis added). The “norm concept,” in this sense, is “an analytical tool in studying translations” (Hermans 1999a, 50). To study translation as norm-governed behavior is to study what is considered translation at a given moment in time, what is considered appropriate in translation (what to translate, how to translate, to and from which languages and cultures), and the role of translations and translators in a given target culture and society. These are the general driving factors of this study.

By mapping the regularities of translational phenomena in a specific language pair and corresponding source and target culture at a particular time and regarding a certain text-type, descriptive translation studies researchers can formulate translational norms that purport to describe and explain observed translation behavior, along with beliefs and expectations. Collecting several *maps* of this kind covering different language combinations and cultures at different times and regarding different text-types—from a theoretical point of view—will enable probabilistic translational laws to be formulated: “the ultimate goal of the [TS] discipline” (Toury 2012, 10).<sup>1</sup> Laws do not describe ideal behavior regarding a set of specific constraints, but observed behavior which can be verbalized by a conditional formula: *if X, then the greater/the lesser the likelihood that Y*, where X stands for a constraint and Y for an observed behavior (Baker 1998, 192). This study in particular sets out to contribute to the growing body of knowledge regarding translation phenomena in the English to European Portuguese language pair.

The formulation of laws is not an endeavor restricted to the descriptive and theoretical branches of Translation Studies. The applied branches of the discipline should also work on the basis of laws of behavior “rather than on some kind of wishful thinking” (Toury 2012, 295). Ultimately, against this backdrop, it can be said that the work undertaken in translator training and translation evaluation as part of the applied branch should be based on the probabilistic laws of translation behavior, and this is one of the motivating factors of this dissertation. In other words, the knowledge gathered by studying how professional translators translate, their decision-making processes and their beliefs and expectations, together with the translational preferences and expectations of revisers and readers, also aims to inform translator training and professional practices.

Given that the intent of formulating probabilistic laws is to describe and explain “the relations between all variables” relevant to a given domain (Toury 2012, 295), it is not possible in my view to formulate laws based on single case studies aimed at studying specific translational phenomena. “What counts for the existence of a norm or a law, since both are explanatory concepts establishing a probabilistic relationship between translationally relevant variables? How can we tell a norm from a law?” Rosa (2016c, lecture) asks, provocatively. It is the cumulative knowledge of descriptive studies combined that may potentially lead to the discovery of *candidates* to laws or, in other words,

---

<sup>1</sup> Toury interprets laws as probabilistic explanations and does not adopt the term “universals” in his writings since a law has “the possibility of *exception* built into it [and] because it should always be possible to explain away (seeming) exceptions to a law with the help of *another* law, operating on *another* level” (2004, 29). The problem with the concept of “universals,” as Toury argues and I agree, is one of explanatory power: “I don’t believe in ‘essentialism’ here more than in any other domain” (2004, 29). Gentzler (1993), another voice to add to the criticism, calls attention primarily to the overgeneralization and establishment of universal laws (within the framework of the polysystem theory) based on “very little evidence.” As he explains and I agree, “a more extensive analysis of textual and cultural relations must take place before “universals” can be persuasively posited” (1993, 228) .

probabilistic laws of translation behavior. Probabilistic laws are theoretical constructs, tentative theories and as such their formulation, “relating all variables found relevant” (Rosa 2016a, under “4.8 Beyond DTS – from norms to laws”), is the result of a process following scientific methodology, i.e., the identification of regularities in specific translational phenomena, the resulting proposal of translational norms to explain those regularities and, from the cumulative findings of descriptive studies, the generalization of the findings. This is a *tentative* theory, a “problem-solving hypothesis” as explained by Chesterman (2016b, 12). As such, and following Popper’s schema of scientific methodology, it should be subjected to a process of error elimination through tests, compared to and contrasted against alternative theories, “checked for internal consistency, checked against new data, checked for the testable hypotheses, and so on” (Chesterman 2016b, 12), resulting in a new conceptualization of the problem and restarting the schema again. Hence the equation: Problem 1 → Tentative Theory → Error Elimination → Problem 2. Therefore, the researcher should start by identifying the problem.

The problem that this study sets out to study is prompted by the law of interference. A number of studies have identified the law of interference as one of the probabilistic translational laws, understood as the tendency to transfer “phenomena pertaining to the make-up of the source text” to the target text (Toury 1995, 274–279). In this context, a central issue for this study is the source orientation tendency found in peripheral cultures and languages that translate texts from hypercentral cultures and languages (Toury 1995, and 2012; Rosa 2004; see § 1.7.). This tendency to lean towards the source in the language pair English to European Portuguese, has been attributed to several factors, including, but not limited to, the peripheral status of Portuguese culture, the position of Portuguese translated literature within the literary polysystem, the prestige of the English literary polysystem, the impact of English as a lingua franca on other languages, including Portuguese, the prestige of the author and of authorship (usually associated with creation and creativity) in contrast to the lack of prestige of the translator and translation (usually associated to reproduction), and the extent to which the Portuguese culture, language and people are permeable to the “Other” (“other” cultures, languages, peoples, individuals).

However, this source orientation tendency has mainly been studied in relation to literary and audiovisual translation. The identified lack of attention in the literature to norms in the translation of texts of a scientific-technical nature, especially adopting a descriptive, empirical and target-oriented approach, plays an important factor in the decision to carry out this study. Biomedical texts in the English to European Portuguese language pair in particular have not attracted the attention of the scholarly community.



The importance of scientific-technical translation in the dissemination of scientific and technical knowledge, in general, and medical communication, in particular, is widely acknowledged (Montalt y Resurrecció and Shuttleworth 2012, 9). Health is a human right; it is internationally accepted as such and considered inseparable from and central to other human rights (World Health Organization 2017b). Translated content undoubtedly plays a decisive role in communication in healthcare settings, of which expert-to-expert communication regarding medical devices has been identified as an area of interest given the role of medical devices in the current provision of healthcare for European citizens and the weight of this industry in the European economy (see European Commission 2018, under “The importance of the medical devices sector”).

In particular, studying how translators translate in the biomedical context (their translation regularities and decision-making processes), their beliefs about translation and the translated text, and the translational preferences of other agents and their expectations *specifically* regarding source and target orientation is relevant because of the power relations they represent. In this scenario, translation is seen as a stage of power exchange, and translational norms and expectations are a particularly operational descriptive tool to analyze friction between power structures and how translation agents actively negotiate power.

As a translator and a translators’ instructor, I have observed the negotiation of power relations not only in the translation act per se when translators/students translate biomedical texts from a prestigious scientific language such as English (and English-language culture) to a peripheral language such as the Portuguese, but also between translators’ beliefs about what translation and the translated text are and translators’ expectations regarding what revisers and the readers expect of their work. It is thus assumed that these expectations influence translators’ decision-making processes, but to what extent, what type of expectations they are, and which perceived expectations (i.e., translators’ beliefs about other agents’ beliefs) and observed expectations (i.e., expectations of the other agents) exist is still very unclear.

Based on the law of interference, the characteristics of this translation market, and the variables selected for analysis, this study is led by the following descriptive hypotheses regarding textual regularities and translational preferences as evidenced by the translation process and product:

— The novice translators’ and the experienced translators’ textual regularities show that the initial norm of **source orientation** motivate 51% or more of the translation solution types identified in the problematic translation units analyzed.

— The novice translators' and the experienced translators' textual regularities show that the initial norm of **target orientation** motivate less than 50% of the translation solution types identified in the problematic translation units analyzed.

— The novice translators employ **more source-oriented translation solutions** than target-oriented translation solutions.

— The revisers' and the health professionals' translational preferences, when evaluating different translations of the same source text, show that the initial norm of **target orientation** motivate more than 91% of the translation solution types identified.

This study is also guided by the following descriptive hypotheses regarding beliefs, attitudes and expectations as evidenced by the elicited belief statements:

— **The novice and the experienced translators** believe that they ought to produce **source-oriented translations**, expressing beliefs of fidelity and loyalty towards the "original" text and the message as the author intended, including a valuation of literal translation. **The novice and the experienced translators** believe other translators, revisers, and readers believe the same as they do, that they ought to produce **source-oriented translations**.

— The **revisers and readers** believe that translations should be **target-oriented** and, therefore, these revisers and readers value target-oriented criteria of appropriateness that guide the relationship between source and target texts.

Lastly, given the previous descriptive hypotheses, it is further hypothesized that **translators tend to opt for source-oriented translation solutions based on their perception of other translators, revisers, and health professionals' expectations** regarding source and target orientation. More specifically, this study formulates the descriptive hypothesis that translators tend to opt for source-oriented translation solutions because they believe others prefer such source-oriented translation solutions. However, it is hypothesized that these perceptions are distinct from the translational preferences and the expectations of these other agents.

Therefore, this study aims to describe the observed and perceived translational norms of the main agents in a biomedical translation workflow. For this purpose, it considers a mixed methodology based on quantitative and qualitative product- and process-oriented approaches.

Firstly, this dissertation sets out to explore the practice of biomedical translation in Portugal to understand who the agents involved in biomedical translation are, what they do, what for, in what

types of texts, with what function and for whom. Given the lack of available data on biomedical translation and the limited research conducted in this field, an exploratory and preliminary case study is adopted to analyze a corpus of 700,000 words of different medical and biomedical text-types submitted to me for translation from English to European Portuguese, including e-mail exchanges between the translator and the project managers. Given the nature of this case study, the size of the corpus, and the restriction of the analysis to one translator and one translation company, the findings refer only to the corpus analyzed and cannot be generalized to other translators and translation contexts in the English-Portuguese language pair in contemporary Portugal. The aim of this case study was first and foremost to explore questions about the translation agents that work in this context and their roles, the text-types that they work on, their respective functions and target audiences.

In a second phase, building on previous studies on translators' processes and products, as well as on research focusing on the measurement of beliefs and expectations, a variety of research data were collected, analyzed and triangulated, including keystrokes, screen-recordings, interim and target texts, and questionnaires.

Specifically, thirty translators—fifteen novice and fifteen experienced—were asked to translate an instructional text about a medical device intended for health professionals in a controlled, experimental setting. Data from keylogging, screen recording, interim versions and target texts were collected. The data were analyzed and triangulated to empirically describe (i) the translators' translation problems, (ii) the corresponding observed translation solutions, and (iii) the source and target orientation of the solution types. These data address the question: what are the textual regularities regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair in the contemporary Portuguese market? i.e., which are the observed translational norms motivating such textual regularities.

This group of thirty translators was also asked to answer a questionnaire designed to elicit a number of different types of beliefs, attitudes and expectations to analyze: (i) how translators believe they should translate; (ii) how translators believe other translators should translate; (iii) what translators believe to be other translators', revisers' and readers' expectations about translators, translation and the translated text in the biomedical context; (iii) if translators' decisions are influenced by what they believe other agents do or think they should do. These data address the question: what are the beliefs, attitudes and expectations (and if these are interdependent) regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair? i.e., which are the perceived norms of novice and experienced translators.

In addition, fifteen revisers and fifteen readers were asked to answer similar questionnaires designed to elicit equivalent types of beliefs, attitudes, and expectations. The first part of the questionnaire aimed at identifying the revisers' and readers' translational preferences by asking them to choose the most appropriate translation from a group of translations of an instructional text for a medical device. The data address the question: what are the textual regularities expressed by preference of revisers and readers regarding source and target orientation in the English to European Portuguese language pair? In the second part of the questionnaire, revisers and readers were asked: (i) how they believe they should assess a translation; (ii) how they believe translators should translate; (iii) what they believe to be translators', revisers' and readers' expectations about translators, translation, and the translated text in the biomedical context; (iii) if their decisions are influenced by what they believe other agents do or think they should do. These data address the question: what are the beliefs, attitudes, and expectations (and if these are interdependent) regarding source and target orientation of revisers and readers in the English to European Portuguese language pair? i.e., which are the perceived norms by revisers and readers.

Thirdly, by comparing the data regarding translators' perceived norms and readers' and revisers' observed norms, this study also addresses the question: is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of revisers and readers and the observed and perceived norms of revisers and readers?

To sum up, this dissertation aims:

- to conduct a descriptive, empirical, experimental and target-oriented study to investigate biomedical translation in the English to European Portuguese language pair in contemporary Portugal, focusing especially on source and target orientation;
- to contribute to translation theory by proposing a conceptual framework for the study of translational norms by considering an original intersection of variables relevant for scientific-technical translation, i.e., different types of observed and perceived beliefs, attitudes and expectations (theoretical and methodological purposes);
- to collect and analyze data on translation processes and products of translators with different levels of experience, describing translation phenomena regarding biomedical content and proposing explanatory hypotheses (descriptive and explanatory purposes);
- to elicit and analyze data on translators', revisers', and readers' translational preferences, beliefs, and expectations and the nature of said beliefs and expectations regarding the translation of biomedical content, describing and proposing explanatory hypotheses (descriptive and explanatory purposes);

- by describing regularities in behavior, beliefs and expectations and analyzing the relationship between them, formulate translational norms that govern the architecture of the translation product and process and thus serve as a model of translation behavior in biomedical settings to both students and trainees (applied research with professional and pedagogical relevance);
- by formulating translational norms, contribute to building a knowledge base on norms to generalize and formulate probabilistic laws in biomedical settings in future studies (predictive and theoretical purposes).

## **Overall structure**

The overall structure of the study takes the form of three distinct parts as follows.

### **Part I. Theoretical framework**

This first part offers a critical presentation and discussion of (i) the interdisciplinary approaches and core concepts adopted in this research project, and (ii) the literature review on translational norms, scientific-technical translation and medical and biomedical translation in an explicit and systematic way.

Chapter 1 introduces the norm theories which set the backdrop for this study of translational norms and defines and operationalizes the norm concept, including the sources of data for this study on translational norms. This introductory chapter starts by discussing the concepts of culture and values, followed by a literature review of norms in Translation Studies and Social Sciences. From the literature review on norms in Translation Studies, Toury (1995, 2012), Hermans (1991, 1996, 1998, 1999b, 2000), Nord (1991a), Chesterman (1993, 1997, 1999, 2005, 2006, 2016b), Simeoni (1998), Meylaerts (2008), and Malmkjær (2008) were identified as the most relevant for this study (§ 1.3.). From the literature review on norms in Social Sciences, two complementary theories were identified: Perkins and Berkowitz's social norms approach (mainly Perkins and Berkowitz 1986; Perkins 2002, and 2003, Berkowitz 2004, and 2005) and Bicchieri's philosophical approach based on game theory (mainly Bicchieri and Muldoon 2014; Bicchieri 2006, 2017a, and 2017b) (§ 1.4.). After critically reviewing the main theoretical approaches relevant for this study, it then goes on to propose a definition of translational norms considering (i) the distinction between object- and meta-level discourses (building on Rosa 2016c), (ii) the role of agents' expectations as a driver of behavior, connoting what is considered appropriate and inappropriate in a specific context (adapted from Bicchieri 2017a), and (iii) the similarities and disparities between observed norms and perceived norms. In particular, this chapter proposes the reconstruction of translational norms based on

textual data (interim versions and target texts) and extratextual data (belief statements about personal normative beliefs, normative attitudes, normative expectations, and empirical expectations). By introducing these beliefs adapted from Bicchieri's approach, this research proposes new variables to study and describe what is considered appropriate and inappropriate behavior in a specific situation embedded in a certain target culture, language, and system (§ 1.4.2. and 1.6.). The last section addresses the law of interference as one of the driving factors that guide this dissertation, including the source orientation tendency suggested by literary and audiovisual descriptive studies in English to European Portuguese.

Chapter 2 contextualizes the dissertation within scientific-technical translation studies by conducting a survey of the literature as well as analyzing Portuguese perspectives on scientific-technical translation. This chapter is divided in three main sections. It begins by presenting a survey of descriptive scientific-technical translation studies conducted in the Translation Studies Bibliography in order to understand the extent to which scientific-technical translation has been studied from a descriptive, target-oriented approach. Next, a survey on the categories and definitions related to scientific-technical translation used in translation research is presented. These definitions are organized by criteria (by subject matter or domain, text-type or genre, end purpose or function, type of media, degree of specialization or prospective reader, task, translation strategy and degree of human involvement) matched with examples of these types of translation activities and the authors that use these definitions in their research. The main criticisms voiced against these categories and related terms and an overview of proposals that question such kinds of categorizations are then presented. In the final section, the extent to which scientific-technical translation and related terms are used in the Portuguese translation market, Portuguese research, and Portuguese universities are discussed. The chapter concludes by providing a working definition of scientific-technical translation for research purposes in the European Portuguese context.

Chapter 3 zooms in on biomedical translation by examining (i) how medical and biomedical communication has been studied within Translation Studies, (ii) what is meant by biomedical translation, by providing background information on the international medical devices industry, medical devices, and the text-types that are used together with medical devices, and (iii) what types of tasks are performed, what the text-types are and who the target audience is, by addressing and exploring who the translation agents involved in the practice of biomedical translation in English to European Portuguese are. To this end, firstly, a detailed and systematic literature review of the body of published research on medical and biomedical translation is presented and described, based on a survey conducted in the Translation Studies Bibliography. This survey identified the relevant studies

published and summarized their aims, methods, and data, focusing especially on research (i) of a descriptive and target-oriented nature on medical translation, (ii) on medical translational norms, (iii) on expectations about medical translation, and (iv) on biomedical translation. Section 3.3. defines medical translation, based on the accepted definition used in the identified literature review, and a working definition of biomedical translation is proposed. The chapter moves on to contextualize biomedical translation by introducing medical devices and the medical devices industry, together with the texts accompanying these devices. The last section sets out to explore the practice of biomedical translation in Portugal from English to European Portuguese to address the following questions: who are the agents involved in biomedical translation, what do they do, what for, in what types of texts, with what function and for whom? Given the lack of available data on this topic, a case study approach was adopted to explore these questions, and a corpus of approximately 700,000 words of different medical and biomedical text-types translated from English to European Portuguese submitted to me is analyzed, including e-mail exchanges between the translator and the project managers. The findings from this case study are not intended to be generalizable to biomedical translation performed in the Portuguese context, but only to explore this theme for the first time.

## **Part II. Methodology**

After contextualizing this study of translational norms in biomedical translation, the second part of the dissertation describes the data collection procedures and analysis methods.

The first half of Chapter 4 is concerned with the methodology employed in the main experiment. It begins by listing the research questions that the experimental data aim to address. Next, it discusses the methodological considerations taken into account to ensure the validity and reliability of the research findings. It also presents the research report, including (i) the participants' profiles, selection criteria and recruitment, (ii) the aim, design and results of a pilot study, (iii) the design of the experiment, including materials and the source text, the translation brief, data collection process, and data sources (keylogging, screen-recording, and other complementary methods). The following section describes the methods applied to analyze the data, i.e., (i) the operationalization of units of analysis, (ii) problem indicators, and (iii) the classification of textual solutions. This report is intended to be as thorough as possible, since replicability was identified as an important aspect for the validity of this study and the methods used in the study are not common in translation studies conducted in Portugal.

The second half of Chapter 4 presents the survey methods and data. It begins by identifying the research questions that the survey data aims to address. Next, it discusses the main methodological considerations regarding the mode of data collection and the validity and reliability of the methods and data. It also describes the informed consent for the data collection and the design of the questionnaires and phrasing of the questions, including a detailed description of the types of questions and the reasons for which they were chosen, explaining in detail the relation between the variables and the phrasing of the questions to be included in the questionnaires. The last section focuses on the procedures used in the analysis of the survey data, based on the emerging themes.

### **Part III. Results and discussion**

The findings of the quantitative and qualitative study are presented in two chapters included in this last part.

Chapter 5 describes the analysis of data on translation practice (as product and process) and on beliefs, attitudes, and expectations towards translation and the translated text of novice and experienced translators. Based on keystrokes, screen-recordings, and interim and target texts from thirty translators, the data were analyzed and triangulated to describe in empirical terms (i) the observed translation solutions to translation problems, and (ii) the source and target orientation of the solution types. Based on the questionnaires of these thirty translators, the data were also analyzed and triangulated to describe (i) how the translators believe they should translate; (ii) how the translators believe other translators should translate; (iii) what the translators believe are other translators', revisers', and readers' expectations about translators, translation, and the translated text in the biomedical context; (iii) if the translators' decisions are influenced by what they believe other agents do or think they should do.

The sixth chapter describes data on translational preferences and on revisers' and readers' beliefs, attitudes, and expectations towards translation and the translated text. Based on the questionnaires of fifteen revisers and fifteen health professionals, the data were analyzed and triangulated to describe (i) the revisers' and readers' translational preferences, (i) how they believe they should assess a translation; (ii) how they believe translators should translate; (iii) what they believe translators', revisers', and readers' expectations are about translators, translation, and the translated text; and (iii) whether or not their decisions are influenced by what they believe other agents do or think they should do.



The final sections of Chapters 5 and 6 offer a comparative analysis of the norms of each participant group and their perceptions on other participant group norms.

Chapter 7 provides a presentation and discussion of the overall conclusions regarding the translational norms of translators, revisers and health professionals, and translators' perceptions and misperceptions about revisers' and health professionals' norms. Limitations and suggestions for future research and the implications of the findings are also presented.

# **PART I. Theoretical Framework**

---

**Chapter 1 — Norms**

**Chapter 2 — Scientific-technical Translation and Competing Terms**

**Chapter 3 — Medical and Biomedical Translation: Background, Contexts and Agents**

## CHAPTER 1 — NORMS

### 1.1. Introduction

Assuming that translation is norm-governed, this chapter introduces the theoretical framework—norm theories—which forms the main basis for this study. The guiding concepts are culture, norms, and expectations, and the first section commences by discussing the first two concepts. This discussion is inevitably introductory, although critical, and includes a literature review of norms in Translation Studies and Social Sciences. The aim of this chapter is not to introduce the reader to norm theories (or to Descriptive Translation Studies, for that matter), but to set the backdrop against which this research is conducted. To that end, attention is focused on the background of the concept of norm. Having reviewed the main theories that inform this study, the main tenets for an interdisciplinary and empirical study of translational norms are then provided based on the definition and operationalization of the norm concept and the main dimensions thereof, paying special attention to the role of social expectations. The last section focuses on the main motivating factor that drives this study, hence explaining the value of the present dissertation.

### 1.2. Culture, values, and norms

Agents, as the term implies, do not just live and act passively within a culture. Endowed with agency—“the capacity to exert power in an intentional way” (Buzelin 2011, 6)—they make use of elements of culture to inform their decision-making.

Underpinning this view is the definition of culture as “a ‘tool kit’ of symbols, stories, rituals, and world-views, which people may use in varying configurations to solve different kinds of problems” (Swidler 1986, 273).<sup>1</sup> These “symbolic vehicles of meaning” to which Swidler refers in one of the best-known papers in sociology include “beliefs, ritual practices, art forms, and ceremonies, as well as informal cultural practices such as language, gossip, stories, and rituals of daily life” (Swidler 1986, 273).

---

<sup>1</sup> The definition of “culture” has been the subject of lively debate for “several academic generations” (Swidler 1986, 273). Interestingly, Merriam-Webster announced at the end of 2014 that culture was its word of the year. This is evidence that culture continues to be a source of confusion (Rothman 2014, para. 1). The aim of this dissertation is not to add to this discussion, however. The frequently used definition of culture in the literature as a people’s way of life and its connections to related terms such as civilization (Nunes 2009, s.l.) is not adopted in this dissertation. Instead, Swidler’s definition of culture and values is used because of its relevance to the concept of norms as suggested by Toury *a propos* the definition of norms itself: “Norms are therefore an important part of what Swidler and others would call a ‘tool kit’: while they are not strategies of action in themselves, they certainly give rise to such strategies and lend them both form and justification” (Toury 2012, 63).

Faced with a problem, the agent makes choices limited by objective constraints and “governed by normative regulation of the means and ends of action” (Swidler 1986, 273). This choice-making is regulated by “a cultural tradition” of “value orientations” (Parsons 1951, 11–12; Swidler 1986, 274). In a nutshell, choices are usually limited to the tool kit.

Adopting a Parsonian view of values as “abstract, general and immanent” entities that play a central role in social systems, Swidler clarifies that values explain the various choices made by the different agents. However, according to her, values cannot be studied since they are the “essences around which societies are constituted,” “the unmoved mover in the theory of action” (Swidler 1986, 273). Value is further defined as “an element of a shared symbolic system which serves as a criterion or standard for selection among the alternatives of orientation which are intrinsically open in a situation” (Parsons 1951, 11–12).

The “strategies of action” on which the agent’s choices are based *are not for the most part* random, unique or even innovative. They are based on “pre-fabricated links” (Swidler 1986, 277). Nonetheless, culture does not determine how or to what end a particular line of action is applied. Culture does not *set* action or define the outcome. Faced with the same problem, different agents can be observed to opt for different “strategies of action.” Values are therefore not the causal element of culture (Swidler 1986, 277). Thus, culture can be defined as a “repertoire” or a “set of skills and habits” from which agents select the parts that are most useful for constructing their own “strategies of action” (Swidler 1986, 277).

Connecting the concept of habits to Bourdieu’s theory of habitus—to which Swidler very briefly refers in a footnote—is fruitful for this argument. At the core of Swidler’s (1986) and Bourdieu’s (1990) work is the question of power, the (re)negotiation of power and the clash between the habitus—the *range of resources or capital belonging to an agent*—and a specific field—*one of society’s distinct arenas of practice*. As Thompson (1991, 12) clarifies in his introduction to Bourdieu’s *Language and Symbolic Power*:

The habitus is a set of dispositions which incline agents to act and react in certain ways. The dispositions generate practices, perceptions and attitudes which are ‘regular’ without being consciously coordinated or governed by any ‘rule’ ... Through a myriad of mundane processes of training and learning ... the individual acquires a set of dispositions which literally mold the body and become second nature. The dispositions produced thereby are also structured in the sense that they unavoidably reflect the social conditions within which they were acquired.

An agent, when *confronted* with a particular field, calls upon the habitus, in Bourdieu's terms, or Swidler's repertoire to navigate through problems. There are norms in place in this field. There is an expectation of what an agent can and cannot do, ought and ought not to do. The decision-making process for solving the problems the agent is facing—the agent's observable behavior and beliefs—is governed by norms. Norms are not values per se. Norms are values put into action.

### 1.3. Norms in Translation Studies

Norms were introduced to (Descriptive) Translation Studies<sup>2</sup> by Gideon Toury in the late 1970s as a descriptive tool to study and describe the relationship between source and target products. Since then, translational norms<sup>3</sup> have lent themselves to theoretical, meta-theoretical and methodological discussions of great depth in Translation Studies. However, even though norms have become a central concept in Descriptive Translation Studies<sup>4</sup> and studies of a descriptive nature, in particular product and function-oriented studies, a generally accepted definition of norms is lacking (see Schäffner 1999a).<sup>5</sup>

---

<sup>2</sup> Chesterman (2016b, 34) observes that the term Translation Studies is frequently applied when referring to target-oriented studies after Holmes' paper (2000). However, Simeoni (1998, 4) rightly argues that it is Toury's reinterpretation of Holmes' map of Translation Studies that causes function-oriented research to take center stage, and not Holmes himself:

Holmes' conceptualization itemized the various branches of the future discipline as equal partners in a common venture. Toury's original blend of Jakobsonian structuralism and classic empiricism raised function-oriented research to pivotal status, a higher node in the tree of knowledge constitutive of the discipline. In the new scheme, function-oriented research not only dominates product- and process-oriented inquiry; it also governs the applied and theoretical branches.

Nevertheless, when Translation Studies is described as a pure and descriptive research discipline with the two main aims of describing the observed process and product of actual end-products and establishing general explanatory principles of translational phenomena, it largely refers to descriptive, target-oriented studies.

<sup>3</sup> Norms of translation are referred to in the literature as *translation norms*, *translational norms* and *translative norms*. Even though the term *translation norms* is the most widespread (cf. Baker 1998; or Schäffner 2010), the term *translational norms* is adopted in this dissertation given that this is the term used in the work of Gideon Toury, upon which the theoretical framework of this dissertation is primarily based.

<sup>4</sup> In this dissertation, Descriptive Translation Studies (in title case) or DTS refers to the branch of Translation Studies, and descriptive translation study or studies (in lower case) refers to studies based on the DTS approach.

<sup>5</sup> Baker in *Routledge Encyclopedia of Translation Studies* stated that the concept of "norms" had "supported **the most active** research programme in translation studies to date" (1998, 163; emphasis added). In its second edition, in co-authorship with Gabriela Saldanha, she states that it "has supported **an extensive programme** of research in translation studies, though mainly in the domain of written translation" (2009, 189; emphasis added). Brownlie (2003b, 39) also states that norms "have been extremely influential and fruitful" in fostering research.

In order to further establish the relevance of research on translational norms, a search was carried out in the Translation Studies bibliographies (*Translation Studies Bibliography*, *TSB*, and *Bibliography of Interpreting and Translation*, *BITRA*). A simple search for "norm" in the TSB and BITRA returned 480 and 2360 publications respectively in November 2016, and 494 and 2384 publications respectively in April 2017. Even though these results cannot be taken to indicate that 2384 studies have been published on translational norms nor that there has been a slight growth in the number of publications on translational norms, they may suggest extensive interest in this topic.

“Translation scholars still disagree how the concept should be defined and interpreted,” Chesterman (2002, 5) has pointed out. As he duly notes, there seems to be terminological confusion between prescriptive discourse and discourse about norms or, in other words, about the prescriptive and descriptive senses of “norms” and “normative” (Chesterman 1993, 11–13, 2006, *passim*, 2016b, 50–52). In short, there are two senses of norm and normative in the literature: (i) under the prescriptive interpretation, norms are the standards (or “models” in Hermans’ terms, 1991) by which a group of people should guide its behavior; (ii) in a descriptive interpretation, norms account for the behavior and beliefs that a particular community regards as desirable. Because of its prescriptive sense, some scholars “shun the use of the word” (Chesterman 1993, 11) even though it is the descriptive sense which has been most commonly adopted in research within Descriptive Translation Studies and it is in this sense that norm is used by the selected authors for the following literature overview.

This section presents a general overview of the main interpretations of the term “norms” and their respective characteristics by author and in chronological order, of which Toury (1995, 2012), Hermans (1991, 1996, 1998, 1999b, 2000), Nord (1991a), Chesterman (1993, 1997, 1999, 2005, 2006, 2016b), Simeoni (1998), Meylaerts (2008), and Malmkjær (2008) are considered, for the present purposes, the most relevant contributors. Given that the focus of this overview is on the different conceptual interpretations of the norm concept, authors who have discussed the concept and its implications but have not added a different voice or argument to the discussion will not be covered, regardless of their importance to the body of knowledge on translational norms, like, for instance, Baker (1998; Baker and Saldanha 2009), Schäffner (ed. 1999b and 2010), or Brownlie (1999). Also, literature on interpreting norms is not covered given that it falls outside the scope of this dissertation (e.g., Shlesinger 1999).

### **1.3.1. Toury’s norms and the paradigm shift**

With the move from a prescriptive to a descriptive approach, attention has been increasingly focused on alternative ways to study and describe the relationship between source and target (con)texts. Equivalence-based theories gave way to functionalism and Descriptive Translation Studies in the 1970s (see Schäffner 2010, 235). (That is not to say that “equivalence” has been completely disregarded or that prescriptivism has been entirely *eradicated*.)

Gideon Toury (mainly 1995, 2012) was the scholar responsible for “turning Translation Studies towards the study of norms, initiating a sociological, quantitative approach in Translation Studies” (in an interview by Pym 2012a), concurrently with other scholars from the Low Countries and Israel working not together but along the same lines, both groups influenced by late Russian Formalists.

However, as Toury maintains, the introduction of the norm concept—and of the descriptive approach to Translation Studies for that matter—is not the sole result of one scholar’s work; not even his, in his own words. When interviewed by Anthony Pym in Tarragona in 2008, Toury stated:

I don’t think that anybody is the founder of anything. ... Whatever you do linguistically or non-linguistically is based on something else that somebody else did before and what that somebody did before was already based on something else. You could, if you wanted, trace it back as far as possible but most people would not do it. It is very convenient for them to find—I could almost say—a scapegoat. (in an interview by Pym 2012a)

As Toury (2012, 61) himself points out, this *marriage* between norms and translation was already implicitly present in Jiří Levý (1967, 1969) and James Holmes (1988), and these scholars in turn could have named predecessors to their reasoning. The work of Itamar Even-Zohar (written between 1970 and 1977 and collected in *Papers in Historical Poetics* in 1978) is also partly responsible for undergirding this change of focus. In fact, the influence of Even-Zohar and the polysystem theory<sup>6</sup> on the work of (Descriptive) Translation Studies in general and Gideon Toury in particular is so great that Gentzler (2001) describes the polysystem theory and translation studies “at least during the 1980s” as “almost indistinguishable.” The polysystem theory allowed for this new take on the study of translation: from “an evaluative comparison of source and target texts, in isolation from both the source and target contexts of literary production” “towards a historical and social understanding of the way they function collectively, as a subsystem within the target literary system” (Baker and Saldanha 2009, 189–90). As Baker and Saldanha (2009, 189–90) recall, Even-Zohar’s work also influenced Toury’s output in other ways, namely, (i) the encouragement to study of what translation is rather than what the researcher believes it to be or wants it to be; (ii) the historically grounded study of translation within the target culture context; and (iii) the grounds—through the polysystem theory—to look outside translations and include extratextual sources in translation studies.

#### 1.3.1.1. A target-oriented definition of translation

With the move to a descriptive approach, translation scholars have, since the beginning, set the goal of honoring the target context/product and diverting attention away from an approach focused on pre-determined rules as to what is considered a good or bad translation or translator to move towards a contextual “equivalence within a target-oriented framework concerned first and foremost with aspects of *target cultures* rather than with *linguistic* elements of *source* texts” (Leal 2012, under

---

<sup>6</sup> The polysystem is defined, in short, by Shuttleworth and Cowie (1997, 176) as “a heterogeneous, hierarchized conglomerate (or system) of systems which interact to bring about an ongoing, dynamic process of evolution within the polysystem as a whole.” See § 1.7. for a brief overview of the polysystem theory and its relevance for the present study.

“2.1. Change to descriptivism?”). This turn allowed for a new reflection on the relationship between “original” and translated texts, or, more precisely, taking into consideration this theoretical framework, the relationship between source and target texts. For it is in this context that the term “original” (as opposed to source text) can be questioned: “original” calls attention to the similarities and differences between source and target texts, assuming simultaneously the existence of an objective, unique, ideal and idyllic truth and the impossibility of creating an equivalent text in another language with the same stance and status of the source text.<sup>7</sup>

Historically, the term “original” has been used mainly by equivalence-based theoreticians and therefore denotes an allegiance to source-oriented studies. At the heart of these discourses is an implicit (or even quite explicit) hierarchy. By dropping the term “original,” the focus of the research is on the negotiated meaning, which is historically and socially grounded. As Chesterman (2016b, 9) argues, “our words are not ours: they have been used before, and our own use is inevitably tainted by their previous usage, in other people’s mouths. There are no ‘originals’; all we *can* do is translate.”

A descriptive approach not only questions originality, but also the connotations of using the term “original” and what it says about those who use it. Although it is not the purpose of this chapter to contextualize the denotations of this term (for more see, for instance, Laiho 2013), it is my belief that the choice of terms in one’s work denotes one’s school of thought and therefore, for the sake of clarity, the term “original” will be used in this dissertation solely and purposely when associated with source-oriented studies, and the terms “source text” and “target text” or “translation” will be adopted in all other instances.<sup>8</sup>

The shift in attention from the source culture to the target culture—reflected in the previous paragraphs—coincides with the target-oriented reconceptualization of translation that is echoed in the definition proposed by Toury (2012, 23; emphasis added): “Translations are facts of target cultures; on occasion facts of a peculiar status, sometimes constituting identifiable (sub)systems of their own, **but of the target culture in any event.**”

Crucially, this definition leaves room for different definitions of translation to emerge within the target cultures themselves. The underlying principle is that “there is no single feature that all

---

<sup>7</sup> Rosa (2016a, under “2. The Manipulation School”), for instance, highlights the deep-rooted connection between source-oriented approaches to translation, a priori and prescriptive definitions of translation, and the (almost) default generalization that (any) translation is of poor(est) quality in comparison with the so-called original.

<sup>8</sup> It is unfortunate, however, that translation studies have yet to surpass the need for binary oppositions, replacing “original” vs. “translation” with yet another binary opposition: “source text” and “target text.”



translations, in all cultures, past, present and future, will ever have in common; hence, the unsurmountable difficulties in producing a definition of translation” (Toury 2012, 69). The object of research is thus not predefined, and a priori limitations on its nature or (the researcher’s) normative formulations of what is or is not a (good) translation are therefore avoided from the start.

On this subject, Toury (2012, 26) states:

Any definition [of translation], especially if couched in essentialist terms, specifying what is “inherently” translational, would involve the untenable pretense of fixing, once and for all, the boundaries of a kind of object that is characterized by its inherent variability: — difference across cultures, — variation within a culture, and — changes over time.

Since “translations do not come into being in a vacuum,” it is the “[prospective] position (also called ‘function’) of a translation within a culture or a particular section thereof” that should be “regarded as a strong governing factor of the very make-up of the product, in terms of underlying models, linguistic representation, or both” (Toury 2012, 6); in short, “translation is thus as good as initiated by the target culture” (Toury 2012, 22).

“This focus on description is in line with the agenda of developing (Descriptive) Translation Studies as a research-based and empirical academic discipline,” clarifies Schäffner (2010, 237). Toury felt the need for a *descriptive tool* that could take the place of prescriptive a priori considerations of what was considered an appropriate translation product. This required a redefinition of the relationship between the source and the target (con)texts as well as a redefinition of *translation* itself. Translation, in this context, is reinterpreted as motivated, context-dependent social behavior that goes “beyond a more narrow view of translation as meaning transfer” (Schäffner 2010, 236) and Translation Studies as a “contextual study of translation” (Rosa 2016c, s.l.).

Translations are analyzed not on the basis of what they *should* be like but on the basis of what they actually *are*. As a result, researchers do not exclude from their research (target) texts considered to fall outside the scope of translation, such as, for example, pseudotranslations<sup>9</sup> or adaptations, and instead consider “the translated text as it is” (Hermans 1985, 12–13). On this matter, Toury (1995, 20) defines the object of research as “any target language utterance which is presented or regarded as such within the target culture,” and it is therefore strongly associated with empirical evidence and observational studies, the guiding principles of the present study.

---

<sup>9</sup> See Toury (2012, 47–60) regarding pseudotranslations.

Against this backdrop, there is the definition of “assumed translation” as “any target-culture text for which there are reasons to tentatively posit the existence of another text, in another culture/language, from which it was presumably derived by transfer operations and to which it is now tied by a set of relationships based on shared features, some of which may be regarded—within the culture in question—as necessary and/or sufficient” (Toury 2012, 30–31). This definition is mirrored in the three assumptions or postulates proposed by Toury, namely:

- (i) source-text postulate: one assumes the existence of a source text even though this is not always the case;<sup>10</sup>
- (ii) transfer postulate: the translation process involves transfer and it is the researcher’s task to determine what was transferred, how and why;
- (iii) relationship postulate: the existence of a target text implies a relationship with a source text, the nature of which is to be ascertained on a case-by-case basis.

These postulates, however, have been criticized (for instance, by Pym in Rosa 2016c, s.l.) for imposing a Western perspective on the concept of translation. The perspective adopted here is also that the postulates impose a source-oriented dependence that may limit the view of translation in certain contexts. An alternative to the postulates proposed by Toury is to consider as a translation any text that has been claimed as such, regardless of its dependence on an assumed source text and the relationship between the target and the source, and when the readers of the text also accept that such translation has taken place. These are the assumptions regarding the translated text adopted throughout this dissertation. As Baker and Saldanha (2009, 190) put it: “Rather than attempting to evaluate translations, the focus here is on investigating the evaluative yardstick that is used in making statements about translation in a given sociocultural context,” or, in other words, the focus is on investigating translational norms.

In my reading of Toury’s work, the redefinition and reconceptualization of translation—and of translators, it can be said—as “facts of target cultures” are theoretical constructs. One of the main aims of this position is to seek to establish an intersubjective relationship between the researcher and the phenomena researched. It is, thus, at once a working hypothesis and an assumption based on which the researcher will work and is therefore not considered a reality per se. So, this definition is a constructed idea and as such it is “only real in the sense that ... constructed ideas ... are continually being reviewed by those involved in them [the social agents],” as Matthews and Ross

---

<sup>10</sup> A useful example of a target text with several source texts rather than *one* is the case of translation in newsrooms where the news piece is constructed from several source texts through transedition (see, for example, J. Ferreira 2013; F. Ferreira 2015; Cruz 2016, for more on what happens in Portuguese newsrooms). Pseudotranslation is also a well-known example for illustrating the source-text postulate.

(2010, 25) say apropos of constructivism.<sup>11</sup> In this regard, Chesterman and Arrojo (2000, 152) explain the following:

Any definition of anything is theory-bound, so there is no such thing as a totally objective definition of “translation” that we can take for granted before we start studying it, as there will never be any definition of translation that will be all-inclusive. We start with a preliminary working definition, and refine it as we go along. Different scholars, with different research aims, tend to start (and end up) with different definitions. We should aim to be as aware as possible of why we choose or accept a particular definition and/or conception of translation.

To study translation is to expose the “definition and/or conception of translation” at a given moment in time and for a particular community as act and event. In this definition, act refers to what happens in the translator’s mind during translation. Event is understood as a sociological concept that encompasses the whole translation process from the client’s selection of the translator or the writing of the source text to the submission of the translation to the client, the reading of the translation or the payment of the translator (Chesterman 2016a, 108).<sup>12</sup> In other words, “the observable framework in which the cognitive translation act takes place” (Chesterman 2013, 56).

A translation is thus defined as the socio-cultural construct of a translation event and of a translation act. It is in this sense that “translation” is interpreted in this dissertation. Translation, as it is understood here, is both the act and the event. On this topic, Toury (2012, 67) clarifies that “the relation between a mentalist approach to translation and its observation through a socio-cultural prism, which is at the root of the application of the notion of norm, is not really one of *opposition*” and calls for “closer cooperation between Cognitivists and Translation scholars.” This dissertation is an attempt to answer that call.

#### 1.3.1.2. Norm as a purely descriptive tool

If an empirical-descriptive branch<sup>13</sup> was to be developed, a *descriptive tool* that could account for the relationship between source and target products had to be put forward. This descriptive tool was defined by Toury as

---

<sup>11</sup> Also quoted by Saldanha and O’Brien (2013, iBook location 65).

<sup>12</sup> The distinction between act and event was implied by Toury (see 1995, 249) and inspired scholars, namely Chesterman, to draw this distinction. It is in the 2012 revised version, however, that Toury clarifies the difference between act and event (see 2012, 67–69).

<sup>13</sup> It should be noted that it is not the aim of the Theoretical Framework in general to contextualize the birth of Descriptive Translation Studies. In my view, translational norms and the study thereof are—as will be seen in this section—closely connected to Descriptive Translation Studies and its agenda but they are not synonyms or interpreted as such. For a historical overview of the branch of Descriptive Translation Studies, see Rosa 2016a.

**the translation of general values or ideas** shared by a community—as to what would count as right or wrong, adequate or inadequate—into **performance ‘instructions’** appropriate for and applicable to concrete situations. These ‘instructions’ specify what is prescribed and forbidden, as well as what is tolerated and permitted in a certain behavioural dimension. (Toury 2012, 63; emphasis added)

This definition brings four important dimensions to the forefront.<sup>14</sup> Firstly, in this definition, Toury differentiates between “general values or ideas” and norms. Even though the metaphorical use of “translation” in the above quotation could be said to be problematic, it is an essential part of the definition of norms, that is, norms are not shared values or ideas (as already pointed out in § 1.2.). Norms are the realization of those values or ideas (“performance instructions,” Toury 2012, 63).

Secondly, since norms are considered an operationalization of values or ideas into “**performance instructions**,” it follows that norms function as non-mandatory orientations for behavior, that is, non-binding constraints. Recall the popcorn story. No one is under an obligation to eat popcorn at the movie theater even if today eating popcorn is the norm. Likewise, translators always have the choice to opt for different behaviors, but it is their interpretation of what is appropriate that tends to shape their range of options and consequently their expectations regarding their own behavior and the behavior of others, and their own beliefs and expectations about the product. It is those expectations that subsequently model their behavior and hence their translations.

Thirdly, translators’ decision-making is affected by a number of factors, in other words, by a range of constraints, and these constraints can be found on a graded continuum: constraints “can be described along a scalable continuum anchored between two extremes: general, relatively objective rules on the one hand, and idiosyncratic mannerisms on the other” (Toury 2012, 65).

Fourthly, Toury saw norms as manifestations of a system<sup>15</sup> and consequently norms are “shared by a community” and are “appropriate for and applicable to concrete situations,” thus varying according to time, space, culture, language, and text-type or genre (2012, 63). Toury (1995, 61) in fact goes as far as to draw an analogy between the “culturally-determined” nature of translation as “a norm-governed activity” and the nonrandom extensive variability found between and within cultures.<sup>16</sup> As Toury suggests: “whatever their function and systemic status, [translations] are constituted within the target culture and reflect its own systemic constellation” (2012, 18).

---

<sup>14</sup> The different dimensions of the norm concept proposed in this dissertation will be explored at length in § 1.6.

<sup>15</sup> For the purposes of this dissertation, Hermans’ (1991, 159) definition of system is adopted: “a structured whole, characterized internally by ‘organized complexity’, made up of further subsystems and separated from its environment by a boundary.”

<sup>16</sup> As Toury (2012, 76) stated: “There is variation within a culture.”

In other words, Toury understands norms as the realization of values and ideas<sup>17</sup> shared by a community in performance instructions for appropriate behavior and inappropriate behavior in a particular situation embedded in a certain target culture, language and system.

Norms are, in this context, a descriptive tool to “determine the (type and extent of) equivalence manifested by actual translations” (1995, 61). However, Toury’s (1995, 2012) use of the term “equivalence” rejects any previously associated prescriptive connotations. Central to his definition of equivalence is the concept of norm, since equivalence is referred to as “that translation relationship which would have emerged as constituting the *norm* for the pair of texts under study” (2012, 32). The author labels equivalence as a “*functional-relational* concept” for “that set of relationships which will have been found to distinguish appropriate from inappropriate models of translation performance for the culture in question” (2012, 112).

However, a number of scholars criticize Toury’s continued use of the term “equivalence” even if it is—under the umbrella of the study of translational norms—stripped of its prescriptivism. Hermans (1998), for instance, raises two main objections. Firstly, equivalence, by calling attention to “equal value, is like speaking of translation as exchange, or as bridge-building, suggesting fairness ... and two-way processes but obscuring translation’s one-directionality and its complicity in relations of power” (1998, 62). Secondly, “the norms concept ... should serve as a reminder that it is difference, not sameness or transparency or equality, which is inscribed in the operations of translation” (1998, 62) and therefore equivalence should not be the aim. In “Translational Norms and Correct Translations” (1991, 158), Hermans explains equivalence “with a wholly neutral term: a ‘translational relation,’” proposing (although not explicitly) an alternative term to equivalence. Chesterman (2016b, 6) also argues for dismissal of the “equivalence” label on the basis of redundancy: “If translation theory studies translations, and all translations are by definition equivalent, it might seem that we can dispense with the term altogether, and focus instead on the wide variety of relations that can exist between a translation and its source.” Nonetheless, translation analysis and discourses which make use of this term remain common. Pym’s (2008, 2010) proposal of the distinction between natural and directional equivalence is a case in point. Drawing on the objections raised, the term that will be used in this dissertation to describe the phenomenon is “translational relation,” following Hermans’ proposal.

---

<sup>17</sup> As will be discussed in § 1.6., the cognitive interpretation of general values and ideas needs further clarification for it to become operative and measurable.

### 1.3.1.3. Types of translational norms

Toury (mainly 1995, 2012), in an attempt to operationalize the study of norms, proposed three types of translational norms: preliminary, operational, and initial norms. Preliminary norms determine: (i) translation policy, i.e., which texts and text-types are selected to be translated into a given language and culture at a certain moment; and (ii) tolerance of indirectness of translation, i.e., to what extent and in what circumstances indirect translation is tolerated. In the operational norms category, the author considers: (i) matricial norms, i.e., to what degree the source text is completely translated and how the source text is distributed and segmented; and (ii) textual-linguistic norms, i.e., which linguistic material is selected.<sup>18</sup>

In addition to the abovementioned types of translational norms, the initial norm is described as the “basic choice” made consciously or unconsciously by the translator between “two contending sources of constraints” (Toury 2012, 79). These “contending” orientations constitute what is considered correct or incorrect, valued or unvalued in translation: an adequate translation leans substantially on the source (con)text, and an acceptable translation adheres to the norms that “originate and act in the target culture” (Toury 2012, 79). For Toury, adequacy refers to “a translation which realizes in the target language the textual relationships of a source text with no breach of its own [basic] linguistic system” (Even-Zohar 1975, 43; cited in Toury 2012, 79; Toury’s translation from Hebrew).

However, the terms “adequate” and “acceptable” can be misleading, since these words in their common sense are frequently used in Translation Studies and can lead to confusion or impreciseness (Chesterman 2016b, 62; Hermans 1999b, Chapter 5 and 6). Therefore, the terms source and target-oriented are adopted in this dissertation. As Hermans (1999b, 76) points out on this topic, the “reconstruction of ‘the textual relationships’ of a text is a utopian enterprise, and who decides pertinence? The only adequate ‘adequate translation’ would appear to be the original itself. Even that is questionable, for texts are invested with meaning by readers. It is the reader who establishes textual relations.” In spite of the arguable choice of name for this descriptive category, “adequate” questions precisely who decides what is considered “correct” and whose expectations the translator is trying to fulfill. It was not unintentional, I believe, that the label reflects this problem.

---

<sup>18</sup> In language quality assessment of scientific-technical translations in general and medical and biomedical translations in particular, matricial norms are (indirectly) referred to as “completeness” or “accuracy” and textual-linguistic norms as “style and culture” or “linguistic.”

In this dissertation, the kinds of norms we are interested in are the initial norms and hence the next paragraphs are dedicated to and discuss the conceptual and methodological implications that have to be taken into consideration.

### **Conceptual implications**

Firstly, the definition of adequacy, as can be seen next, is close to that of Vinay and Darbelnet's (1958, 48) for literal translation:<sup>19</sup> "la traduction littérale ou mot à mot désigne le passage de LD à LA aboutissant à un texte à la fois correct et idiomatique sans que le traducteur ait eu à se soucier d'autre chose que des servitudes linguistiques."<sup>20</sup> The authors' approaches are nevertheless diametrically opposite to that of Toury; while Vinay and Darbelnet's stance is prescriptive, Toury's approach intends to be descriptive.

The binary opposition between literal and free translation is—once again adopting a descriptive approach—revamped by Toury as adequate and acceptable, and later on by descriptivists as source- or target-oriented (as in the present case). The problematic nature of studying translation from the literal-free point of view is that, faced with the unfeasibility of attaining perfect and ideal equivalence, translations are evaluated concerning their extent of sameness as regards the source text and, in comparison with the source text, they are found incomplete or lacking. In this equation, the translation always falls short. Analyses that restrict themselves to the literal or free label, regardless of which one they use, fail to consider other dimensions that fall outside absolute and binary considerations. This equivalence-based approach centers on a textual-linguistic source to target comparison and, therefore, does not attempt to describe the relationship between source- and target-culture and the power frictions of its agents and the subsystems in which they work.

Secondly, even if source and target orientation is often formulated as a binary opposition, one or the other, it is important to clarify that the poles are not absolute—no translated text is completely 100% source-oriented or completely 100% target-oriented. Moreover, source and target orientation are the poles of one axis, but translation is more aptly understood as the result of a complex network of multiple axes, as already suggested by Hermans (1999b, 77):

---

<sup>19</sup> Literal, as Chesterman (2006, 8) points out, is an "unfortunate term" given its polysemous character. Some authors define it as a word-for-word, ungrammatical translation and others as a grammatical translation that is close to the source text and hence unnatural.

<sup>20</sup> In the English translation: "Literal, or word for word, translation is the direct transfer of a SL text into a grammatically and idiomatically appropriate TL text in which the translators' task is limited to observing the adherence to the linguistic servitudes of the TL" (Vinay and Darbelnet 2004, 129).

An even better solution would be not to think of the 'initial norm' as forcing a choice between two poles only, but as involving multiple factors, depending on how the source text is viewed, whether it or similar texts have been translated before, whether the translation is made for import or export, by a speaker of which language, for what audience or purpose, and so on. If translating is a socio-cultural activity, as the norms concept suggests, there seems little point in trying to conceptualize it in terms of a choice along a single axis.

This hypothesis has methodological implications, however.

### **Methodological implications**

The division of norms into different groups is undoubtedly "convenient" (Toury 2012, 82). As Hermans (1991, 168) so rightly argues: "translating is less a matter of full-scale adherence to a single overriding norm than of negotiating a multiplicity of norms, with varying degrees of success, to reach complex aims." The complete study of norms as a complex, multi-factor and multi-agent system cannot probably be conducted at this time with the current theoretical and methodological resources at our disposal. To *cut and divide* norms into different groups as if they were not part of the same interconnected system is a necessity for researchers. There is no evidence to suggest that norms govern translation behavior separately and one at a time. How the full range of norms affects the translator and consequently the translation product is unstable and kaleidoscopic. As Hermans (1991, 167) argues: "it can safely be posited that no translation of any size or substance follows one norm only." In fact, the exact opposite is hypothesized. Norms, just like the different constraints that translation agents face, are imposed on the translation process and affect it throughout. It is thus a methodological necessity for Translation Studies researchers, just like biologists, to cut specimens into sections in order to be able to observe and understand their nature.

#### **1.3.2. Hermans' meta-theoretical outlook**

Theo Hermans (mainly in 1991, 1996, 1998, 1999b, 2000) carries out insightful theoretical and meta-theoretical work on the norm concept. Critical of the lack of exploration "of the theoretical side of the norms concept" in Toury's work, Hermans believes that "looking at norms in a wider context will allow us also to set their regulatory aspect against the translator's intentionality, and thus to balance constraint with agency. After all, translators do not just mechanically respond to nods and winks, they also act with intent" (1999b, 79–80). The reflections that he shares about norms throughout his work are simultaneously rooted in system theory and the "contextualization of translational behaviour as social behaviour" (1991, 158).



Primarily based on Hjort (1992), Hermans establishes a clear distinction between norms, conventions, rules and constraints<sup>21</sup> in an attempt to shed some light on a terminologically unclear topic, “especially if we wish to focus on the social dimension of translating and on the place of translation in relation to power and ideology” (Hermans 1996, 26). The author in fact perceives translation as both a medium of power exchange and evidence of ideology and the friction between power structures, which is what makes translation interesting, according to Hermans (a view that I share). Hermans focuses not only on the translated text and its place in and within the polysystem, but also on the role of “active social agents, who may be individuals or groups, each with certain preconceptions and interests” (1996, 26). This focus can be considered seminal not because it differs from Toury’s but in the sense that it continues and builds on Toury’s work.

Hermans’ conventions are defined (based on Lewis 1969) as “regularities in behaviour which have emerged as arbitrary but effective solutions to recurrent problems of interpersonal coordination” (Hermans 1999b, 81). These “solutions” have proved to be “effective” throughout history in a specific situation. They are thus the “preferred course of action” and have become the habit when individuals are confronted with the same situation.

Even though the terms “conventions” and “norms” seem to be synonymous, conventions are not norms but can become norms if they survive long enough.<sup>22</sup> Norms also differ from conventions in the sense that norms express how a member of the community is *expected* and *ought* to behave (Hermans 1996, 29, 1999b, 81).<sup>23</sup> The intersubjective interpretation of what is “appropriate” behavior constitutes the norm content. In this respect, Hermans (1996, 34) states:

This is a social, intersubjective notion, a conceptualization of patterns of behaviour—including speaking, writing, translating—regarded as correct or at least legitimate, and therefore valued positively. What is ‘correct’ is established within the community, and within the community’s power structures and ideology, and mediated to its members ... The notion of what constitutes ‘correct’ behaviour, or ‘correct’ linguistic usage, or ‘correct’ translation, is a social and cultural construct.

With regards to the distinction between norm content and normative force, Hermans draws on the work of Bartsch (1987, 176). Whereas norm content refers to the “intersubjective reality” of a

---

<sup>21</sup> See Hermans (1991, 160–63).

<sup>22</sup> This definition is close to that of Chesterman’s notion of meme as a “survival machine” (Chesterman 2016b, passim). See section 1.3.4.

<sup>23</sup> The role of expectations is of central importance in the definition of the concept of norms and in the measurement of norms themselves. It will therefore be returned to later on in this chapter (see § 1.4.2. and 1.6.).

“socially shared notion” of correctness and appropriateness, normative force guides the agent’s behavior in order to respect this notion of correctness and appropriateness (Hermans 1991, 163).

Hermans (1991, 163) revisits and updates Bartsch’s (1987) definition of linguistic norms, adapting it to translation as “the social reality of concepts of translational correctness; this social reality secures the coordination concerning form and use of translational means in a social-cultural community.” There is a “proper,” “correct,” or “appropriate” course of action and this course of action is learnt through socialization. A translator can breach a norm, and that does not imply the non-existence of the norm, the elimination/eradication of the norm or the dismissal of the translator. A norm can be breached because norms “do not preclude agency, or erratic conduct” (Hermans 1999b, 82) and, as long as “erratic conduct” is sanctioned explicitly or implicitly, the norm is not invalidated. Examples of this can be found in medical and biomedical settings, where “erratic conduct” is sanctioned through bad feedback, for instance, in Quality Control reports or implicitly when the translator is not contacted again by the client.

Furthermore, breaches of norms “depend on the occasion, on the nature and strength of the norm and on the individual’s position and motivation” (Hermans 1999b, 82) and also on the applicable sanction (Hermans 2000, 11). For instance, evidence suggests that in the Portuguese context, the work of literary translators who are also authors is not only more visible but also praised when it breaches the norm (see Valdez 2009). Therefore, the power of the translator also plays a role.

We are talking about rules when “relying less on mutual expectations and internalized acceptance, and more on codified rules in the form of explicit obligations and prohibitions” (Hermans 1999b, 82). Sanctions are always enforced and there is little to no leverage for the (subjective) interpretation of rules. In our example taken from the story of popcorn, at a certain point in time eating inside movie theater rooms was prohibited. There is no doubt about this rule, it is clearly stated in signs prohibiting spectators with popcorn from entering and moviegoers who tried to enter the theater with popcorn were barred.

Norms, in this context, refer to “both a regularity in behaviour, i.e., a recurring pattern, and the underlying mechanism which account for this regularity” (Hermans 1999b, 80; a view also shared by Baker 1998; Baker and Saldanha 2009). This mechanism “is a psychological and social entity. It mediates between the individual and the collective, between the individual’s intentions, choices and actions, and collectively held beliefs, values and preferences” (Hermans 1999b, 80). The matter of free choice is central to Hermans’ argument (and my argument): the agency and power (or lack

thereof) of the different translation agents can be interpreted as one of the purposes of investigating norms (see Hermans 1999b, 80).

What is also distinctive about this definition is that it equates norms with regularities. Such a view has no bearing on the definition of the concept of norms proposed in this dissertation. As Toury (1999) points out and Chesterman (1999) reiterates, regularities are not norms but evidence of norms. There is a fundamental distinction between norms and observed regularities. Regularities are the result of norms and are therefore observable in the translator's behavior. Norms are "psycho-social entities" and "whatever regularities are observed, they themselves are not the norms. They are only external evidence of the latter's activity, from which the norms themselves (that is, the 'instructions' which yielded those regularities) are still to be extracted" (Toury 1999, 15) and "norms do not appear as entities at all, but rather as explanatory hypotheses for actual behaviour and its perceptible manifestations" (Toury 2012, 65). The distinction between norms and regularities is further discussed later on in this chapter (see § 1.6.).

### **1.3.3. Nord's function-oriented conventions**

Drawing on Searle's (1969; also cited in Nord 1991b, 96) definition of conventions as "a regular behaviour R of members of a group G, who participate in a repeatedly occurring situation S . . . if (a) everybody follows R, (b) everybody expects of everybody to follow R, and (c) everybody prefers following R," Nord (1991b) uses the term to describe the regular, expected, and preferred behavior of a community. Conventions are "specific realizations of norms" (1991b, 96). Against this backdrop, Nord's perspective on norms (or, in her terms, conventions) is strongly rooted in the functional approach to translation of Skopos Theory, which can be observed in the types of conventions she discusses. According to her, translators and translation readers expect a target text to follow specific standards concerning (i) the relationship between the source and target texts; (ii) the relationship between the target text and its purpose; and (iii) the reception of the target text. These are also the theoretical purposes of studying translational norms. Following Nord, the expectations of translators, translation readers and revisers, among other translation agents, play a pivotal role in the adoption of certain translation options over others, and, hence, this dissertation studies translational norms for the same theoretical purposes. In addition to the abovementioned purposes, Nord adds—and I agree—a didactic purpose, which is to teach regulative and constitutive norms of source and target culture to trainees.

Nord's conventions are culturally and historically bound, just like Toury's norms. The translator, when faced with a particular task, decides on the skopos of the translation according to the

translation brief<sup>24</sup> sent by the initiator.<sup>25</sup> This decision is constrained by the “conventional concept of translation regarded as valid in the culture involved” (Nord 1991b, 94).<sup>26</sup> At the basis of this decision is the intended communicative function of a translation (see Nord 2016). In short, decisions are based on the answers to these questions:

Who transmits to whom, what for, by which medium, where, when, why, a text with what function? On what subject-matter does he say what (what not), in which order, using which non-verbal elements, in which words, in what kind of sentences, in which tone, to what effect? (Nord 1991b, 144)

Conventions, in her terms, are arbitrary—in the sense that they are not mandatorily motivated and that an alternative could replace the current preferred regularity. Following Toury, however, translational norms are understood in this study as historically and socially motivated, and are hence non-arbitrary.

Building on Searle’s distinction between regulative and constitutive rules, constitutive translation conventions differentiate between what is considered translation as opposed to other concepts, such as version, rewriting, or adaptation (Nord 1991b, 100). Regulative translation conventions refer to a translator’s micro-level choices: “generally accepted forms of handling certain translation problems below the text rank” (Nord 1991b, 100). Norms, in Nord’s interpretation, come close to rules and “in these cases the translator has little choice” (Nord 1991b, 100). However, Nord’s conventions are in fact norms, since they are based on expectations and failure to follow them brings about criticism (see also Chesterman 1993, 6). Furthermore, particularly taking into consideration the graded continuum of normative force between idiosyncrasies and rules, norms cannot be considered non-violable, and this is the perspective adopted in this study.

#### **1.3.4. Chesterman’s norms as dominating memes**

Chesterman (mainly in 1993, 1997, 1999, 2005, 2006, 2016b) presents, develops and builds a case for his own norm proposal which, although primarily based on Toury’s theory, is strongly grounded in a Popperian perspective of theory and in the meme concept.<sup>27</sup> Chesterman’s norms are stable and

---

<sup>24</sup> It is important to note that, in medical and biomedical settings, the brief or Project Order, as it is called in the field, is often absent and the translator has to be able to identify the intended communicative function based “solely” on her/his background knowledge.

<sup>25</sup> In medical and biomedical settings, the initiator is often the commissioner of the translation and may be the writer, the user of the translation, the reader, or the head of the department in charge of commercializing the product, to name just a few (see Chapter 3).

<sup>26</sup> Loyalty, as a “moral principle,” is introduced at this point by Nord to explain the translator’s responsibility towards both the source and target situations (Nord 1991b, 94).

<sup>27</sup> See, in particular, Chesterman (1997, 2016b).

dominating memes (not everlasting fixed norms, but nevertheless stable and long-lasting) that control translators' output and the evaluation (and hence expectations) of the community. It becomes clear in Chesterman's work that translational norms describe the behavior considered "good," "proper," and "correct." It is important to stress that the main aspect here is not what grammars or dictionaries state about the correct use of language per se, "but rather a degree of grammaticality that meets the expectations of the readership" (1993, 10).<sup>28</sup>

Norms as a descriptive category, in Chesterman's perspective, allow for the study of regularities in the translation behavior of competent translators, amounting to normative translation laws, that is, "a norm-directed strategy which is observed to be used (with a given, high, probability) by (a given, large, proportion of) competent professional translators" (1993, 14). It is with this in mind that, in an attempt to operationalize the concept of norms, Chesterman (1993, 1997, 2016b) puts forward two categories of norms: professional norms and expectancy norms.<sup>29</sup> Professional norms, according to Chesterman, are process norms which are "constituted by **competent** professional behaviour" (1993, 8; emphasis added) and govern the translation process or, as Hermans (1999b, 78) describes them: "They issue typically from the world of accredited, professional translators whose behaviour is regarded as norm-setting." Expectancy norms in turn are product norms, governing the architecture of the translation product, based on the expectations of the prospective reader and "are established by the receivers of the translation, by their expectations of what a translation (of a given type) should be like, and what a native text (of a given type) in the target language should be like" (Chesterman 1993, 9). Professional norms can in turn be subdivided into (i) accountability norms (connected to ethical codes of conduct), (ii) communication norms (goal-oriented communication intended to achieve understanding), and (iii) relation norms (linguistic norms that define the appropriate relation between source and target text). Translators who are not recognized as being competent or who do not work in translation full-time fall outside the scope. Chesterman is not interested in translation students or trainees, in voluntary translation, fan translation, or user-generated and crowdsourced translation, among many other types. Even though the author acknowledges that translation is not only the product of "competent" translators (and who defines

---

<sup>28</sup> This is of particular importance in scientific-technical translation in general and medical and biomedical context in particular, where grammar rules and the usage of words, according to the word's definition as included in the dictionary, can be called into question if they do not meet the expectations of the revisers and perceived readers. The translation of "sterile," for instance, in the sentence "Open package and remove sterile dressing" is a case in point (see Chapter 4 for more context regarding the source text). "Sterile" has been increasingly translated (and revised) as "estéril" (meaning infertile) instead of "esterilizado" (meaning sterilized) to the point that recent updates to dictionaries have started to include the meaning "estéril" as a synonym of "esterilizado" (see Porto Editora, n.d.).

<sup>29</sup> Chesterman draws on Bartsch's (1987) distinction between product norms and production norms. Product norms dictate the correctness of the product in order for it to be accepted as appropriate. Process norms regulate the strategies and tactics used to achieve that appropriateness.

competency is not completely clear or at least explained for methodological purposes), this limited focus excludes a considerable amount of translation production from research. Firstly, most translation is done by non-professionals, and therefore to exclude it from research (at theoretical level) is to restrict research to a very circumscribed perspective of the reality of translation, which almost resembles a prescriptive assumption and intention. Secondly, incompetent “professional behaviour” can, in theory and in practice, be found among translation professionals. There are translators and revisers, to name but two groups, that behave in an incompetent way (according to critical reviews, for instance) in the market. So, how can researchers separate the “competent” from the “incompetent”? Chesterman (1993, 1997, 2016b) does not clarify how “competent translators” are selected for the study of professional norms. In fact, in 1993 (7–8) Chesterman comments in brackets: “I beg the question of how to define ‘competent’ and ‘professional’ precisely: this is an important issue, but not central to the present argument.” As Hermans (1999b, 77) states: “[Chesterman’s] approach, like Toury’s, is descriptive in that he considers the way in which norms and even ‘normative laws’ appear to operate in the world of translation, without necessarily wishing to recommend or impose them,” but by not explicitly addressing this methodological problem, Chesterman has left himself open to criticism.

Chesterman’s focus on competent translators and their translation behavior agrees with meme theory, however. Meme, a term used to designate cultural units that spread and replicate themselves, was originally introduced by Dawkins (1976, 206) to explain the dissemination and evolution of cultural phenomena and is defined as a “unit of cultural transmission.” The term “memes” was later adopted by Chesterman (1997, 2016b) to outline and account for how a number of apparently unconnected ideas have spread and developed into today’s views of translation (the current “meme pool,” in Chesterman’s words).<sup>30</sup> Using genetic evolution as a metaphor for the propagation and development of “cultural units” (Plotkin 1993, 769), this term is particularly illustrative of how ideas are shared within a community and is in line with how norms are understood in this dissertation (see § 1.5.1.):

Propagat[ing] themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation. If a scientist hears, or reads about, a good idea, he passes it on to his colleagues and students. He mentions it in his articles and lectures. If the idea catches on, it can be said to propagate itself, spreading from brain to brain. (Dawkins 1976; also quoted in Chesterman 2016b, 1)

---

<sup>30</sup> Vermeer (1997) concomitantly and independently introduced memetics into Translation Studies.

Memes are surviving ideas that “replicate themselves, like genes do” (Dawkins 1976, x); in other words they are long-lasting, successful ideas. “If a meme is to survive, it must beat its rival memes, i.e. it must win new adherents, gain ever wider acceptance.” Hence, bad translators and translations “do not last” (Chesterman 2016b, 2).

Moreover, as can be read throughout his work, this primary focus on the norms that govern competent behavior stems from Chesterman’s concern with the gap between Translation Studies and the working world. In fact, he has dedicated a number of works explicitly to Translation Studies theory for translators (for instance 1996, 1997, 1998, 2002, 2016b). He goes as far as to criticize Toury’s and Hermans’ “general descriptive and explanatory goal of Translation Studies” regarding the “distance between it and the expectations of professional translators” (Chesterman 1999, 96). Ironically, one of the most relevant living theoretical minds of our time qualifies the theoretical concerns of his fellow colleagues quite harshly, stating that they are “engaged in an elaborate glass bead game in an ivory tower far from the nitty gritty of everyday translation problems,” and describes this type of research as “an inward-looking activity, a kind of mutual citation club, too concerned with its own status as an academic discipline and not concerned enough with the real problems at the messy grassroots of life in a big translation company” (Chesterman 1999, 96). Hermans’ meta-theoretical reflections are further characterized as an “inescapable hermeneutic circle” that “seem[s] light-years away from such real-life problems” (Chesterman 1999, 96).

### **1.3.5. Simeoni’s and Meylaerts’ transition from norms to habitus**

In an attempt to contextualize and study the array of translational “determining choices” and the differences between translators’ styles, Simeoni’s paper on “The Pivotal Status of the Translator’s Habitus” (1998) proposes to “reframe or ‘translate’ (in a topological sense)” the DTS approach by adopting the concept of habitus (1998, 4). Simeoni understands habitus in this context as a “(culturally) pre-structured and structuring agent mediating cultural artefacts in the course of transfer” (1998, 1). The author’s project is not in conflict with Descriptive Translation Studies, nor does it deny the relevance of norm theories. It is thus an attempt to highlight the role of the agent and her/his potentially conflicting decision-making. In Simeoni’s own words:

To talk of a habitus is to imagine a theoretical stenograph for the integration and—in the best of cases—the resolution of [mental, bodily, social and cultural] conflicting forces. A highly personalized construct, it retains all the characteristic imperiousness of norms. Indeed, norms without a habitus to instantiate them make no more sense than a habitus without norms. (1998, 33)

Meylaerts (2008) is primarily concerned with the relationship between translators and norms, the individual and the collective, agency and structure, in opposition to what she considers to be an “inadequate conceptualization” of human agency in previous literature concerning norm theories. She interprets norms as “shared values and ideas on how to act, think, translate, etc., appropriately in a certain context and for a certain group of people” (2008, 91). This is *apparently* in consonance with Toury’s definition of norms, which Meylaerts (2008, 92) cites as follows: “From the receivers’ viewpoint, Toury defines norms as ‘criteria according to which actual instances of behavior’ like translation, are evaluated ‘in situations which allow for different kinds of behavior, on the additional condition that selection among them be non-random’ (1995, 55).”

However, Meylaerts’ definition of norms differs from that of Toury, Hermans, and Chesterman in that it equates norms to shared values and ideas (2008, 91) when in fact norms are the realization of those shared values (see Toury 2012) or, in Hermans’ terms, the individual interpretation of an intersubjective reality of a socially shared concept of appropriateness which guides the translation behavior of an agent (1999b). Values are defined as “abstract, general and immanent” entities (Swidler 1986, 273) and as “an element of a shared symbolic system which serves as a criterion or standard for selection among the alternatives of orientation which are intrinsically open in a situation” (Parsons 1951, 11–12). I would reiterate that norms are not values per se. Norms are values put into action. This confusion between categories has methodological implications. If norms are shared values, translation regularities are a product of those same values and hence a researcher could extract shared values from the products of translation. This perspective erases the interpretation of the translator from the shared concept of what is an appropriate translation product and hence erases the translator’s agency (see § 1.2. for my position on the distinction between values and norms).

Meylaerts’ considerations on “the ‘agency’ behind the norms” call for a (re)conceptualization of the translator and of the relationship between the translator and norms: the individual translator as a sociological construct plays an active role within the collective and it is this agent, which is contextually dependent, that Meylaerts aims to study (2008, 92), an aim that I share. Building on Bourdieu’s (1972) work on habitus, as well as on previous translation literature that has called for the adoption of this notion into DTS (namely, Simeoni 1998; Sela-Sheffy 2005; Inghilleri 2003; Inghilleri 2005), Meylaerts reiterates the relevance of habitus for norm theories, reconceptualizing it as a plural and dynamic concept to describe an “unstable [intercultural] interplay of multiple kinds of habituses” (2008, 94).



It is unclear, however, how the concept of habitus (as an alternative to norms) can theoretically and methodologically enable the researcher to ground the translator in her/his context-dependent situation and at the same time highlight the translator's agency in the face of norms. It is similarly unclear how habitus can be used to analyze the dynamic and sometimes conflicting interaction between individual agents and between the individual and the collective, within the interplay of the source and target (sub)systems. These aims are explicitly or implicitly shared by both Simeoni and Meylaert.

The shift from a normative-account of translators' behavior to the "habitus-account" described in this section, "sees translators' behaviour as being governed by norms and at the same time revealing the 'extent to which translators themselves play a role in the maintenance and perhaps the creation of norms'" (Schäffner 2010, 10; citing Simeoni 1998, 26).

The reinterpretation of translation as norm-governed behavior has been understood and criticized<sup>31</sup> as emptying the translator of her/his choice and power. Creativity, the translator's voice and conscious (sometimes even interventionist or political) non-compliance with dominant norms are said to be absent from the study of translational norms. The study of translational norms is, according to some critics, a quest for regularities and the common, to the detriment of the singularity and, hence, to the detriment of evidence of agency. In her article on reframing political conflicts in translation, Baker (2007, 152) describes norm theories as "focus[ing] on repeated, abstract, systematic behaviour, and in so doing privileg[ing] strong patterns of socialization into that behaviour and tend[ing] to gloss over the numerous individual and group attempts at undermining dominant patterns and prevailing political and social dogma." However, this argument overlooks the fact that identifying regularities and subsequently proposing a dominant norm singles out deviant behavior. As Toury (2012, 68) clarified: "Translators operate in situations which allow for different kinds of behavior, but their decisions are not random. Any choices simultaneously highlight the excluded alternatives." Furthermore, before a researcher is able to pinpoint non-compliance with a norm, a norm has to be identified or at least hypothesized.

In my reading of norm theories, the translator has at her/his disposal a set of translation solutions from which she/he chooses based on the evaluation of socio-cultural constraints. Complying (or not

---

<sup>31</sup> Many aspects of norm theories have been criticized at a number of different levels. Authors such as Bhabha (1994), Simeoni (1998) and Baker (2007), to name but a few, have raised questions about the role of norms in translation. However, given that the focus of this section is to discuss the study of norms, these paragraphs focus specifically on the critical discussion of literature dedicated to methodological implications of the norm concept. For an overall discussion of translational norms, see, for instance, Schäffner (1999b, 2010).

complying) with a norm is a choice: a choice constrained by the environment, but a choice nonetheless. According to Toury (2012, 68), translation agents are free to negotiate their choices:

Surely, even within the socio-cultural paradigm, the actual decision is up to the individual. In spite of all the restrictions caused by responsibility to society (sanctions, remember?), translators are still given great latitude and considerable autonomy. It is precisely here that the norms intersect with the translator's liberties and give rise to decisions that are actually made.

The translator has to agree to be constrained (Hermans 1999b, 74). However, it is important not to forget that "Norms have the upper hand. Translators adhere to them more often than not. They may not like this, and may often wish they could distance themselves more from them, but they recognize their power" (Simeoni 1998, 6).

Simeoni—a clear advocate of the concept of habitus—refers to a "servitude volontaire" (1998, 23) in this context. Translators are responsible for their decisions (whether they are conservative or groundbreaking). Norms do not exonerate translators from answering for their decisions. The translator's behavior results from the interpretation of her/his options and constraints. It is thus the interplay of the cognitive with the social that is the object of the study of translational norms. As Simeoni (1998, 5) clarified:

Only by becoming internalized do they [constraints] give an impression of being part of the mental apparatus of the translator. The surface manifestations that we study as translation scholars—translations as end-results of constraining processes—are typically entwined, both mental and social products.

Therefore, it can be argued that the choice to study the translational relation through a norm-based approach or a habitus-based approach depends on the research's (and the researcher's) goals. Since theory is in itself a construction of the object of study, a working hypothesis, a way of seeing (see Chesterman 2016b), the use of theories of norms to reflect upon the translational relation stresses the importance of adopting a purely descriptive category of study not only of the translated text, but of the attitudes and expectations of the translation agents and how they influence the translation product; this is the position adopted in this dissertation.

### **1.3.6. Malmkjær's attitudinal and behavioral norms**

Malmkjær is the first translation scholar, as far as could be ascertained, that drives attention to the potential of adopting attitudinal and behavioral norms in Translation Studies. In 2008, this author

borrowing Perkins and Berkowitz's (1986)<sup>32</sup> sociological terminology to recall the important distinction that "what people believe should be done may not necessarily be what even those who hold the belief actually do" (2008, 52). In order to help distinguish beliefs ("what people believe should be done") from observed behavior ("what [they] actually do"), Malmkjær proposed the adoption of attitudinal and behavioral norms:

In the social and socially applied sciences, it is customary, therefore, to distinguish between **attitudinal norms**, which have to do with '**shared beliefs or expectations in a social group about how people in general or members of the group ought to behave in various circumstances**' (Perkins 2002: 165), and **behavioural norms**, which have to do with '**the most common actions actually exhibited in a social group**' (2002: 165). (Malmkjær 2008, 51–52, emphasis added)

Attitudinal norms are understood by Malmkjær, following Perkins and Berkowitz<sup>33</sup>, as beliefs or expectations, shared by a community, regarding how the members of the community ought to behave; behavioral norms are understood as the regularities actually observed in the community. Malmkjær's 2008 paper, however, does not call attention to the difference between observed and perceived norms, pivotal concepts behind the social norms approach proposed by Perkins and Berkowitz. By addressing these concepts (as will be seen in § 1.6.), it is possible to better study and describe norm-governed behavior.

#### 1.4. Norms in Social Sciences

In 2008, Malmkjær, as described in the previous paragraphs, looked outside Translation Studies to better understand, describe and explain the relationship between attitudes and behavior. This move to look outside the discipline for answers to pave the path to a better understanding of norm-governed behavior was discussed by Toury. In response to Daniel Simeoni and Michael Cronin, Toury, in an interview conducted by Pym (2012b, s.l.), calls for cooperation between sociologists and translation scholars in order to find out "in what way, and how do we make not only Translation Studies less naïve in terms of sociology, but also the sociological accounts less naïve in translation studies, because both are very rudimentary, very marginal." In an attempt to answer this call and bridge the gap between Translation Studies and other social disciplines that have studied norm-governed behavior, this section provides an account of two different, albeit complementary, approaches to the study of norms in Social Sciences which give specific emphasis to the role of shared expectations in norm-governed behavior, namely, Perkins and Berkowitz's (mainly Perkins

---

<sup>32</sup> Malmkjær's paper quotes Perkins' (2002) paper, while the origin of the social norms approach can be traced back to both Perkins and Berkowitz (1986).

<sup>33</sup> Perkins and Berkowitz's approach is discussed at length in section 1.4.1.

and Berkowitz 1986; Perkins 2002, and 2003, Berkowitz 2004, and 2005) social norms approach based on social/sociological interventions and Bicchieri's social-psychological approach based on experimental economics and evolutionary game theory (mainly Bicchieri and Muldoon 2014; Bicchieri 2006, 2017a, 2017b).

Norms have been the major focus of all Social Sciences (Opp 2001a; Bicchieri and Muldoon 2014). Anthropology, sociology, social psychology, political science, economics, law and philosophy, among other disciplines, have explored the concept of norms with various aims (e.g., Parsons 1937; Durkheim 1950; Parsons and Shils 1951; Geertz 1973; Akerlof 1976; Coleman 1990; Ellickson 1994; Young 1998; Hechter and Opp 2001; Posner 2002, to name but a few). In the recent history of Social Sciences, "no concept is invoked more often by social scientists in explanations of human behavior than 'norm'," as pointed out by Gibbs (1968, 212). Various definitions of norms and norm-related concepts are found among norm theorists of Social Sciences, and they are often conflicting and inharmonious (Gibbs 1968; Interis 2011). The mere volume of literature dedicated to the definition of norms attests the problematic nature of its definition. Because of this, the norm concept lacks "precise boundaries" (Kitts and Chiang 2008, 1493); an argument that could equally be raised for Translation Studies.

The literature on norms is in fact too vast for a comprehensive critical overview in its entirety, and that is not one of the objectives of this dissertation.<sup>34</sup> This chapter does not aim to provide a historical overview of social norms approaches as they were adopted and developed by the different fields of knowledge, but to critically present the social norms literature that informs the present study. For this reason, this section is restrictive for practical and methodological reasons. Hence, it (only) addresses the main questions of norm research pertinent to the present chapter, i.e., interpretations of the norm concept that contribute to the better definition, operationalization and study of translational norms. Also, the question of how norms emerge will not be considered in this dissertation.

#### **1.4.1. Perkins and Berkowitz's social norms approach**

The social norms approach was first articulated by Berkowitz and Perkins in the 1980s. In a study which set out to analyze student alcohol use patterns, Perkins and Berkowitz (1986) described misperceptions about peer norms. Research on the student population carried out at Hobart and

---

<sup>34</sup> For an outline of the theory considering the topic of social norms in Social Sciences, see Gibbs 1968 and Opp 2001a. For a bird's-eye, although simplistic, view, see Opp (2001a). For a review of the literature on norms in different fields, see Horne 2001, Eggertsson 2001, and Voss 2001. For an overview and discussion of norm definitions, see Rommetveit 1953, Gibbs 1965, Biddle and Thomas 1966, and Williams 1968.

William Smith in the United States revealed “a pervasive and continuing pattern of misperception about alcohol norms among student peers” (Perkins 2003, 6). Most students believed that the norm regarding the frequency and amount of drinking among fellow students was much higher than the behavioral norm and students believed that their colleagues were much more permissive in terms of personal attitudes about substance use than the attitudinal norms.

Building on this study, the research—conducted by the original researchers, Perkins and Berkowitz (Perkins 2003, 6), and backed up by other scholars, such as Baer, Stacy and Larimer (1991)—was reproduced in different education institutions with similar results. The pattern of results permitted the authors to come to the conclusion that “exaggerated perception of alcohol norms is commonly entrenched in both public and private schools of every size across the [United States]” (Perkins 2003, 7). This led researchers to apply the approach to the study of other substance abuse. The applicability of these findings was systematized in Berkowitz and Perkins (1987) and a theoretical model for prevention was put forward in Perkins (1991) and Perkins (1997).<sup>35</sup>

The social norms approach is a key instrument in substance abuse prevention in health settings. In general terms, the strategy of this approach is to communicate the peer norms—both attitudinal and behavioral—resulting in adherence to “more accurately perceived norms that is relatively moderate” which in turn leads to a change in the norm towards moderation and reversal of the problem behavior (Perkins 2003, 11), as illustrated in the figure below.

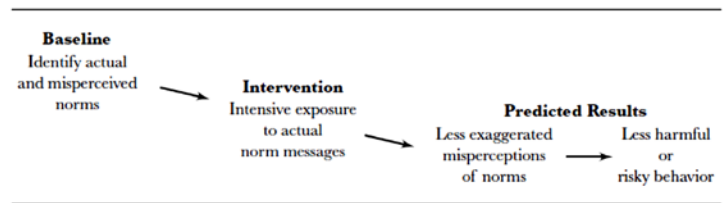


Figure 1. Perkins’ model of social norms approach to prevention (reproduced from Perkins 2003, 11).

Underlying this approach are the concepts of attitudinal and behavioral norms (recall § 1.3.6.), where attitudinal norms refer to beliefs or expectations, shared by a community, regarding how the members of the community ought to behave, and behavioral norms as the regularities actually observed in the community. Moreover, the misperception of norms—the distance between “perceived” and “actual” norms<sup>36</sup>—and its effect on behavior is central to the social norms

<sup>35</sup> For an overview of the social norms approach see Perkins (2003).

<sup>36</sup> The authors Berkowitz and Perkins refer to “actual” norms, while in this dissertation the term “observed” norms is used given that it is assumed that the researcher cannot assume that she is describing the “reality” objectively and in doing so acknowledging the participative nature of research. On this topic Crisafulli (2002, 33; also quoted by Saldanha and O’Brien 2013, iBook location 67) states: “empirical facts do not exist independently of the scholar’s viewpoint; indeed, it is the scholar who creates the empirical facts of the analysis by making observable (raw) data relevant to his/her perspective.”

approach. Extensive literature has been built upon these concepts in health domains (Berkowitz 2004).

Perkins and Berkowitz's approach fails, however, to address a number of questions leading not only to misunderstandings, but also to conceptual and methodological problems.

Firstly, this approach does not clearly define norms, attitudes, beliefs or expectations. By not establishing the concepts considered central to the research, it begs the question of how to operationalize them and hence measure the different types of norms.

Secondly, the approach equates behavioral norms to observed regularities. Regularities and norms should not be confused. "Regularities and norms are not just two words used to note a single phenomenon. In fact, they are not even observable in the same way, let alone on the same level," Toury (2012, 65) reminds us. This confusion between the categories is discussed at length in § 1.6.

Thirdly, this approach defines attitudinal norms as "shared beliefs or expectations about how others ought to behave." "Shared beliefs or expectations about how others ought to behave," however, is generally understood by norm scholars as one of the dimensions of a norm. Let us recall Hermans' definition of norm content (see § 1.3.2.):

[Norms] stipulate what 'ought' or 'is to' happen, how things 'should' be. The content of a norm is **a notion of what is 'proper' or 'correct'**. This is **a social, intersubjective notion, a conceptualization of patterns of behaviour**—including speaking, writing, translating—regarded as correct or at least legitimate, and therefore valued positively. **What is 'correct' is established within the community**, and within the community's power structures and ideology, and mediated to its members. (Hermans 1996, 34; emphasis added)

Fourthly, by labeling *shared beliefs or expectations about what others should do* attitudinal norms, it appears that beliefs, expectations and attitudes refer to the same reality, when in fact that is not correct. These terms are, of course, ambiguous and therefore it is important to be clear about their usage and define them.

Beliefs are seldom defined or explicitly theorized in Social Sciences literature (Good and McDowell 2015, 493). When defined, the term often refers to religion but is also used as a conviction independent of knowledge (Colman 2003, 104) or more generally as "something believed; a proposition or set of propositions held to be true" (Oxford University Press 2017d, s.l.).

Attitude is generally defined in Social Sciences as a relatively stable system of beliefs concerning an

object which results in the evaluation of that object (Lawson and Garrod 2001, iBook location 91; Marshall 2003, Kindle location 1156; Abercrombie 2006, 21; Bruce and Yearley 2006, 13; Darity 2008, 200; Fleck 2015, 175). A frequently quoted definition is that of Rokeach who defines attitudes as “a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner” (1968, 112).

Dictionaries and encyclopedias of Social Sciences do not usually define expectations. This is true for the *Oxford Dictionary of Sociology* (2003), the *Cambridge Dictionary of Sociology* (2006), the *SAGE Dictionary of Sociology* (2006) and the *International Encyclopedia of the Social & Behavioral Sciences* (2015), even though the term is widely mentioned throughout these references. Expectation in general dictionaries stands for “the action or fact of anticipating or foreseeing something; the belief that something will happen or be the case” and “a preconceived idea or opinion based on what a person has hoped for or imagined regarding a future event, situation, or encounter” (Oxford University Press 2017e, s.l.).

In light of this, the word “beliefs,” as a proposition or set of propositions considered to be true independently of facts, is an umbrella term that encompasses attitudes and expectations. Attitudes, as a system of deliberately adopted or common beliefs, regarding an object and resulting in the evaluation of that object, refer to an unspecific type of belief that can be expressed by statements such as “I like or dislike something” or “I believe you should do something.” Expectations, as beliefs about what and how something will or should happen, are specific types of beliefs.

By opting for the term “attitudinal norms,” the social norms approach introduced a terminological confusion with conceptual and methodological consequences to a field already ridden with lack of consensus.

Fifthly, the label “attitudinal norms” leads readers to believe that these are norms that refer to the attitudes considered correct and appropriate to have in a certain situation. In fact, there are norm theorists from the Social Sciences that define attitudinal norms as “norms that require us not to perform actions but to have and form attitudes” (Brennan et al. 2013, 246). However, Perkins and Berkowitz and the authors from the social norms approach apply attitudinal norms differently. For these authors, attitudinal norms refer to beliefs or expectations, shared by a community, regarding how the members of the community ought to behave. This definition of attitudinal norms thus generates potential confusion between “shared beliefs or expectations about how others ought to behave” (interpretation 1) and “attitudes considered acceptable or correct within a community” (interpretation 2). This is the difference between, for instance, what revisers expect of translators in

a given situation (e.g., a translation without grammar or spelling errors) (interpretation 1), and the attitudes considered appropriate to be expressed in a given situation by translators (e.g., when translators receive negative feedback from revisers, they are expected to apologize for their mistakes and politely explain their errors) (interpretation 2). If attitudes refer to a system of deliberately adopted or common beliefs regarding an object resulting in the evaluation of that object, as they are generally understood in the Social Sciences, it is plausible to conclude that norms related to attitudes are **not** norms that describe shared beliefs about how others ought to behave, **but** norms that describe the clusters of beliefs that are considered acceptable or correct to have and to express/communicate within a community.

It is for these reasons that the concepts of attitudinal and behavior norms are not adopted in this dissertation. Nevertheless, Perkins and Berkowitz's social norms approach allows us to understand that the distance between what members of a community do and what these members say they should do can be significant, as already suggested by Toury (2012, 88): "there may therefore be gaps, even contradictions, between explicit arguments and demands, on the one hand, and actual behaviour, on the other, due either to subjectivity or naiveté, or even lack of sufficient knowledge on the part of those responsible for the verbalizations." To better grasp this distinction, Perkins and Berkowitz's social norms approach to misperceptions is particularly relevant since it helps differentiate between "actual" behavior and beliefs (i.e., what people really do and what people believe they should do), and between perceptions of "actual" behavior and perceptions of beliefs (i.e., second-order beliefs about what others do and what others believe others should do) (mainly Perkins and Berkowitz 1986; Perkins 2002, and 2003, Berkowitz 2004, and 2005). According to research conducted under the social norms approach, behavior can be influenced by misperceptions of how other members of the community act and think (Berkowitz 2004). The misperception of "attitudes and/or behaviors of peers and other community members to be different from their own when in fact they are not" has been called "pluralistic ignorance" (Toch and Klofas 1984; Miller and McFarland 1991). Against this backdrop, this dissertation questions whether the observed and perceived translational norms of novice and experienced translators, revisers, and readers are similar or different regarding source and target orientation. By adopting and adapting the social norms approach to translational norms, the present research explores, for the first time, what are the perceptions and potential misperceptions of translators about other agents' observed and perceived norms (these agents are revisers and readers). This is in fact the overarching question of this dissertation, but before comparing observed and perceived norms in order to answer it, it was decided to measure the norms themselves by performing a quantitative study (see § 1.6.).



#### 1.4.2. Bicchieri's empirical and normative expectations

Beliefs and expectations play an important role in norm-governed behavior. Personal belief about what an agent should do in a particular situation—the agent's (cognitive) interpretation—is based on the shared beliefs and expectations (social patterns) within a particular group that connote what is considered appropriate and inappropriate behavior in a specific situation embedded in a certain target culture, language, and system.<sup>37</sup>

However, important distinctions between beliefs are frequently missed in research. In Social Sciences questionnaires, Bicchieri (2017a) reports, questions about attitudes are often too vague to capture distinctions between beliefs: “for example, a survey may pose questions like ‘do you believe that a wife should refrain from committing adultery?’; all the researcher attains with such questions are just nonspecific personal normative beliefs of the responder” (Kindle location 347).<sup>38</sup>

Research suggests, however, that individuals' attitudes and behavior may not converge. In other words, what people verbally approve or disapprove of may or may not coincide with their own behavior: “There may therefore be gaps, even contradictions, between explicit arguments and demands, on the one hand, and actual behaviour” (Touy 2012, 88). This happens because “most of our choices are not made in a vacuum. We are social animals embedded in thick networks of relations” (Bicchieri 2017a, Kindle location 311). “A host of studies,” continues Bicchieri, “show that the main variable affecting behavior is not what one personally likes or thinks he should do [attitudes], but rather one's belief about what ‘society’ (i.e., most other people, people who matter to us, and the like) approves of [expectations]” (Bicchieri 2017a, Kindle location 311). Nevertheless, this distinction is also often overlooked in research in Social Sciences (Bicchieri 2017b, s.l.), as well as in Translation Studies. In fact, according to a search conducted in the *Translation Studies Bibliography* (TSB) in March 2017, the role played by different types of beliefs in translation remains under-examined and unclear.<sup>39</sup>

---

<sup>37</sup> Recall Touy's definition of norms as the realization of values and ideas shared by a community in performance instructions of appropriate behavior and inappropriate behavior in a particular situation embedded in a certain target culture, language and system (see Touy 2012, 63). Thereby, it is argued here that personal beliefs are based on norms.

<sup>38</sup> This is also the case of studies under the social norms approach.

<sup>39</sup> Keywords and abstracts were searched for combinations of “norm” and a belief-related term, namely, “belief” (0 hits in keywords/2 hits in abstracts), “attitude” (0/4), “expectation” (0/0), “personal normative belief” (0/0), “empirical expectation” (0/0), and “normative expectation” (0/0). From the analysis of the data collected, only two publications were identified that consider the role of different types of belief in norm research: Chesterman (2006) argues for the importance of additional evidence of normative force, besides regularities, and emphasizes the role of beliefs, and Jonasson's (1997) small case study on the initial norm of two professional translators' products and processes and comparison with their attitudes. The remaining hits were false positives.

Therefore, if a theoretical approach to translational norms is to be put forward, a theory of norms that encompasses the theoretical and methodological tools to research shared beliefs and expectations is indispensable.

Cristina Bicchieri defends a cohesive account of social norms influenced by “substantial social-psychological theorizing” (Hausman 2008, 850), as well as experimental economics and evolutionary game theory. According to this theory, social norms are “a behavior-guiding force” (Bicchieri 2000, 153) and when people choose to follow social norms they are motivated by what they think others do and by their own belief that others expect them to act in accordance with the norm. Without these beliefs (about the self and about peers), Bicchieri (2017b, s.l.) argues that the social norm would not be followed. This is the distinctive aspect of social norms that distinguishes it from collective customs<sup>40</sup> or descriptive norms.<sup>41</sup>

Thus, for a truly comprehensive study of social norms that successfully explains the relation between observed regularities in behavior and norms as psycho-social entities, four definitional attributes must be considered, namely, interdependency, the role played by expectations, the difference between personal normative beliefs and normative expectations, and conditional preferences (mainly Bicchieri 2006, 2017a, 2017b).

### **Interdependence**

Translators’ behavior is influenced by what the other members of the translation community do and think, approve or disapprove of, and therefore translation is considered an interdependent action.<sup>42</sup>

---

<sup>40</sup> Bicchieri (2017a, Kindle locations 390-392) defines customs as “a pattern of behavior such that individuals (unconditionally) prefer to conform to it because it meets their needs.”

<sup>41</sup> Bicchieri (2017a, Kindle locations 435-437) defines descriptive norm as “a pattern of behavior such that individuals prefer to conform to it on condition that they believe that most people in their reference network conform to it (empirical expectation).” In broad social terms or even social-psychological terms, however, descriptive norm is widely defined as a pattern of behavior that a group of people typically engage in. As Interis (2011, 428) explains, the term can be used to describe “simply what people do,” a regularity of behavior. The term “descriptive norm” is usually defined in contrast to an injunctive norm which is described as an informal rule-governed behavior: “prescriptive (or proscriptive) rules specifying behavior that persons ought (or ought not) to engage in” (Kitts and Chiang 2008, 1493), or in other words “what people *should* do” (Interis 2011, 428). These reductive definitions are too simplistic to the point of no longer being a useful tool for describing (translational) norm-governed behavior. If a norm, of whatever kind, was “simply what people do,” a regularity of behavior, then crying while chopping onions would be a descriptive norm, when it is in fact a response to a stimulus. This “purely *statistical* sense of ‘norm’ as simply denoting what is common or habitual” is irrelevant, as Brennan et al. (2013, 2) explain. This argument also contributes to the need for a definition of norm that accounts for the role of expectations and that differentiates between object- and meta-level (see § 1.6.).

<sup>42</sup> Interdependent actions are usually compared and contrasted with independent actions, i.e., actions not motivated by what the subject believes other people do or by what other people think the individual ought to do. Take, for instance, habits, social customs, and moral injunctions. These are all examples of independent actions, where “personal normative beliefs take front stage” (Bicchieri 2017b, s.l.).

Interdependent actions are strongly influenced by what other people do or by what other people think one should do. This is true of conventions and social norms, and “social norms are the foremost example of interdependence” (Bicchieri 2017a, Kindle location 210).

Interdependency, nevertheless, refers only to the reference network. The individual is not influenced by what everyone does, but only by a set of individuals whose actions and opinions influence the decision-making.<sup>43</sup> As mentioned by Bicchieri (2006, 20–21): “a crucial element of any empirical study of social norms will be the identification of the reference network against which expectations are set.”

It is important to take note, however, that not every agent in the reference network has the same importance for decision-making. In other words, not everyone in a reference network has an equal influence on an agent’s decision. Reference networks have a hierarchical structure (Bicchieri 2017b, s.l.).

### **Empirical and normative expectations**

Translation behavior is motivated by empirical expectations and normative expectations and these types of social expectations<sup>44</sup> interact to determine behavior. That is: (i) what the other agents in the reference network are believed to do (factual or empirical expectations), and (ii) what the other agents in the reference network are believed to think the individual should do (normative expectations).

Some social expectations are factual, empirical expectations in the sense that these are beliefs about what the agents in the reference network do in a certain situation. These beliefs are the result of socialization, namely through the observation of what other members of the community do in context or by reading or listening to reports of what other agents do. “If we have reason to believe that they will continue to act as in the past,” Bicchieri (2017a, 337) observes, “we will have formed empirical expectations about their future behavior.” Empirical expectations are typically expressed in sentences such as “I believe that most people do X,” “I have seen that most people do X” and “I am told by a trusted source that most people do X” (Bicchieri 2017b, s.l.). If we recall our initial popcorn story, we could say that nowadays moviegoers expect people to eat popcorn inside movie theaters and that this belief is an empirical expectation.

---

<sup>43</sup> Bicchieri defines reference network as “the range of people whom we care about when making particular decisions” (2017a, Kindle location 371-372).

<sup>44</sup> Bicchieri (2017) defines expectations as “just beliefs” that can be factual or normative about what happens or should happen in a given situation. It is important, though, to remember that expectations are not synonymous with norms, but that expectations influence decision-making.

Empirical expectations can be, in turn, unidirectional or multilateral. Unidirectional empirical expectations refer to the expectations that motivate one's behavior unilaterally. Multilateral empirical expectations refer to a coordinated movement between more than one party, where all parties involved act according to the expectations they have formed about the other party. This is the case of popcorn eating at the movies. When I go to the movies, I expect other people will eat popcorn and other people expect that I will eat popcorn. It is based (although not exclusively) on this mutual multilateral belief that I will eat popcorn. If no-one ate popcorn in the movies, I probably would not eat popcorn myself. So, in the case of multilateral expectations, an individual has expectations about what members of the reference network do and those members have expectations about what the agent does.<sup>45</sup> As will be seen, only multilateral empirical expectations are applicable to translation.

Normative expectations in turn are beliefs about what most people in the reference network believe the individual should or ought to do. Normative expectations are beliefs about others' beliefs and are therefore second-order beliefs (Bicchieri 2017b, s.l.). Normative expectations therefore always refer to an indirect interpretation of an intersubjective reality: "one believes that other people think one ought to behave in a certain way or refrain from behaving in a certain way" (Bicchieri 2017a, Kindle location 362). Normative expectations are often, but not always, equated with the expectation of a sanction.<sup>46</sup> If I believed that moviegoers thought that I ought not to eat popcorn, I would not eat it because I would be afraid of people at the movie theater looking at me disapprovingly or even complaining about me to an usher. Like empirical expectations, normative expectations are reference network dependent. I am not interested in the expectations of moviegoers in Asia. What I care about are the expectations of my fellow moviegoers in my home town, which may differ from the expectations throughout Western Europe.

This type of expectations can be elicited through questions such as "What do you believe other people in your reference network think you should do?" Statements such as "I believe that most people think we ought to do X," "I believe that most people think the right thing to do is X," "I think

---

<sup>45</sup> The biblical story of the Tower of Babel is given an example of the result of a coordinated act of multilateral empirical expectations (Bicchieri 2017b, s.l.). In order to build the Tower of Babel, people coordinated based on shared expectations about what others do "or, in the case of language, what they mean" (Bicchieri 2017b, s.l.). Without a common language, to put it in simplistic terms, people were not able to coordinate and finish the tower. As will become clear later, this dissertation argues that translation is also highly motivated by multilateral empirical expectations.

<sup>46</sup> As a mechanism for the enforcement of conformity, for Bicchieri (2017b, s.l.), social norms are not necessarily accompanied by sanctions. However, as will be discussed in 1.5, it is argued in this dissertation that a norm always involves sanctions, even if they are not explicit. Also, according to Bicchieri (2017b, s.l.), "sanctions" are not necessarily negative. A sanction can take the form of a reward, like, for instance, social recognition.

that others think I should X,” “I expect to be punished if I do not do X,” or “I expect to be admired if I do X,” are, in turn, commonly used to express normative expectations (Bicchieri 2017b, s.l.).

### **Normative expectations and personal normative beliefs**

For the present study, Bicchieri’s distinction between normative expectations and personal normative beliefs is followed. Normative expectations are beliefs about what other people in the reference network think the individual should do. Personal normative beliefs are understood as beliefs about what the individual thinks he or she should do or people in general should do. This is the difference between, for instance, my believing that other moviegoers in my home town expect me to eat popcorn at the movies (normative expectations) and my believing that I should not eat popcorn because it is not good for my health (personal normative beliefs). The latter can be expressed by statements like “I believe that I should do X” or “I believe that one should/ought to do X” (Bicchieri 2017b, s.l.).

Most importantly, it is not sufficient for a researcher of translational norms to ask a translator “What do you think you should do?” in order to measure normative expectations, because there is no causal link between the translator’s opinion about what he or she should do and the existence of social norms (Bicchieri 2017b, s.l.). Personal normative beliefs contribute to decision-making, yet empirical expectations and normative expectations may carry more weight. For instance, my beliefs about the expectations of friends that go with me to the movies may influence me more than my own personal belief that I should not eat popcorn, so I end up eating popcorn.

Even though normative expectations and personal normative beliefs often converge, it is important to measure them in a norm study since expectations do not have to coincide. There can be a discrepancy between what a subject believes that he or she should do and what the same individual believes that others do and what others think the individual should do. As Bicchieri (2017a, 1510) reiterates, “knowing the personal normative beliefs of the population of interest does not tell us that social norms exist.” She adds that “the only way to identify a social norm is through the mutual consistency of (incentivized) normative expectations combined with the existence of conditional preferences” based on social expectations.

Personal normative beliefs belong to the category of attitudes. Recall that attitudes can be defined as a relatively stable system of beliefs concerning an object which results in the evaluation of that object (Lawson and Garrod 2001, iBook location 91; Marshall 2003, Kindle location 1156; Abercrombie 2006, 21; Bruce and Yearley 2006, 13; Darity 2008, 200; Fleck 2015, 175). Attitudes can be expressed by statements like “I like/dislike X,” “I believe that others should/shouldn’t do X,” or “I

approve/disapprove of X” and should not be confused with preferences (Bicchieri 2017a, Kindle location 293-295). As already discussed at length (see § 1.4.1.), the concept of attitudes (and beliefs) is widely used in a broad and undefined sense in research on social norms and in the corresponding questionnaires (e.g., social norms approach).

One of the main reasons why attitudes take center stage in the study of behavior is that they are considered “precursors of behavior” (Cohen 1964, 137–38). However, Wicker’s systematic literature review on the attitudinal behavior relationship concludes that there is “little evidence to support the postulated existence of stable, underlying attitudes within the individual which influence both his verbal expressions and his actions” (Wicker 1969, 75) and, he adds, “it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions” (Wicker 1969, 65). Hence, without a fine-grained distinction between concepts such as normative and empirical expectations and personal normative beliefs, it is not possible to understand the motivations behind behavior.

### **Conditional personal preferences**

Behavior is not *necessarily* only motivated by empirical and normative expectations. In a context where there are empirical and normative expectations, but the individual does not wish to act based on her/his expectations, she/he may not comply with the norm. As Hermans reminds us, norms “do not preclude agency, or erratic conduct” (1999b, 82). Therefore, the identification of empirical and normative expectations is not sufficient evidence of a causal effect of expectations on behavior, “because correlation is not causation” (Bicchieri 2017b, s.l.). Personal preferences are only conditional when the individual’s choice depends on what he or she “thinks others do or endorse” (Bicchieri 2017b, s.l.).

### **Social norms: a definition**

With these four dimensions in mind, Bicchieri understands social norms as being conditioned by the empirical expectations and normative expectations of the individual which inform her/his conditional preference to act in a certain way in a specific situation (2006, 11, 2017a, Kindle location 660). Behind this interpretation is Bicchieri’s definition of norm as:

**a rule of behavior** such that individuals prefer to conform to it on condition that they believe that (a) most people in their reference network conform to it (empirical expectation), and (b) that most people in their reference network believe they ought to conform to it (normative expectation). (2017a, Kindle location 662-664)

An important aspect emerges from this discussion: to identify and describe norms, it is not sufficient to find regularities of behavior; shared expectations regarding how agents ought or ought not to behave must also be measured. The introduction of the concept of shared expectations in the study of translational norms helps us shed light and operationalize one of the main dimensions of Toury's definition, albeit one of the least transparent and operative ones: the cognitive interpretation of general values and ideas. This will be further expounded on in section 1.6.

It should be noted however that even though Bicchieri's cohesive approach to norms and its definitional dimensions is adopted in this dissertation, I consider her definition of norm to be problematic. For Bicchieri, the term "norm" is equated to or placed at the same level of abstraction as **a rule of behavior**. This is a common misperception in norm-related literature and is discussed in section 1.6 and this is the reason why this definition is not adopted in its entirety, even though it extensively informs the operationalization proposed and adopted here.

### **Applicability and testing**

Bicchieri's theory has been put into practice in a number of studies, including by UNICEF in cases of norm-governed behavior that puts individuals' health at risk. Bicchieri's theoretical approach to the definitional aspects of norms is applied in the field to measure and identify the norm in place by distinguishing between types of norm-governed behavior; by identifying the existing norm, different tools can be applied to change it. This is the case for, among other examples, open defecation in Senegal, child marriage in Cameroon, and handwashing with soap in Sudan. In Sudan, for instance, the theory has also been applied to change the practice of female genital cutting. In this community, Dr. Samira Amin Ahmed reports a difference between attitudes and behavior: a growing number of mothers and women who cut their children do not want to cut them, but continue to do so because it is the social norm, i.e., their neighbors do it, they are expected to do it, and there are sanctions for the children who are not cut (see Ahmed 2014; Bicchieri 2017b). This case is illustrative of pluralist ignorance, in other words, when members of a community follow a particular norm-governed behavior, even if they and other members do not really wish to do so; they wish to follow that behavior and expect others to do the same simply based on the belief that the other members of the community follow that behavior. This case study highlights the important role of social expectations in norm enforcement and the need to question whether or not there is a distinction between observed norms and perceived norms (see § 1.4.1).

### **1.5. Translation as norm-governed**

Having reviewed how norms have been conceptualized in Translation Studies and Social Sciences, it is possible to describe the main attributes of translational norms that will govern this study.

Firstly, translations (as products) result at least partly from the community's construction of what it is to translate, what translations are, and what the role of translation is. In this field, translations at meta-theoretical level are constructs of the discipline of Translation Studies and at the same time testimonies and evidence of the community's view of translation.

Secondly, by constructing an interpretation of the source text, translations define the source and target cultures and the relationship between them. Translations, at theoretical level, are therefore constructions of the source product. To quote Hermans (1998, 59): "Translation offers a window on cultural self-reference ... their transformation on the basis of and into terms which are always loaded, never innocent ... offer[ing] first-hand evidence of the prejudice of perception ... of local concerns."

Thirdly, translations are signs and symptoms of norm-governed behavior. Translations, at practical level, not only result from norm-governed behavior, but are also evidence of norms. The translation product presents itself as a roadmap for the norm researcher to observe, as they show the roads followed and, equally importantly, the roads not followed: "The choices which the translator makes simultaneously highlight the exclusions, the paths that were open but that were *not* chosen" (Hermans 1999a, 51).

By defining translation as a norm-governed behavior, the observation and study of behavioral regularities in a specific context are telling of translational norms. Textual regularities—resulting from decisions and solutions chosen by a majority of translators in the same situation "not just once or twice but regularly" (Hermans 1999b, 74)—are the result of norms. Translators who have the same profile (experience and expertise, for example) and are given the same brief, conditions, and text tend to opt for the same types of solutions (in terms, for instance, of source and target orientation). It is not the translation itself that is expected to be the same, word for word, but the use of solutions belonging to the same range of source and target orientation.

In this context, decisions are governed by translational norms and it is norms that determine the appropriate translational relation between source and target texts (Schäffner 2010, 237–38): "It is norms that determine the type and extent of equivalence manifested by actual translations" (Toury 1995, 61).



Translators' decisions result from "certain demands which they [translators] derive from their reading of the source text, and certain preferences and expectations which they know exist in the audience they are addressing" (Hermans 1999b, 74). It is then what translators think their audience expects that is one of the bases for their decision-making (normative expectations). Interestingly, the process comes full circle: because "such decisions are made regularly across a range of texts, patterns will establish themselves which in turn will affect the expectations readers bring to translated texts" (Hermans 1999b, 74).

It is through socialization that a translator, or more precisely a successful translator, learns the translational norms relevant to his or her context. "Norms are developed in the process of socialization," Schäffner (1999a, 5) points out. And "acquiring a set of norms for determining what is appropriate translational behaviour in a given community is a prerequisite for becoming a translator within that community," as Baker and Saldanha (2009, 190) remind us and I agree. Hermans adds (quite pertinently) to the conversation about norms, saying "other people's expectations of what is 'proper', and in what circumstances, play a crucial part," (1999b, 75) and that "norms derive their legitimacy from shared knowledge, mutual expectation and acceptance, and the fact that, on the individual level, they are largely internalized" (1999b, 81). Translational norms are thus a product of behavior learned by observing the current practices within a community (i.e., the observation of how other translators behave in similar circumstances) and from explicit accounts (i.e., declarative knowledge via classes, client or peer feedback, book reviews, codes of conduct, interviews with translators, etc.) or, in other words, empirical expectations. It follows that this notion of correctness is constructed based on the translator's perception of what peers do (empirical expectations) or expect the translator to do (normative expectations). Hermans (1999b, 83) says on this matter that: "In practice, following a given set of norms may be a matter of acquired habit ... Learning to translate involves a socialization process: it means learning to operate—and perhaps manipulate—the norms of translation."

If in fact translation is norm-governed, as argued in this dissertation, three points have to be taken into consideration. Firstly, the normative force of the socio-cultural constraints which govern translators' behavior. Secondly, the existence of alternative and competing norms in a specific space and time. Finally, the extent to which norms are binding. These aspects are discussed in the following sections.

### **1.5.1. From rules to idiosyncrasies**

Translators' behavior is socially, culturally and historically determined (Toury 1995, 61). Translators' decision-making is affected by a number of factors or, in other words, by a variety of constraints and motivations, and these constraints can be found on a graded continuum between absolute rules and pure idiosyncrasies (see Figure 2). Norms are situated between these two poles. Since some norms are more forceful than others, they also represent their own graded continuum in terms of normative force, ranging from obligation to non-prohibition. When referring to translators' decision-making, it is inferred that what we are concerned with (at least at this point) are decisions within the translator's control. That is not to say that all decision-making in translation is within the translator's control, far from it. As Hermans (1999b, 73) explains "some of the decisions which translators make are hardly decisions at all, let alone their own." This was true in 1999 and even more so today, due to the complex multi-agent working environments of professional translation services in general and of highly specialized fields, such as biomedical translation, in particular. Beyond the control of the translator are the decisions made before the task reaches her/his hands (such as the decisions laid down in style guides and in the form of instructions) and after the task is delivered (made by the quality control team, which has extensive control over the final version).

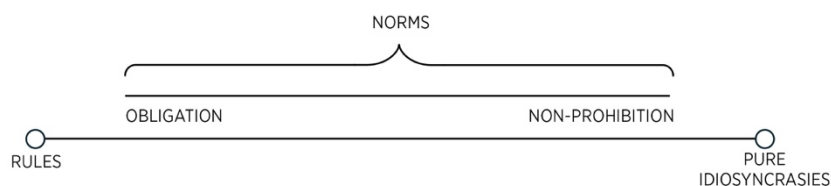


Figure 2. Toury's graded continuum of translators' decision-making ranging between absolute rules and pure idiosyncrasies.

Regarding the "gradation and relativity" of norms, Toury (2012, 65–67) makes two points. First, constraints "can be described along a scalable continuum anchored between two extremes: general, relatively objective rules on the one hand, and idiosyncratic mannerisms on the other" (Toury 2012, 65). In Figure 2, one of the poles is occupied by rules, which are relatively more objective constraints, and the opposite pole is occupied by pure idiosyncrasies, which are subjective constraints. Between the two extremes, norms are interpreted as intersubjective constraints. Norms are defined by Toury (1995, 54) as "intersubjective factors," and to Hermans (1996, 28) norms are formed by the intersubjective concept of correctness.

Thus, norms exist as ideas shared by members of the translation community, and each translator adheres to or violates norms that result from her/his own interpretation of the *shared beliefs or expectations of the social group*. This aspect is an important one: "norms do not affect behaviour

directly, because their influence must be filtered through the translator's mind as decisions are made during the translation act" (Chesterman 2006, 15). Ultimately, norms can also be found in the translator's "neural patterns of synapses in the brain" (Chesterman 2016b, 11).

In his major contribution to the interpretation of translation theory, Chesterman (1997, 2016b) described the locus of memes—"cultural units" as glossed by Plotkin (1993, 769), but more precisely cultural ideas that replicate themselves—as existing in all three Popperian Worlds:<sup>47</sup> in the physical world or World 1, as "constellations of activated and non-activated synapses within neural memory networks" (Delius 1989, 45; also quoted in Chesterman 2006, 11), in the world of ideas or World 2, and in the world of shared ideas or World 3.

Since norms are translation memes, this theorization of translational ideas as memes is particularly useful for the visualization of the locus of norms not only in the world of ideas and intersubjective shared ideas (World 2 and 3 in Popper's words), but also in the physical world. Delius' definition of memes as the "material configurations in neural memory that code behavioural cultural traits" (1989, 46) is especially fruitful in the study of norms because it highlights the role of individual interpretation as well as their impact on behavior. As the biologist explains:

Any cultural trait that is taken over by a given individual from another individual must accordingly be thought of as the transfer of a particular pattern of synaptic hotspots within the associative networks of one brain to the associative networks of another brain. (Delius 1989, 44; also quoted in Chesterman 2016b, 11)

Second, "the borderlines between adjacent types of constraints are diffuse" (Toury 2012, 66). Constraints and norms are represented on a graded continuum and, as the term *continuum* implies, there is no perceptible or discernible division between adjacent constraints. Returning to the story of popcorn: for a period of time, eating popcorn at the movie theater was simultaneously prohibited (a rule) and not prohibited (a norm). It is difficult to say when exactly the rule became a norm and, most likely, rule and norm overlapped in time.

Constraints and norms are not static, as the example above illustrates. Rules change into norms, as in the story of popcorn, and different norms acquire varying degrees of normative force. Communities agree on actions via negotiation, which in turn "breed[s] conventions" that the members of the group feel obliged to follow. This in turn may crystallize into "quite complex

---

<sup>47</sup> In "Three Worlds," a lecture delivered in 1978 at the University of Michigan, the philosopher Karl Popper proposed a "pluralist view" (1978, 143) of the universe as an alternative to monist and dualist perspectives. The physical world (World 1) refers to the world of the physical entities, for example, animals. The mental or psychological world (World 2) concerns the plane of mental objects such as thoughts, perceptions and observations. The world of the "products of the human mind" (World 3) refers to objective knowledge such as scientific theories and constructs (1978, 144).

behavioral routines” (Toury 2012, 62). “Our worlds achieve the appearance of stability and regularity,” as Davis (1994, 97) argues, “because we agree that certain actions are acceptable in appropriate circumstances, and others are not.”

Toury (2012, 63) also refers to de Geest’s square of normativity (1992), which represents—with the help of a semiotic square—the binary relationships between the opposing points of obligation (what has to be said) and non-obligation (what does not have to be said), and prohibition (what must not be said) and non-prohibition (what may be said) and their respective interrelations, as can be seen in the Figure 3 (next page).

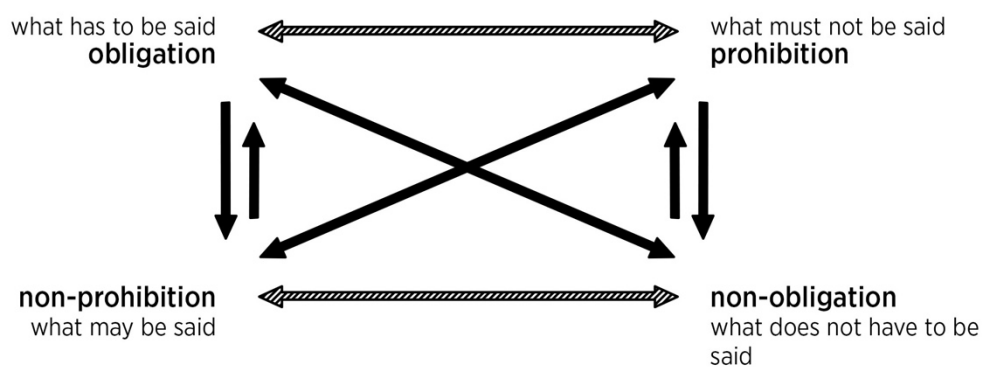


Figure 3. de Geest’s semiotic square of normativity.

The semiotic square of normativity sheds light on the normative force of constraints and, more specifically, their complexity. Norms are not just a matter of what has to be done or must not be done (or said). It is important to understand in this context that there are behaviors that are mandatory and behaviors that are prohibited, but at the same time there are tolerated behaviors (the case of non-prohibition) and non-mandatory behaviors (the case of non-obligation). In other words, the upper half of the semiotic square represents “strong, clearly recognized and well-defined norms and rules, formulated as requirements and interdictions (prescriptions and proscriptions), which may be backed up by sanctions or supported by strong attitudes and belief statements” (Hermans 1999b, 83). The lower half of the square represents “areas of greater permissiveness (preferences and permissions), where norm-breaking, experimentation and innovation are therefore more likely” (Hermans 1999b, 83).

### 1.5.2. Alternative and competing norms

Different, sometimes overlapping and conflicting norms coexist in the same space and time. For a student, these alternative and competing norms may seem confusing. Why footnotes can be used in

literary translation for some publishers but not in technical translation is a common question among Portuguese translation students, for instance. What is considered “correct” differs from field to field, text to text, medium to medium. “Correctness in translation is relative—linguistically, socially, politically, ideologically,” Hermans (1999b, 85) adds. This apparent contradiction is explained by Toury (2012, 76): “the need to choose between alternatives is built into the very system, so that socialization *re* translating often includes the acquisition not only of the alternatives themselves as a list of options, but the ability to manoeuvre meaningfully among them as well.” This explanation resembles Pym’s (Pym 2003, 489) minimalist definition of competence as the ability to produce a set of target texts and the ability to choose one of these target texts according to the specifications at hand. Hermans (1996, 36) also defines competence in similar terms: “Learning to translate correctly means the acquisition of the relevant competence, i.e. the set of dispositions required to select and apply those norms and rules that will produce legitimate translations, i.e. translations which conform to the legitimate models.” Translation competence can therefore be described in simple terms as (declarative and procedural) knowledge of the current translational norms for a given field, including the specifications for the task at hand and this is the definition adopted for the purposes of this dissertation. At the basis of this definition are the concepts of declarative and procedural knowledge (Anderson 1983; PACTE 2003): declarative knowledge is understood as “knowing what” and it is assumed that this knowledge comes from passive exposure to information (mainly listening and reading). On the other hand, procedural knowledge is “knowing how” and is acquired through the practice of translation.

An account of (some of) the alternative and competing norms currently in place can be found in Chesterman (2016b). At the end of the chapter “The evolution of translation memes,” Chesterman discusses the “current pool of translation memes” as a contradictory amalgamate of “traces of all the preceding memes or meme-complexes” (2016b, 40). These “meme-complexes” express overlapping and cumulative norms that today can be traced back to the different stages in the evolution of Western translation theory, and these stages, according to Chesterman, are: words, the word of God, rhetoric, logos, linguistic science, communication, target, and cognition. As Hermans (1999b, 84) explains: “The internal history of translation could be written as an unfolding series of norm conflicts.”

Therefore, not only can alternative and competing translational norms coexist in the same time and space, but these norms differ according to subject matter, text-type, purpose of the target text, task

and project order (or brief, in Nord's terminology<sup>48</sup>), type of media, among others. Also, not all available norms "are equally accessible and of exactly the same status, so that choice between them is not devoid of implications for the assessment of a person's behaviour and/or his/her position within society" (Toury 2012, 76).

As seen in the previous section, there are some norms that are stronger than others and the choice between stronger and weaker norms can affect the prestige and power of the translation agent. A successful translator's career is built on good choices or, in other words, it is built on a pattern of stronger norms. It is only after acquiring prestige and recognition that translators "can afford to start practicing deviations from accepted patterns of behaviour" (Toury 2012, 77). In order to breach the norm, the translator has to know and internalize the norm, understand when, how, and why the norm is applicable. Only then can she/he deliberately deviate from the norm and have the breach not be considered an error. Changes come from different expectations in terms of what is considered a correct or appropriate text for a given context. Therefore, and contrary to what might be expected, innovation through norm breaking does not necessarily come from novice translators. In fact, "insecure as they understandably are, novice translators would try to avoid taking risks—in other words, play safe—thus performing according to norms which, though they may have become dated, are still considered 'respectable'" (Toury 2012, 76). This is why it is important to study the behavior, beliefs and expectations of both novice translators and experienced translators, and it is equally important not to take the behavior of novice translators as representative of the behavior of most translators. For this reason, this study measures the norms of both novice and experienced translators.

### **1.5.3. Norms as non-binding constraints**

Behavior is constrained by a norm when a group of people regularly do a particular action in a given space and time. Going back to our example, in the early beginnings of movie history, moviegoers did not eat popcorn. Moviegoers believed they should not eat popcorn, although it was not explicitly prohibited at first. It was not a rule, but there was a shared understanding that people would not eat in movie theaters. It was a habit, and so there were sanctions. People would be justifiably criticized if they ate popcorn. They would likely be shushed and asked to leave the theater. A change in social behavior prompted the need to overtly create a rule of prohibition. This binding rule involved explicit sanctions. If you entered the movie theater with popcorn, you would be asked to leave. As these rules were repeatedly broken, a change occurred. Now, people can eat popcorn in movie

---

<sup>48</sup> See Nord (2018, 22).

theaters. They do not have to. It is not mandatory to eat popcorn, but they can do so if they want (non-prohibition).

In summary, as Schäffner (2014, s.l.) explains, behavior is constrained by a norm if (i) people regularly do X in a given space and time, (ii) they think they should do X, and (iii) they can justifiably be criticized if they do not do X, with their actions resulting in sanctions. Norms occupy a space between absolute rules and pure idiosyncrasies and it is not possible to clearly differentiate between adjacent types of constraints, as explained in earlier paragraphs. However, of these three, only absolute rules are binding, even though both rules and norms involve sanctions. Deviation from a norm does not mean that the norm does not exist or that it has ceased to be in place, provided that it is subject to criticism, correction, and sanction. A norm may exist even if it is not followed (Schäffner 2014, s.l.).

### **1.6. Investigating norms**

Having defined the main attributes of translational norms, it is possible to identify, describe and compare the main conceptual and original interpretations of norms as a purely descriptive tool of collective behavior that informs this dissertation. With this in mind, the proposals of authors who do not have purely descriptive positions regarding the object of study, such as Chesterman (see 1.3.4.), or who aim to describe individual rather than collective behavior, such as Simeoni and Meylaerts (see 1.3.5.), are not carried forward. This synopsis of the relevant literature review can be observed in Table 1 (next page).

Toury interprets norms as the realization of values and ideas shared by a community in performance instructions of appropriate behavior and inappropriate behavior in a particular situation embedded in a certain target culture, language and system. This descriptive category was designed to identify and describe regularities in translation (patterns of common behavior shared by a community of translators), including the elicited tactics and strategies usually opted for. Norms are a tool to describe the relationship between source and target products, as well as to describe and explain the concept of translation for a given community as act and event. Besides these two main descriptive and explanatory theoretical purposes, Toury adds a predictive theoretical purpose: by identifying translational regularities, it is possible to generalize and formulate probabilistic laws.

Norms, according to Hermans (1999b, 80), are a descriptive category of a normative object that can be defined as the interpretation of an intersubjective reality of a socially shared concept of appropriateness which guides the translation behavior of an agent or the regularity of that reality.

Besides that, for Hermans (1999b, 80), norms are also regularities in translation behavior. This last view is shared by Baker (Baker 1998; Baker and Saldanha 2009) and Perkins and Berkowitz (mainly Perkins and Berkowitz 1986; Perkins 2002, and 2003, Berkowitz 2004, and 2005). Against this backdrop, translation is the venue of dynamic ideological, social and cultural power struggles and hence an access point for studying translation as a subsystem of the literary or cultural system. This author establishes two main descriptive and didactic/professional purposes for translational norms: (i) to model and serve as a model of translation behavior, and (ii) to frame the way and extent to which source texts are integrated into the target culture.

Nord understands conventions as a descriptive category which refers to the specific realization of expected and preferred behavior. Her aims to study translational norms are descriptive and didactic respectively, namely (i) to describe translators' and readers' expectations regarding the source and target texts, the target text, the purpose, and the reception of the target text, and (ii) to serve as a model of regulative and constitutive appropriate behavior.

Perkins and Berkowitz's concept of norms is defined as a descriptive category of a norm-setting object, combining attitudes and practices with two main aims: (i) to model and serve as a theoretical model for prevention (descriptive and explanatory theoretical purpose) and (ii) to identify misperceptions about norms and apply them to behavioral change in health settings (applied research). For this purpose, Perkins and Berkowitz propose two norms to identify misperceptions: (i) attitudinal norms referring to common beliefs or expectations about behavior, and (ii) behavioral norms concerning common regularities observed in a community.

Notion	Status	Definition	Related key concepts	Applications
<b>Toury's norms</b>	purely descriptive category	realization of values shared by a community in performance instructions of appropriate behavior	target-oriented translated text translation act translation event	(i) describes relationship between source and target products (descriptive theoretical purpose) (ii) describes and explains the concept of translation for a given community as act and event (descriptive and explanatory theoretical purpose) (iii) by identifying translational regularities, generalizes and formulates probabilistic laws (predictive theoretical purpose)
<b>Hermans' norms</b>	descriptive category of a normative object	(i) intersubjective reality of a socially shared concept of appropriateness which guides the translation behavior of an agent (ii) regularity in translation behavior	system agency normative force	(i) models and serves as a model of translation behavior (theoretical and didactic/professional purposes) (ii) frames the way and extent to which STs are integrated into the TC (descriptive theoretical purpose)



<b>Nord's conventions</b>	descriptive category of regular, expected behavior	specific realization of expected and preferred behavior	function skopos	(i) describes the translators' and readers' expectations regarding the ST and TT, TT and the purpose, and the reception of the TT (descriptive theoretical purpose) (ii) serves as a model of regulative and constitutive appropriate behavior (didactic purpose)
<b>Perkins, Berkowitz's (and Malmkjær's) norms</b>	descriptive category of a norm-setting object	common beliefs or expectations about behavior (attitudinal norms) and common regularities (behavioral norms) observed in a community	attitudes misperception	(i) models and serves as a theoretical model for prevention (descriptive and explanatory theoretical purpose) (ii) by identifying misperceptions about norms, is applied to behavioral change in health settings (applied research)
<b>Bicchieri's social norms</b>	descriptive category of an object highly conditioned by expectations	a rule of behavior conditioned by the empirical expectations and normative expectations of the individual which inform her/his conditional preference to act in a certain way in a specific situation	expectations conditional preference	(i) models and serves as a theoretical model for norm change (descriptive and explanatory theoretical purpose) (ii) by diagnosing norms, is applied to change social practices causing societal damage (applied research)

Table 1. Summary of conceptual interpretations of "norm."

Bicchieri's norms, in contrast to those proposed by Perkins and Berkowitz, are clearly defined. Social norms, the type of norms relevant to this study, are understood as a descriptive tool of an object highly dependent on expectations. As such, norms are described as rules of behavior conditioned by the empirical expectations and normative expectations of the individual that inform the agent's conditional preference to act in a certain way in a specific situation. This descriptive tool is designed for reasons similar to those suggested by Perkins and Berkowitz: (i) it models and serves as a theoretical model for norm change (descriptive and explanatory theoretical purpose), (ii) by diagnosing norms, apply them to change social practices causing societal damage (applied research).

An analysis of the main identified types of norms from the above synopsis was conducted and identified three main types of definitions: behavioral definitions, intersubjective definitions, and oughtness definitions.<sup>49</sup> Table 2 (below) depicts the common types of definitions of norms. Thus, a norm can be defined as a regularity of behavior (as in the case of Perkins and Berkowitz), as an intersubjective reality of a socially shared concept of appropriateness (as in the case of Toury), and, if there are shared expectations about how behavior ought or ought not to be performed, conditioning behavior, as in the case of Bicchieri.

Attributes of the definition	Type of definition
------------------------------	--------------------

<sup>49</sup> This analysis takes a cue from Opp's comprehensive overview of the main types of definitions of norm in Social Sciences (see 2001b, 2001a).

BEHAVIORAL REGULARITY	INTERSUBJECTIVE REALITY	SHARED EXPECTATIONS about behavior that OUGHT OR OUGHT NOT to be performed CONDITIONAL OF BEHAVIOR	
—	—	✓	<b>Oughtness definition</b>
✓	—	—	<b>Behavioral definition</b>
—	✓	—	<b>Intersubjective definition</b>

Table 2. Types of definitions of norms.

These types of definitions, however, do not meet the conceptual and methodological considerations that are considered essential here for the operationalization of the concept of norms. The operationalization of the norm concept lacks explanatory power, a consensual definition of norm is missing, and “for the most part normative explanations are *ad hoc*—that is, they do not stem from systematic comparative research” (Gibbs 1968, 212); these weaknesses are true for both Translation Studies and Social Sciences. As a result, “normative explanations of behavior are often dubious. The alleged prescription or proscription may merely be assumed to exist, and the conceptual and methodological issues inherent in any such explanation are rarely discussed,” as Gibbs (1968, 212) points out regarding studies under Social Sciences. In sum, firstly, although there are a number of authors that equate regularities with norms, these two concepts refer to different levels of abstraction and hence, at the conceptual and methodological stages, should not be used as synonyms without further examination. Secondly, observed regularities *may be* signs of norms, but this is not always the case and, hence, the explanatory power of norms should be questioned. The following sections are dedicated to these considerations.

### Object vs. meta-level

There are authors—such as Hermans (1998), Baker (1998; Baker and Saldanha 2009), Perkins and Berkowitz (Perkins and Berkowitz 1986; Perkins 2002; and 2003; Berkowitz 2004; and 2005)—who interpret translational norms as regularities in observed behavior. However, regularities and norms should not be confused. “Regularities and norms are not just two words used to note a single phenomenon. In fact, they are not even observable in the same way, let alone on the same level,” Toury (2012, 65) reminds us.

“It is thus important,” as Rosa (2016c, s.l.) rightly explains, “to avoid confusion between object-level and meta-level phenomena.”<sup>50</sup> In general terms, discourses at the object-level refer directly to the object of study itself. In the case of translation, these refer to translation discourses, i.e., the

<sup>50</sup> This distinction can be traced back to Toury (1995) and Chesterman (1999). However, it is Rosa (2016c) who systematizes the various layers of discourse differentiating between object-level and meta-level.

translations and all the paratext that surrounds the translated texts.<sup>51</sup> According to Toury, these are the two main sources of data for reconstructing (or in Toury’s terminology “extracting”) translational norms: (i) the textual sources are the translated texts themselves, and (ii) the extratextual sources are the normative formulations about translations (2012, 87). These textual or extratextual<sup>52</sup> data are tangible and directly observable and are therefore first-order objects. Norms are considered second-order objects, extracted psycho-social entities that are not directly observable. Norms exist in the mental plane and, in the world of “products of the human mind,” as psycho-social entities (Popper 1978, 144). As such, norms can be mental objects and hence second-order objects, also intangible and not directly observable, but norms can be also found at the meta-level in academic discourse about norms, as in the present case (see Table 3, next page). Meta-level discourses refer to discourses that describe or reflect on the object-level of the field that is being studied. In the field of Translation Studies, these meta-level discourses are academic discourses about translation and its metalanguage.

Object-level			Meta-level
Textual data	Extratextual data	Psycho-social entities	Metalanguage
Regularities	Normative formulations	Norms	Academic discourse about norms
First-order objects	First-order objects	Second-order objects	Descriptive-explanatory hypotheses
Directly observable	Directly observable	Not directly observable	

Table 3. Object-level versus meta-level discourse on translational norms (adapted from Rosa 2016c).

“Thus, from the scholarly point of view,” Toury (2012, 65) maintains, “norms do not appear as entities at all, but rather as **explanatory hypotheses for actual behaviour and its perceptible manifestations.**” Norm research makes use of the concept of norms as descriptive-explanatory hypotheses of observed regularities and, as such, “the study of norms as a second-order non-observable object is instrumental in ascertaining how the functional-relational postulate of equivalence is realized” (Rosa 2016c, s.l.).

<sup>51</sup> In the words of Flynn and Gambier (2016, under “1.1. Discourses”), “[t]ranslation discourses are understood here in the broadest possible sense as including translations as such, all the (multilingual) interaction involved in bringing about these translations and all subsequent comment, evaluation or explanation coinciding with or issuing from translations.”

<sup>52</sup> Rosa (2016c) does not include extratextual data in her systematization of object-level and meta-level discourses. However, for the purposes of the present study, the inclusion of this source of translational norms is considered paramount since extratextual data play a central role in this study (see 1.6.1.2).

### Explanatory power of norms

Although extensive research has been carried out on translational norms, a large number of studies have primarily focused on observed regularities. However, regularities do not “constitute sufficient evidence” of causation (Chesterman 2006, 16). Following Toury (1995, 2012), one of the problems regarding the study of translational norms is the discussable relationship between norms and regularities, an issue that this study would like to address.

One major theoretical issue that has dominated the field since the beginning concerns the nature of translational norms, in other words how to define and study norms in translation studies. To this end, Toury (in Pym 2012b) acknowledges the need for an interdisciplinary approach to the empirical-descriptive study of norms by calling for cooperation between sociology and Translation Studies for a more informed and less naïve sociological account.

Norms are understood as the result of a cognitive interpretation of social patterns, “a behavior-guiding force” (Bicchieri 2000, 153). Observed regularities *may be* signs of norms, but this is not always the case. Regularities are construed to be the result of norm-governed behavior and “testify to recurrent underlying motives” (Toury 1999, 15f). This is the tenet at the heart of a norm study and it is against this background that “for the researcher norms thus emerge as *explanatory hypotheses* (of observed [results of] behaviour)” (Toury 1999, 15f).

In the light of this, Chesterman asks for more evidence on the existence of norms: “Norms are only one of the potential causal factors, after all” (2016b, 82). Observed regularities, I reiterate, *may be* signs of norms, but this is not always the case and hence an observed textual regularity is not enough to prove the existence of norm-governed behavior. It is a starting point. The challenge posed is to “show plausible links between observed regularities on the one hand and evidence of normative force on the other” and Chesterman suggests the following forms of evidence to do so: belief statements, authoritative norm statements, norm counter-evidence, and alternative explanations, adding that the researcher should test her/his hypotheses through triangulation<sup>53</sup> (Chesterman 2006, 16, 2016b, 82–83). Chesterman (2006, 16) also lists as other possible causes: time constraints; the conditions imposed by the task itself (including, I might add, restrictions applied by the client); factors concerning the knowledge of the translator (or absence thereof), including cognitive constraints; and even lack of access to information. “And of course chance,” Chesterman adds (2006, 16). Translation behavior can be the result of multiple factors, one of which is norms. In this respect, Hermans (1998, 57) suggests that the norm concept is a “guiding tool”

---

<sup>53</sup> This principle is further defined and discussed in Chapter 4.

which means “weighting external pressures, acquired habits and routinely applied skills against the individual’s **presumed** goal-oriented design in particular circumstances” (emphasis added).

Just as norms are descriptive-explanatory hypotheses, the process of identifying regularities is also a matter of formulating hypotheses; the selection of relevant data to be considered a regularity and its deployment as evidence “is likely to remain a matter of interpretation and speculation” (Hermans 1999a, 57).

An often-heard criticism of much of the literature is precisely about the “scientificity” and objectivity of the research under the umbrella of Descriptive Translation Studies. The move from prescriptivism to descriptivism has not come without criticism.<sup>54</sup> The importation of pure research aims to Descriptive Translation Studies has given rise to a number of criticisms, mainly from cultural studies, postcolonial studies, and feminist and gay studies. The main concerns are related to a lack of focus on power negotiation or individual choices, the promotion of a non-interventionist and non-prescriptive discipline or approach to Translation Studies (Pym in Rosa 2016c, s.l.), and the *apparent* sanitization of the study of the relationship between source and target texts (e.g., Arrojo 1998; Hermans 1999b; Chesterman and Arrojo 2000; Crisafulli 2002; Brownlie 2003a, 2008).<sup>55</sup>

Objectivism, according to Matthews and Ross (2010, 24–25), “asserts that the social phenomena that make up our social world have an existence of their own ..., apart from and independent of the social actors (humans) who are involved.” In this context, “the social researcher’s relationship to the social world and the social phenomenon he is studying is therefore one of objective observation” (Matthews and Ross 2010, 25). Objectivism, assuming as an ontological position a positivist epistemology, “which asserts that social phenomena can be objectively researched, data about the social world can be collected and measured, and the resulting observations must remain independent of the researchers’ subjective understandings” is “often linked with quantitative approaches to research and to empiricism, i.e. the collection of observable evidence” (Saldanha and O’Brien 2013, iBook location 36-37). Such a tenet has no bearing on the research proposed in this dissertation. The link between quantitative approaches, empiricism, and objectivism is not causal; it is imperative to distinguish empiricism from objectivism (Tymoczko 2007, 145). “In postpositivist

---

<sup>54</sup> It is important thus to interpret the rise of descriptivism and Descriptive Translation Studies in context. This shift came about when the discipline (and its researchers) focused on establishing itself as a discipline by detaching itself from prescriptive and applied approaches. Toury and descriptionists were concerned with how we do research. Every stance is contextually dependent, as in the case under discussion. In order for an interdiscipline like Translation Studies to assert itself, it borrowed prestige from the scientific empirical approach (Rosa 2016a). It was against this backdrop that this proposal emerged, and it has become a historically productive and successful approach if we consider the volume of research that has been carried out under the Descriptive Translation Studies umbrella.

<sup>55</sup> For more on criticism towards DTS, see Rosa (2016a).

research,” Saldanha and O’Brien (2013, iBook location 37) explain, “empiricism and objectivism are treated as distinct positions; just because research is ‘empirical’ in nature does not mean that it is ‘objective’.” By acknowledging that no “descriptive framework can be conceived in a vacuum, that is, without an act of interpretation” and that “empirical facts do not exist independently of the scholar’s viewpoint; indeed, it is the scholar who creates the empirical facts of the analysis by making observable (raw) data relevant to his/her perspective” (Crisafulli 2002, 31–33), the researcher exercises self-criticism and self-reflexivity (Rosa 2016a). Indeed, Arrojo (1998), Hermans (1999b), and Brownlie (2003a, 40) suggest the answer lies in a “self-aware and self-critical” approach to descriptivism by recognizing the non-absolute nature of certain distinctions—such as meta-level and object-level, empirical and non-empirical work and between the different roles played by the researcher in the translation community.<sup>56</sup> On this point, Crisafulli (2002) argues that data selection (translators and translations, for instance), descriptive categories of analysis, the identification of regularities, the formulation of translational norms, and explanatory theories are biased by the researchers’ value judgements. Specifically regarding regularities, Chesterman and Arrojo (2000, 159) reiterate the problem of selection bias: “whatever is considered, for example, as a ‘regularity’ will reflect the interests of a certain translation specialist, or research group, at a certain time, in a certain context.” Thus, perspective and self-reflexivity are essential (Tymoczko 2005). By studying real translations, by not adopting a priori definitions of translation, and by not prescribing desired behavior to translators, descriptivists are distancing themselves from prescriptivism. By being self-critical and self-aware, critical descriptivists, in postpositivist research, are going one step further and recognizing that true objectivism is not possible, that a researcher’s data and research questions and hypotheses are open to different interpretations and, consequently, conclusions, and that “theory is a way of seeing, a point of view, an idea” (Valdez 2017, 503).

From this discussion, two points have to be taken into consideration to move on to the next stage of the study of translational norms. Firstly, that the observation of regularities is not sufficient evidence for the presence of norm-governed behavior since norms are descriptive-explanatory hypotheses and, as hypotheses, they have to be tested. Secondly, every research process is theory-dependent and therefore it is paramount to acknowledge that “there is no such thing as ‘pure observation’” (Brownlie 2003a, 40).

### **1.6.1. Translational norm and its dimensions**

---

<sup>56</sup> In my case, it involves acknowledging the triple role I play as a researcher of translation, as a translator and as a translator trainer. Even though my goal is to be as objective as I can, I have to openly recognize that only a critical descriptive approach “could provide space for self-reflection, for questioning presuppositions, for eclecticism, and for openness to various viewpoints which may be adopted in undertaking a given study” (Brownlie 2008, 80).

While a variety of definitions have been suggested for norms, most of which are based on the researcher's agenda, this dissertation will use a combination of Toury's (1995, 2012), Hermans' (1991; 1996; 1999a; 1999b; 2000) and Bicchieri's (2006, 2017a, and 2017b) definitions, and will adopt the object- and meta-level distinction systematized by Rosa (2016c). Since the adoption of a definition of a norm should be based on its explanatory power with regard to the research questions and its relevance for the "formulation of true and informative theories" (Opp 2001a, 10715),<sup>57</sup> this definition is informed mainly by three criteria:

- the distinction between object- and meta-level discourses of translational norms (see § on **Object vs. Meta-level**);
- the formulation of a strong(er) link between evidence of norm-governed behavior and norms through the inclusion of the role of agents' expectations, beliefs, and attitudes as conditional for their behavior (see § on **Explanatory power of norms**);
- the need to address the explanatory problem of misperception between agents (see § 1.6.2.).

Hence, translational norms in this dissertation are defined at object-level as the operationalization of a cognitive interpretation of an intersubjective reality conditioned by the empirical expectations and normative expectations of the individual which inform her/his conditional preference to act in a certain way within a particular community that connotes what is considered appropriate and inappropriate behavior in a specific situation embedded in a certain target culture, language and system. At meta-level, norms are understood as descriptive-explanatory hypotheses for observed regularities (translation behavior) and belief statements (personal normative beliefs, empirical expectations, normative expectations, and normative attitudes).

It is important to stress that no empirical research has been found that focuses on exploring the role of personal normative beliefs, empirical and normative expectations and normative attitudes in translational norms. This study therefore fills a gap in the literature by providing theoretical tools to address the explanatory power of norms in translation establishing a plausible relationship/link between observed behavior and statements of belief, on the one hand, and evidence of normative force, on the other.

---

<sup>57</sup> As Hempel explains: "good scientific constructs must also possess *theoretical*, or *systematic*, *import*; i.e. they must permit the establishment of explanatory and predictive principles in the form of general laws or theories" (Hempel 1952, 46).

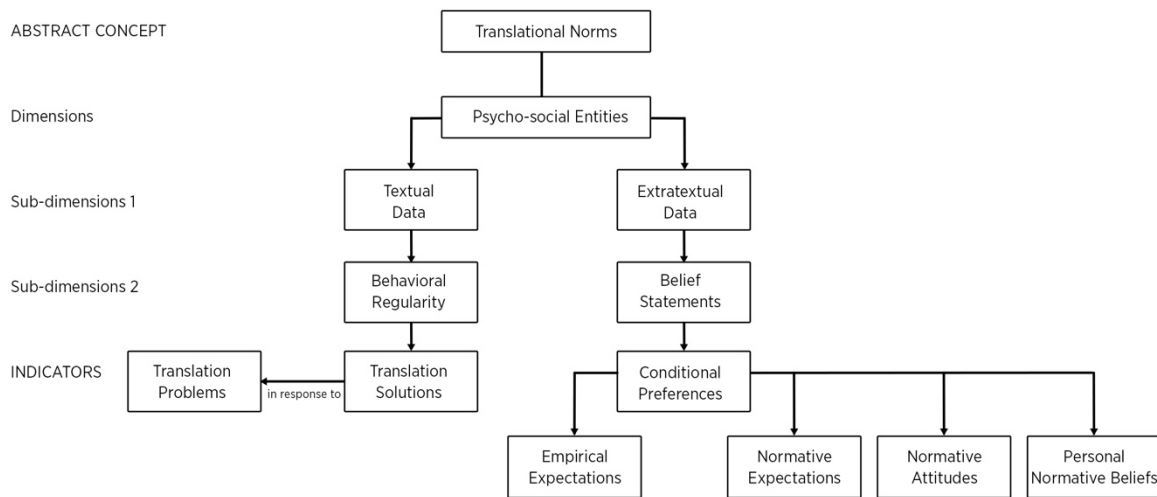


Figure 4. Descending the ladder of abstraction: norms.

Clearly explaining the main concept, in this case the concept of translational norms, from the abstract and broad to the concrete and specific, to the point where it is possible to identify the indicators to measure is considered paramount in any study (Schwarz 1997, 4; De-Vaus 2002, 47). This descent of the ladder of abstraction, as set out in Figure 4 above, clarifies the dimensions and sub-dimensions that are considered central to this study and their corresponding indicators. It thus contributes to a “more systematic development of indicators for each dimension” of the concept, “provid[ing] a focus for research and guidance about the type of information to collect” and leading to more sophisticated theorization and analysis (De-Vaus 2002, 47).

In light of this, it is possible to confirm textual and extratextual data as the main sub-dimensions and sources for the study of translational norms. Each of the following sections is dedicated to one of these sources and the corresponding sub-dimensions and indicators.

#### 1.6.1.1. Textual data

One of the essential sources of data for the reconstruction of translational norms identified in the literature is textual, i.e., translated texts and pseudotranslations, as well as databases and inventories of translations. Textual sources are considered primary products, and as such they are “immediate representations” of norm-governed behavior (Toury 2012, 87–88).



The first step thus is to select the textual sources that form part of the object of study—the translated texts. Taking into consideration that the focus of this study is on describing and understanding translation behavior and the effect of the (textual and social) context on the translation process, a process-oriented approach has been adopted. Under the process-oriented approach, the translated texts result from an experimental setting and all translations produced during the experiment are considered acceptable since they are the product of translators—novice or experienced—under their usual working conditions and reflect a real-life situation in order to ensure ecological validity (see § 4.2.). Thus the question of establishing what is considered an assumed translation and its acceptability—considerations Toury (2012, 93) regarded as important at this stage—are removed from the equation.

Having selected the method of collecting the target texts, the second step concerns the pairing and comparison of the source and target texts in order to create a corpus of translated texts. Of a number of possibilities, the comparison of parallel translations into one target language which came into being at a particular point in time is the one that involves the least variables (see Toury 2012, 95–99). This is not the most common, however, in translation studies. The study of parallel translations into one target language made at different points in time is much more common and brings to the forefront problematic issues for studies of norms (see Toury 2012, 96–98). In the case at hand, given the process-oriented approach selected, it is possible to pair and compare one source text to its multiple translations written at the same point in time and under similar design criteria, giving rise to a study with a controlled number of variables. This corpus of one source text in English and its 30 translations in European Portuguese will then be used to discover behavioral regularities produced by novice and experienced translators.

After the pairing and comparison of the source text with the target texts comes the mapping of the translation solutions. Following Toury, by pairing target textual segments—“low-level linguistic items”—to the source, it is possible to assign the status of “translation solutions” to translational phenomena (2012, 103). The pairs of source and target segments assume the existence of a translation problem, followed by the selection of a translation tactic, resulting in a translation solution. For this operation, the kind of problems relevant to an experimental study is PROBLEM<sub>3</sub>, in Toury’s terms (2011, 2012). Problems, from the perspective of the translator, occur when she or he does not immediately, instinctively or automatically know the tactic or solution to use. Hence, the manifestation of a problem—from a cognitive point of view—is a pause in the translation process among other problem indicators (see § 4.2.6.1.). In this case, we are dealing with a factual but processual and dynamic item that the researcher can access through observation of the gradual

development of the product by analyzing postponed, interim, alternative and final solutions (looking at several drafts of the same target text) or by using methods specific to cognitive-oriented research (to try to access the mental act) (Toury 2011, 2012). Since this is not a retrospective study of translational phenomena, the existence of a translation problem is not implied or assumed. Here the problem is observed as it unfolds.

The next stage refers to the identification of the relevant textual units under study. These units “can only be established ad hoc, i.e. as the translation is being mapped onto its ... SL counterpart” (Toury 2012, 117). In light of this, and especially because there are no studies which have identified units of special interest for research on translational norms in biomedical translation, it is not possible to identify a priori linguistic-textual units of a particular nature that we are interested in studying—such as, for instance, metaphors or taboo language. Instead, all units that “emerge as coupled pairs of target- and source text segments, ‘replacing’ and ‘replaced’ segments, respectively” (Toury 2012, 117) as a result of an observed translation problem will be studied.

Focusing the analysis on the concept of translation problem and the problem-solving process—instead of on units of special interest—is in consonance with translation practice itself: “Translators are, after all, people who specialize in solving particular kinds of problems; and translator trainees are interested in learning how to become good translators. In both cases, there are kinds of problems to be solved” (Chesterman 2016b, 85).

In this context, it is useful to remember Jiří Levý’s (1967 republished in 2000) comparison of the translator’s decision-making process to a game: “a series of a certain number of consecutive situations—moves, as in a game situations imposing on the translator the necessity of choosing among a certain (and every often definable) number of alternatives” (148). These “moves” or choices are not “random but context-bound,” the author adds. “Every interpretation had the structure of problem solving” (149).

And translators solve problems through tactics which are also reactions to norms: “Primarily, but not necessarily always to try to conform to them” (Chesterman 2016b, 86). Translational norms govern translators’ behavior—the decision-making process, the product and the evaluation of translation. Recall that culture is understood as a tool kit or a repertoire from which agents choose in order to construct their own strategies of action to solve (translational) problems (Swidler 1986, 273). The choices are, in most cases, limited to the tool kit and hence to the norms in place in the community. These strategies of action or set of dispositions create “practices, perceptions and attitudes” (Thompson 1991, 12). The agent’s perceptions about common practices and attitudes become the

silent, invisible driver of action. Consequently, and following Chesterman (2016b, 86), a tactic is a planned way of reacting to a problem in a norm-governed way.

Strategies and tactics, according to Gambier (2016b), are terms that refer to the process, whether conscious or not, of accomplishing the translation task; strategies refer to the global level and tactics to the local level.<sup>58</sup> Correspondingly, solutions are the materialization of strategies and tactics in tangible form in the target text. In other words, strategies activate global or macro-level solutions visible in the target text and tactics activate micro-level solutions also visible in the target text. In Nord's words, micro-level solutions are common tactics of handling translation problems below the text rank (1991b, 100). With this in mind and given that, as Toury explains, translational relations "are much more discernible between textual *segments*, very often small-scale, rather low-level segments" (2012, 102–3), this study focuses on mapping micro-level translation solution types.

Primarily following Chesterman (2016b), tactics are problem-centered and goal- and norm-oriented in the sense that they provide solutions for a translation problem conditioned by what is considered appropriate and inappropriate behavior in a specific situation embedded in a certain target culture, language and system (2016b, 85–89). "[A]s a result either of intentional choices made by the translator or of target system constraints" (Rosa 2016a, under "2. The Manipulation School"), translations are products of intentional change. Translations are not value-free nor can they be studied as such. What makes translation a premium object for the study of culture is "precisely its lack of transparency, i.e. its opacity and complicity" (Hermans 1999a, 58). As pointed out by Ullmann-Margalit (2015, 9; and cited by Chesterman 2016b, 61; and Bartsch 1987, 104): "certain types of norms are solutions to problems posed by certain interaction situations," an argument which I will come back to throughout this dissertation. And, as Hermans reminds us, analysis of the translator's solutions "sheds light on the interplay between the translator's responses to existing expectations, constraints and pressures, and his or her intentional, goal-directed action or agency" (Hermans 1999a, 51).

Tactics, in this context, are described as non-static and unobservable reactions to translation problems (with the exception of consulting external resources, which is observable in an experimental setting). Tactics are therefore forms of textual manipulation (Chesterman 2016b, 86) and can be retrieved by comparing source text segments with target text segments. Tactics are

---

<sup>58</sup> Even though this study follows Chesterman's characterization and typology of tactics (see 2016b, Chapter 4), the term adopted in this dissertation for tools that activate micro-level solutions is "tactics" based on Gambier (2016b) instead of the term "strategies" as used by Chesterman. Therefore, references to tactics henceforth in this dissertation reflect my choice of terminology and not Chesterman's.

understood as (potentially) conscious. As quoted by Chesterman (2016b, 88), Lörscher's definition is particularly clear on this point: "a translation strategy is a potentially conscious procedure for the solution of a problem which an individual is faced with when translating a text segment from one language into another" (1991, 76). The degree of awareness about a tactic for "an individual translator at a given moment, might have quite a bit to do with that translator's degree of professionalism," Chesterman (2016b, 89) adds, and I agree. Tactics are also intersubjective in the sense that "they are, in effect, intersubjectively known to be 'tried and tested procedures' (Lörscher 1991: 68) for achieving particular goals: proven conceptual tools" (Chesterman 2016b, 89). The typology of translation solution types adopted for the analysis of the corpus is based on Chesterman (see 2016b, Chapter 4) and will be explained in Chapter 4.

With this in mind, the segments of the target text (interim<sup>59</sup> and final versions) are paired with the segments of the source text. In other words, the solutions are paired with problems and then the translational relation between these pairs is examined and analyzed in terms of the observed translation solution types. Then the source and target orientation of the solution types chosen is identified in order to answer one of the research sub-questions: what are the textual regularities regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair in the contemporary Portuguese market? (T1) The answer to this sub-question, together with the answer to the sub-questions regarding personal normative beliefs, normative attitudes, empirical and normative expectations, and the agent's conditional preference to act interdependently or independently (see § 1.6.1.2.), will result in an answer to one of the main questions of this study, i.e., considering English to European Portuguese biomedical translation in the contemporary Portuguese market, what are the translational norms of novice and experienced translators regarding source and target orientation? (T)

#### 1.6.1.2. Extratextual data

The second essential source of data for the measurement of translational norms identified in the literature is extratextual, i.e., the "semi-theoretical or critical formulations" made by the agents involved in the translation process, including paratextual writings about the translations such as translator's notes or prefaces (Toury 2012, 87). Extratextual sources<sup>60</sup> are considered by-products in the sense that by-products are "partial and biased" evidence of norms (Toury 2012, 87–88).

---

<sup>59</sup> An interim version is a first version of a translated segment that is changed once or as many times as needed until reaching the final version. See Chapter 4 for a detailed discussion.

<sup>60</sup> As Schäffner (2010, under "3. Regularities, norms, laws") points out, and I agree, extratextual is not the most correct term for this type of source because reviews and codes of conduct "are also texts."

By-products can take the form of evaluative or normative work, such as critical reviews, manuals, codes of conduct, and style guides. As observed by Hermans (1998, 51), there are documented examples in translation of normative formulations in “prescriptions, proscriptions, preferences, and permissions”<sup>61</sup> that are institutionally legitimized. These serve as barometers of correct or appropriate behavior. They convey the expectations of translators, revisers, and readers, and the consequences of non-compliance may be explicit sanctions. Examples of normative formulations can be read in published translations and are reinforced in sanctions observed in (poor) critical reviews found in magazines and newspapers expressing “indignation” (see Valdez 2009). Statements such as “the sentence should be translated as” or “this is an incorrect translation of” are also found in the classroom when a teacher corrects students’ translations, in posts on public forums like Facebook made by translators or the general public, in style guides, or in clients’ comments, revisers’ and editors’ quality assurance reports and even, in extreme cases, in clients’ justifications for refusing to pay for a translation.

For example, in the following excerpt from Microsoft’s European Portuguese Style Guide—commonly applied not only to Information Technology, but also in other areas, such as the translation of biomedical software—non-compliance can explicitly result in a sanction:

Whenever the English text uses specific stylistic features (e.g., gaming slang for gaming contexts, corporate talk for advertising business applications, developer lingo for development platform advertising), the translation must use the equivalent specific stylistic features for Portuguese. A reviewer may penalise translations that do not adhere to this, depending on the severity of the non-adherence. (Microsoft 2011, 31)

Thus, by-products are evidence of what is considered appropriate and inappropriate behavior and, as a result, they are also evidence of norms. On top of that, by-products disseminate norms—through style guides and codes of conduct, translators learn what is considered correct and incorrect behavior in certain situations—and so by-products in this context also enforce norms.

However, the distance between *what translators (and other translation agents) do* and *what translators (or other agents) say they should do* can be significant, as suggested by Toury (2012, 88): “There may therefore be gaps, even contradictions, between explicit arguments and demands, on the one hand, and actual behavior, on the other, due either to subjectivity or naiveté, or even lack of sufficient knowledge on the part of those responsible for the verbalizations.”

---

<sup>61</sup> Hermans (1999a, 50) is quoting Merton (1973, 268–69) to explain that norms and values are at the center of how a discipline or an object of study is defined (translations, in the case at hand).

This distinction had previously been reflected upon by de Geest in his critical 1992 paper on the notion of system. This author opposes “explicit poetics”—defined as “texts that stipulate how literary texts or translations should ideally be produced and evaluated”—to “actual production itself, the most implicit internalization and realization of the propagated norms.” In this regard, de Geest conceives normative formulations as additional information fundamental to understanding the system’s dynamics:

As a matter of fact, the confrontation of explicit and implicit poetics—the way in which authors and translators are said (asked) to behave, and the way in which they really behave—may provide excellent information as to the degree of closedness and codification of the system, and may reveal some crucial contradictions and discrepancies, that are nevertheless vital for the system’s survival and internal evolution. (de Geest 1992, 38)

Significantly, translated texts convey *behavior*. Normative formulations of what translators or translation agents ought (or ought not) to do convey *expectations*. And expectations condition behavior. Norms are not only present in regularities of behavior, but also in the “anticipation of ... expectations, i.e. as the expectation of expectations” (Hermans 1999a, 52). The translator acts on the basis of her/his beliefs of what the community expects from her/his work and, more specifically, decisions about the intended communicative function of the translation are highly based on her/his beliefs about the expectations of the revisers, readers and clients. Following (mainly) Nord (1991b), it is posited that a translator’s decision-making process is influenced by the convergence of several aspects: the translator’s knowledge about the expectations of the initiator and writer and the expectations of the prospective target reader; the expectations regarding the function of the target text and the expectations of source and target contexts; the influence of the source text and culture, and the position and status of the source field of knowledge over the target. Hence, studying behavior in triangulation with expectations heightens the explanatory power of the norm concept. Furthermore, research on social norms influenced by social psychology, experimental economics and evolutionary game theory has identified that the role of normative expectations, empirical expectations, and conditional preferences needs to be accounted for in the study of norm-governed behavior (Bicchieri 2017b).

Norm-governed behavior is a product of the socialization of members of a community and the internalization of norms, as explained by Toury: “Socio-culturally speaking, what emerging translators thus undergo is a process of **socialization as concerns translating**” (2012, 285). This internalization of norms refers to the development of the individual’s reality of the intersubjective, socially shared concept of appropriateness: “During this process, parts of the **normatively motivated**

**feedback** [translators] receive are assimilated by them, modifying their basic competence and gradually becoming part of it" (2012, 285; emphasis added), adds Toury. It follows that when we face a translation problem "we almost automatically look for cues as to ... what the appropriate behavior is. Depending upon the circumstances, we may directly imitate the actions or conform to the opinions of people around us" (Bicchieri 2000, 154). In other words, shared beliefs and expectations.

Thus, "a norm in this sense is not a statistical average of actual behavior but rather a **cultural (shared) definition of desirable behavior**" (R. M. Williams 1968; emphasis added). If a particular social norm is actually in place, regularities of behavior in specific, concrete situations will be observable, but "a sheer uniformity in behavior, however, does not necessarily mean that a norm is involved. The uniformity may simply represent such separate individual reactions to a common stimulus as fleeing from fire" (R. M. Williams 1968), or "chance," as stated by Chesterman (2006, 16).

To date, however, there has been no empirical research in Translation Studies that has investigated the role of (normative and empirical) expectations and conditional preferences on translation behavior. Translation practice, under the umbrella of norm theories, is viewed as motivated, context-dependent social behavior moving beyond more restricted views of translation as meaning transfer and text-linguistic source to target comparison (Schäffner 2010, 236). By considering expectations to play an important role in the decision-making process, we take a step forward towards a culturally, sociologically grounded view of translation that is context-dependent and translator-situated.

The key elements central to the study of extratextual sources of data are: empirical and normative expectations and conditional preferences (see § 1.4.2.). Figure 5 (below) outlines these different elements that condition translation behavior (based on Bicchieri 2017b).

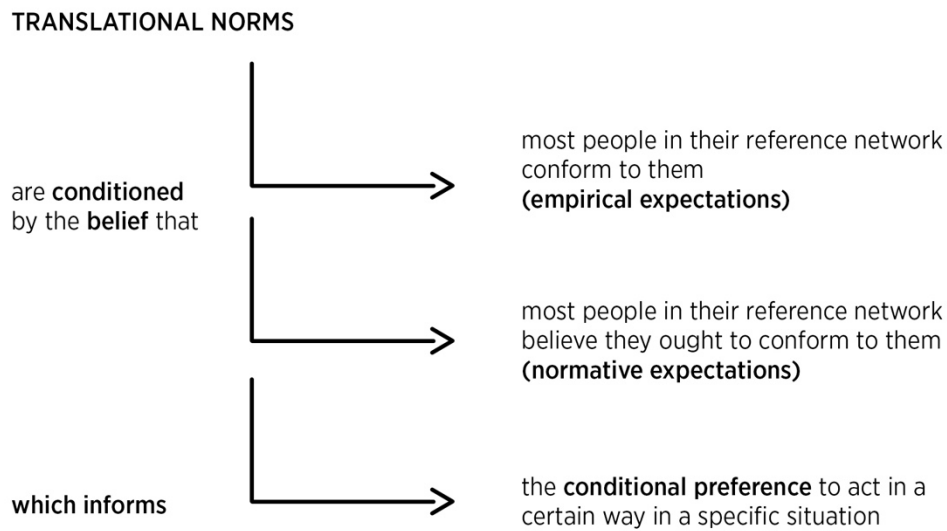


Figure 5. Descriptive diagram of the conditions affecting translation behavior.

Recall the definition of translational norms (at object-level): the operationalization of a cognitive interpretation of an intersubjective reality conditioned by the empirical expectations and normative expectations of the individual which inform her/his conditional preference to act in a certain way within a particular community that connotes what is considered appropriate and inappropriate behavior in a specific situation embedded in a certain target culture, language, and system. Empirical expectations are understood in this context as what it is believed most people in the reference network do. Normative expectations refer to what it is believed most people in the reference network believe the individual ought to do. In light of this, translational norms are conditioned by the belief that most people in the reference network conform to them and by the belief that most people in their reference network believe they ought to conform to them, which informs a conditional preference to act in a certain way in a specific situation. Two additional types of belief are also considered for the study of translational norms: personal normative beliefs (what the agent believes about what she/he should do) and normative attitudes (what the agent believes about what other agents should do).

Belief statements, as text-external indicators of normative force, increase the causal relationship between evidence of norm-governed behavior and norms and are in line with Chesterman's (2016b, 83) call for more evidence of norm-governed behavior: "We also need text-external indicators of normative force, such as belief statements by the translator ('I think I should do this'), criticism of



breaches of the assumed norm, perhaps even norm statements by relevant authorities (‘Translators of such texts must do this’).”

In order to elicit belief statements correctly, it is important to first clarify and establish a typology of beliefs. Bicchieri’s typology of personal and social beliefs (2017a and 2017b) is adopted, systematized and adapted<sup>62</sup> to translation for this purpose:

	SELF-BELIEFS	BELIEFS ABOUT OTHER AGENTS	
<i>What the agent believes about</i>	self-beliefs (beliefs about him/herself)	beliefs about other agents’ actions	beliefs about other agents’ beliefs
<b>EMPIRICAL</b>	<i>what she/he does</i>	<i>what other agents do</i>	<i>what others believe she/he do</i>
<b>NORMATIVE</b>	<i>what she/he should do</i>	<i>what other agents should do</i>	<i>what others believe she/he should do</i>

Table 4. Overview of self-beliefs and beliefs about other agents (adapted from Bicchieri 2017a, Kindle location 1153).

The distinction between beliefs considered is the following: (i) beliefs the agent has about her/himself, (ii) beliefs the agent has about others, and (iii) beliefs the agent has about what others believe. The latter are considered second-order beliefs. Beliefs can be further categorized as empirical and normative (as displayed in the table above).

Within empirical beliefs, the beliefs the agent has about her/himself—about what she/he does or is going to do in a certain situation—are (simply) termed empirical beliefs. The agent also has beliefs about what others do or are going to do in a certain situation. These are called empirical expectations. The agent’s beliefs about what others believe she/he does in a particular context are termed second-order empirical expectations.

A similar differentiation is in order for normative beliefs. The belief the agent has about what she/he should do in a specific situation is called personal normative belief. When an agent discusses what others should do in a situation, the agent is also referring to normative beliefs, but this time they do not relate to her/himself but to others. This is referred in this dissertation as normative attitudes. The third type of normative belief is normative expectation and refers to beliefs about the personal normative beliefs of others who are significant in making the decision, i.e., what the agent believes about what others believe the agent should do.

<sup>62</sup> Bicchieri’s typology of personal and social beliefs (2017a and 2017b) distinguishes between (i) beliefs about oneself, (ii) beliefs about others, and (iii) second-order beliefs about what others believe. It has been adapted for this study from the first person to the third person to reflect the fact that the beliefs are being studied from the researcher’s perspective. Also, taking into account the question of the individual’s autonomy and power within the framework of norm theory, previously discussed mainly in sections 1.3.5. and 1.5.3., the participants of this study are considered agents and thus this is the term adopted.

Statements expressing the different beliefs that motivate behavior are shown and compared in Figure 6 (below). Note that “others” always refers to the individual’s reference network (i.e., peers, in the social norms approach terminology).

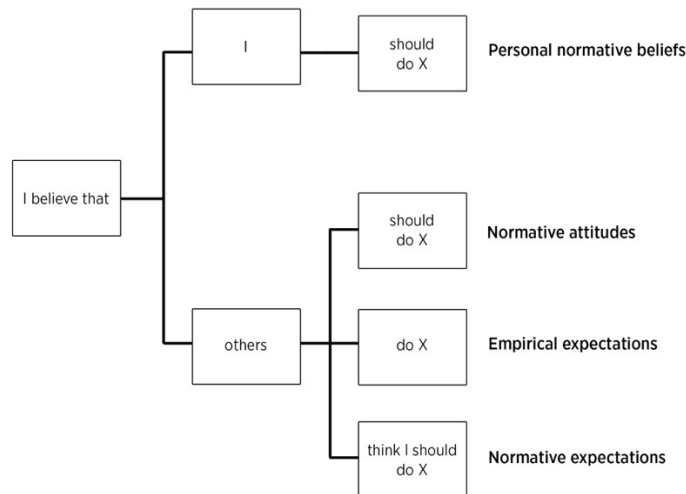


Figure 6. Examples of positive statements that express beliefs: personal normative beliefs, normative attitudes, empirical expectations, and normative expectations (adapted from Bicchieri 2017a; 2017b).

Given this, in order to measure translational norms, it is first necessary to observe behavioral regularities (see § 1.6.1.1.). Secondly, the belief statements of the translator and her/his reference network<sup>63</sup> need to be ascertained. To that end, the researcher has to first elicit and identify personal normative beliefs and then elicit and identify empirical and normative expectations. This study also elicits normative attitudes as an indicator of norm-motivated belief statements. The method usually employed in norm research to elicit belief statements is questionnaires and this will be further explored in Chapter 4. It should be noted at this point, however, that it is not sufficient to measure personal normative beliefs, as discussed in section 1.4.2. In other words, measuring empirical and normative expectations is central to measuring translational norms.

Figure 7 below systematizes the abovementioned aspects along with the identifiable indicators for the existence of a translational norm.

<sup>63</sup> See 1.4.2. for a definition of reference network and Chapter 3 for a clearer picture about who the members of the reference network in biomedical translation can be.

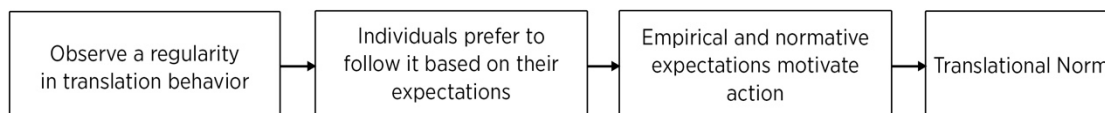


Figure 7. Descriptive diagram of the identifiable variables for a translational norm.

The measurement of the translators' belief statements answers the research sub-question: what are the perceived norms regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair? (T2.) The answer to this sub-question, together with the answer to the first sub-question regarding textual regularities (T1), will result in answering one of the main questions of this study, i.e., considering English to European Portuguese biomedical translation in the contemporary Portuguese market, what are the translational norms of novice and experienced translators regarding source and target orientation? (T)

### 1.6.2. Misperceptions

Having measured textual and extratextual data, as discussed in the previous two sections, it is posited that it is possible to answer the main question of what the translational norms of novice and experienced translators are. However, do translators' perceptions of what is expected of them agree with the observed norms of their revisers and readers? Or, instead, do translators misperceive the observed norms and base their translation decisions on misperceptions?

To better understand this distinction, Perkins and Berkowitz's social norms approach is particularly relevant since it helps differentiate between observed behavior and beliefs (i.e., what people do and what people believe they should do) and between perceptions of behavior and perceptions of beliefs (i.e., second-order beliefs about what others do and what others believe others should do) (mainly Perkins and Berkowitz 1986; Perkins 2002, and 2003, Berkowitz 2004, and 2005). According to research conducted under the social norms approach, behavior can be influenced by misperceptions of how other members of the community act and think (Berkowitz 2004). By adopting and adapting this approach to translational norms, the present research explores, for the first time, whether translators misperceive what is expected of them.<sup>64</sup>

Let us consider the following scenario. In English to European Portuguese biomedical translation in the present-day Portuguese market: (i) the majority of translators believe that the majority of translators (their peers) favor source-oriented solutions; and (ii) the majority of translators believe

<sup>64</sup> In Social Sciences, the first study to focus on misperceived norms "by examining the possible systematic discrepancy between actual peer norms ... and perceived norms" is that of Perkins and Berkowitz (1986). See section 1.4.1. for more.

that other translators, revisers, and readers believe they ought to favor source-oriented options. However, it is not true that the majority of translators, revisers and readers believe one ought to favor source-oriented options. In fact, the majority of individuals in the reference network believe the opposite.<sup>65</sup>

This misperception has consequences for translators: they are basing their translation solutions on misperceptions and consequently they believe they are following the norm when in reality they are not. As previously explained (see § 1.5.), when a translator violates the norm, she/he may face explicit sanctions which have consequences for her/his career prospects. This can also contribute to a generalized perception among non-translators that the work of translators is, as a rule, poor. By (potentially) identifying misperceptions between the observed norms and perceived norms of the main agents in a biomedical translation workflow, this study aims to make a contribution to research on biomedical translation and translational norms.

In order to identify perceptions and potential misperceptions among translators, revisers, and readers, first the perceptions of norms of translators, revisers and readers have to be elicited through questionnaires (see Chapter 4). Then the observed norms and the perceived norms are compared.

Against this backdrop, the overarching research question in this dissertation asks: considering English to European Portuguese biomedical translation in the contemporary Portuguese market, are the observed translational norms and perceived translational norms of translators, revisers and readers similar or different regarding source and target orientation?

### **1.7. Law of interference**

A growing body of literature has suggested that peripheral cultures and languages that translate texts from hypercentral cultures and languages show a tendency to opt for source-oriented and centralization norms (Toury 1995; Rosa 2004). A good case in point is translation from English to European Portuguese. There is evidence to assume that literary and audiovisual translation favor source-oriented and centralization tactics, for example: the translation of forms of address in *Robinson Crusoe* (Rosa 2000); linguistic variation in the audiovisual translation of adaptations of *Pygmalion* by George Bernard Shaw (Rosa 2001); the translation of Dickensian novels (Rosa 2004);

---

<sup>65</sup> See “Belief traps: Pluralistic Ignorance” in Bicchieri (2017a) for more on this phenomenon and section 1.4.1. of this dissertation for more on misperceptions under the social norms approach.

the use of loan words in published translations of fictional texts (Frankenberg-Garcia 2005). At the heart of this tendency is the hypothesis that:

A powerful, prestigious and hegemonic culture ... that translates texts from less powerful and prestigious cultures, tends to favor acceptability and centralization. ... A less powerful, prestigious and non-hegemonic culture ... that translates texts from more powerful or prestigious cultures is, according to Toury, more tolerant to adequacy strategies (Toury 1995: 278) and marginalization strategies. (Rosa 2004, 61; my translation from Portuguese)

This probabilistic law<sup>66</sup> of translation behavior that Toury (1995, 274–279) put forward as a potential contender for the “beyond” step of studying translational norms, the law of interference, is described as the tendency to transfer “phenomena pertaining to the make-up of the source text” to the target text. This law—“taking into account intercultural and interlingual relations of prestige and power” (Rosa 2016a, under “4.8. Beyond DTS – from norms to laws”)—is reformulated as “tend[ing] to increase when translation is carried out from a ‘major’ or highly prestigious language/culture, especially if the target language/culture is ‘minor’, or ‘weak’ in some other sense” (Toury 1995, 278), as can be seen in Figure 8 (below). Even though the terms “minor” and “weak” could be the object of criticism (see e.g., Baker 1992, 1998), they are paramount to the formulation of this probabilistic law of translation behavior and go back to Even-Zohar’s polysystem theory.

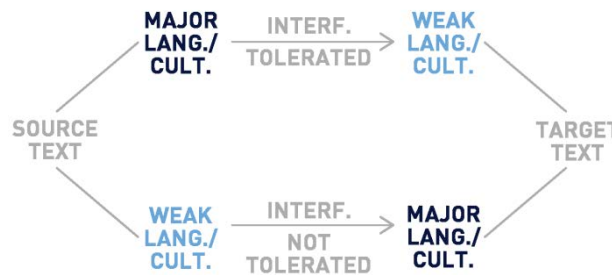


Figure 8. A visualization of Toury’s tolerance of interference law.

The all-encompassing concept of polysystem is proposed by Even-Zohar in the early 1970s as “a multiple system, a system of various systems which intersect with each other and partly overlap, using concurrently different options, yet functioning as one structured whole, whose members are

<sup>66</sup> Toury introduced two probabilistic laws: the Law of Growing Standardization and the Law of Interference. The Law of Growing Standardization states that “in translation, source-text textemes tend to be converted into target-language repertoremes” (Toury 1995, 268).

interdependent” (Even-Zohar 1990b, 11).<sup>67</sup> The proposed theory behind the term is applicable to language, literature and translation and is based on the work carried out by Russian Formalists in the 1920s. The polysystem, as a theory to describe, contextualize and explain the hierarchized and non-fixed (sometimes contentious) movements and interactions of literary works (and agents), is conceived as a heterogeneous and stratified cluster of systems, each system composed of their own set of clusters of constellations composed in turn by clusters of literary works, in a state of permanent and active growth (Shuttleworth and Cowie 1997, 176).

Translation strategies and tactics, as argued by Even-Zohar (1978b, 117–18), are determined by the position of translated literature—“not just as ... the group of translated literary works, but as a denotation for a body of texts which is structured and functions as a system”—within the target culture polysystem. When translated literature occupies a primary position (at the center of the polysystem), translators tend to reproduce the models (or norms) of the source literature, i.e., recreate a source-oriented translation. On the other hand, when translated literature occupies a secondary position (at the periphery of the polysystem), translators tend to reproduce the models (or norms) of the target literature, i.e., recreate a target-oriented translation. Even-Zohar (1990a, 47) suggests three “conditions” for when translated literature occupies a primary position:<sup>68</sup> (i) when a “young” literature is in the process of being established; (ii) in the case of a “peripheral” or “weak” literature that imports literary models from a central polysystem; (iii) during a turning point when the models considered established are no longer accepted or when there is a vacuum in the literature and new foreign models are adopted.

Even though the theory of the polysystems is described in general terms as a theory “for the study of language, literature and translation” (Chang 2011a, para. 1), it should be noted that, as proposed by Even-Zohar, it seeks to describe and explain translated *literature* and not translation in general. “Itamar Even-Zohar is not specifically a translation theorist,” as Gentzler (Gentzler 2001, under “Itamar Even-Zohar: Exploring intrasystemic literary relations”) duly notes, “but a cultural theorist.”

---

<sup>67</sup> It is not the aim of this chapter to contextualize or problematize the polysystem theory. In my view, however, this theory is at the basis of the Law of Interference and hence to fully understand the scope of the latter, the reader has to understand the former. For an overview of the polysystem theory and its contextualization within Translation Studies, see, for instance, Shuttleworth (2001) and Chang (Chang 2011a). For a theoretical discussion of the polysystem theory, see Chang (2011b). For a critical view of the polysystem theory, see de Geest (1992) and Gentzler (2001).

<sup>68</sup> A common misconception regarding the polysystem theory and its applicability to translation is that primariness is interpreted as corresponding to prestige. This is not necessarily the case. When a peripheral culture and language is dominated by a strong and central culture and language, translation tends to occupy a primary position. In fact, Even-Zohar (1990a, 47) states that “all sorts of peripheral literature may in such cases consist of translated literature.” However, this does not mean that translation is considered prestigious. For instance, even though it could be argued that translation currently occupies a primary position in Portugal—as the data gathered in Rosa (2006) suggests—it is considered an invisible and secondary activity (Valdez 2009).

In addition, this study posits that the theory is applicable to the study of all types of translation and all translational agents, including scientific-technical translation and its agents. The term “polysystem” refers to “the entire network of correlated systems—literary and extraliterary—within society, and [Even-Zohar] developed an approach called polysystem theory to attempt to explain the function of *all* kinds of writing within a given culture” (Gentzler 2001, under “Itamar Even-Zohar: Exploring intrasystemic literary relations”). Therefore, and evoking Even-Zohar’s (1990a, 13) argument against the selection of the objects of study “according to norms of taste,” scientific-technical translation should not be excluded from the study of language or culture for the same reasons. Therefore, it is assumed that the polysystem theory and its implications refer to translation in general even if this interpretation is not (at least explicitly) present in the work of Even-Zohar.

Much of current literature on the source orientation tendency however pays little attention to the translation of scientific-technical texts. Very little is known about translational norms in scientific-technical texts in general and in the English to European Portuguese language pair in particular. Faber and Hjort-Pedersen’s (2013) study about Expectancy and Professional Norms in Danish to English Legal Translation is the exception in non-literary translation. Therefore, this research project provides an important opportunity to advance our understanding of translational norms in scientific-technical texts in general and in biomedical texts in particular.

### **1.8. Summary**

This chapter’s aim was to introduce and explore theories of norms as the foundations of the theoretical framework of this study. The chapter started by framing norm-governed behavior within an approach to culture as a repertoire of strategies of action for problem-solving (1.2). Next, an introductory historical contextualization of norms in (Descriptive) Translation Studies was provided. Attention was drawn to Toury’s perspective on translational norms along with its key aspects, as well as discussing fundamental authors who have reflected upon the conceptual interpretations of norms (1.3). In order to heighten the explanatory power of translational norms and to better understand and measure norm-governed behavior, selected theories from Social Sciences were explored (1.4). The combination of norm theories in Translation Studies and Social Sciences led to the main tenets for an interdisciplinary and empirical study of translational norms, including the definition and operationalization of the norm concept, its different dimensions and indicators, and the research questions they aim to answer (1.5 and 1.6). Attention was drawn to the role of expectations for the operationalization of the norm concept. Where possible, examples from scientific-technical translation and biomedical translation were provided in order to clarify concepts. The chapter ended with a discussion of the Law of interference (1.7). Throughout the chapter,

emphasis was placed on gaps in knowledge in translation studies, especially related to scientific-technical translation and biomedical translation, which this dissertation aims to address. The chapter that follows introduces and contextualizes scientific-technical translation, focusing on the Portuguese case.



## CHAPTER 2 — SCIENTIFIC-TECHNICAL TRANSLATION AND COMPETING TERMS

### 2.1. Introduction

Although it is widely acknowledged that translation has played and continues to play a crucial role in the dissemination of scientific and technical knowledge, scientific-technical translation is considered to be underrepresented in Translation Studies worldwide (Jumpelt 1961; S. E. Wright and Wright Jr. 1993; Franco Aixelá 2004; Olohan and Salama-Carr 2011; Franco Aixelá 2015).<sup>1</sup>

Traditionally, it has been argued that scientific-technical translation—described by univocal terminology, ready-made equivalents, simple and straightforward style—does not merit the same prestigious status in Translation Studies as literary translation. Literary translation is associated with creativity and scientific-technical translation with reproduction. “Scientific discourse,” Olohan and Salama-Carr (2011, 179) add to the discussion, “is seen as neutral and less worthy of attention than literary-related work, yet scientific models are viewed as more rigorous than liberal arts framework.”

The perception that the study of literary translation occupies a central, prominent and sometimes peerless position in Translation Studies is widely shared. Delabastita (2010, under “3. Literary translation within Translation Studies”) asks: “Isn’t it telling that one of the most influential books in the discipline’s modern history is entitled *The Manipulation of Literature* (Hermans 1985)?”

This is partly based on the argument that “literary language can thus present itself as an ultimate testing ground for the validity and relevance of any translation theory or set of descriptive parameters” (Delabastita 2010, under “3. Literary translation within Translation Studies”). Nonetheless, studying literature as a prototypical translation activity is problematic to say the least, since literary texts serve aesthetic purposes and scientific-technical texts mostly do not. In addition, the circumstances surrounding the production of scientific-technical texts and their translation can be drastically different, resulting therefore in different translation processes.

Moreover, the “assumed primacy and the alleged representativeness of literary translation” rely on the notion that canonized literature is superior in comparison with other writings:

Soap operas, instruction manuals or commercials do not have the same prestige as Virgil, Goethe or Kundera, and this scale of values applies also to those who spend their time investigating their respective translations. Through their effect on funding policies, career prospects, social standing, self-esteem and so on, such valuations

---

<sup>1</sup> van Doorslaer (2005, s.l.) provides a different perspective. Based on the review of keywords of the publications indexed on the Translation Studies Bibliography this author states that “publications on the translation of non-literary texts seem to have clearly gained the upper hand in the last decade.”

have a real impact on the overall research priorities in a culture. All other things being equal, they will push Virgil, Goethe and Kundera up the ladder of academic respectability while making research into the translation of more “popular”, “technical” or “commercial” texts less attractive. (Delabastita 2010, under “3. Literary translation within Translation Studies”)

Furthermore, authors of foundational texts, such as Schleiermacher (2004, 45), associate scientific-technical texts to an automatic activity: “Translating in this field is, therefore, almost a mechanical activity ... and in which there is little distinction between better and worse, as long as the obviously wrong is avoided.”

This being said, there is some historical research on scientific-technical translation (Pym 2000), but the majority of publications, according to Franco Aixelá (2004), are centered on specific genres, teaching, documentation and professional issues (data from 1950 to 2000). Didactic considerations dwelling on teaching materials and strategies, starting with word-based or sentence-based approaches and moving on to functional or user/reader-based ones, can be found, for example, in Jumpelt (1961), Finch (1969), Maillot (1969), Pinchuck (1977), Bédard (1986), Durieux (1988), Newmark (1988)<sup>2</sup>, Hann (1992, 2004), Ainaud et al. (2003), Montalt and González-Davies (2014). The most recent volumes on technical and scientific translation include: Aarukkai (Sarukkai 2002), Chabás José and Rolf & Rey (2002), Montgomery (2002), Byrne (2006, 2012), and Olohan (2016).

Encyclopedias—which can be studied as a yardstick for trends in research topics—also confirm the early lack of interest in scientific-technical translation. The encyclopedia of reference edited by Mona Baker (1998), *Routledge Encyclopedia of Translation Studies*, included entries dedicated to literary translation and Bible translation, but not scientific or technical translation. By 2011, however, the second edition did include an entry dedicated to scientific and technical translation, as well as entries on commercial translation, computer-aided translation and localization. In contrast, Gambier and van Doorslaer’s four volumes and online edition of the *Handbook of Translation Studies* (Gambier and van Doorslaer 2010a, 2010b, 2011, 2012, 2013) do not only contemplate literary translation, but also scientific translation, technical translation, audiovisual translation, medical translation and interpretation, and legal translation, among others.

It is somewhat unsurprising in this framework that 7 of the 32 ranked journals in Translation Studies<sup>3</sup> are dedicated to or place significant emphasis on technical or scientific translation research,

---

<sup>2</sup> Didactic textbook not entirely devoted to but including sections on technical or scientific translation.

<sup>3</sup> This analysis took into consideration the data regarding peer-reviewed online Translation Studies journals on the EST website accessed in August 2015 and 2017 ([http://www.est-translationstudies.org/resources/journals\\_index.html](http://www.est-translationstudies.org/resources/journals_index.html)).

namely: *Babel*, *Intralinea*, *Machine Translation*, *Meta*, *JoSTrans*, *TTR - Traduction*, *Terminologie*, *Rédaction*, and *The Interpreter and Translator Trainer*.

This shows us how little is known and how much is yet to be done to put scientific-technical translation or the various specializations within this broader category on a par with Literary Translation within Translation Studies just as Orero stated more than ten years ago for Audiovisual Translation (2004, vii).

Unexpectedly, this is in contrast with payment practices. Much higher rates can be found in scientific-technical translation in comparison with literary translation in freelancing and in-house positions alike; this is true for Portugal and worldwide. There is also greater demand at global level for scientific-technical texts (Byrne 2006). Schmitt, in his review of translation work in Germany (1993), predicted an average of 1.8 billion pages in 2000 in Western Europe alone. He reported that the volume totaled more than 400 million pages in 1993 and that scientific-technical translation accounted for the majority. According to Kingscott (2002, 247), technical translation represents more than 90% of the world's total translation output annually. In fact, from statements by Gamero Pérez and Hurtado Albir (1999) and Franco Aixelá (2015), it appears that scientific-technical translation has constituted the vast majority of all translation work throughout the world for more than three decades already. Regarding the Portuguese context, as Ferreira-Alves (2011, para. 7) puts it:

it would be misleading to overstress the importance of literary translation in the Portuguese scenario, especially considering the political, economic and social weight of technical documentation and scientific texts that usually gravitate around the so-called concept of translated products.

This arises partly due to the social importance of scientific-technical texts in today's technological world and because of the intellectual and material development of nations. Technical communication is of pivotal importance for countries to keep up with the fast pace of technical and scientific progress.

This also results from legislative requirements and international standards that require the translation of scientific-technical content, including, for example: Council of the European Union Resolution C411 (1998a), EU Directive 98/37/EC (Council of the European Union 1998b), Council Directive 93/42/EEC (1993a), EN 292-1: 1991 (CEN 1991), and EN 62079: 2001 (IEC 2012). There is also great demand for the translation of European Union documentation due to the EU's very first piece of legislation (Council of the European Union 1958). It states that "Regulations and other

documents of general application shall be drafted in the official languages,” which drives a considerably high volume of translation. The European Commission reports that 2 302 465 pages were translated in 2014, of which Portuguese was the 7<sup>th</sup> most common target language (with 89 220 pages) (De Preter, personal communication). With regard to legal requirements in Portugal, Portuguese Executive Law no. 320/2011 of 12 December 2001 (Appendix 1), regarding machinery (Ministério da Economia 2001), is an example that includes the requirement for the translation of instructional texts. As noted by Byrne (2006, 2): “Coupled with increasing international cooperation in scientific, technological and industrial activity, it is clear to see why technical translation is one of the most significant employers of translators.”

Given the importance and impact of the translation of scientific-technical content and its non-value free character, one of the aims of this dissertation is to contribute to the literature in this domain in general and in biomedical translation in particular. With this goal in mind, this chapter sets the background of the present study by introducing the topic of scientific-technical translation and its (controversial) definition. To this effect, first a review of the literature on descriptive scientific-technical translation is presented, followed by a survey on the categories and definitions related to scientific-technical translation. The next section reviews the criticism voiced regarding scientific-technical categories and related terms followed by a (brief) overview of proposals which question the usefulness of defining translation in restrictive terms. Attention is then turned to the way the Portuguese translation market, research and universities define this field. The chapter concludes with the proposal of an operational definition of scientific-technical translation for this research.

## **2.2. Scientific-technical DTS**

A search was conducted in the Translation Studies Bibliography (TSB) in February 2017 in order to identify the descriptive research conducted on scientific-technical translation and therefore conduct a systematic literature review. With this in view, keywords and abstracts were searched for “DTS,” “Descriptive Translation Studies,” and “descriptive” and those results were then further analyzed by reading all the abstracts, and in some cases checking the publication itself, in order to identify them as being related to scientific-technical translation.<sup>4</sup> This search was not limited to a specific time period and all the publications within TSB were analyzed.

The search for “DTS” in keywords returned 84 hits, of which one publication can be identified as scientific-technical (Bernal-Merino 2015); in abstracts, it returned 30 hits, of which no publication

---

<sup>4</sup> This approach is adapted from the one employed by Rosa (2016b) to determine the representativeness of descriptive research on audiovisual translation.

can be identified as scientific-technical. The search for “Descriptive Translation Studies” in keywords returned 125 hits, of which one new publication<sup>5</sup> can be identified as scientific-technical (Laviosa 2008); in abstracts, it returned 280 hits, of which 12 relate to scientific-technical translation. The search for “descriptive” in keywords returned 299 hits, of which ten relate to scientific-technical translation, and in abstracts 594 hits, of which 29 relate to scientific-technical translation.

Hence, a total of 53 publications were identified as being scientific-technical related. Thus, this review shows that very few descriptive studies have been published—at least from the data gathered and analyzed from the TSB—on scientific-technical translation.

### **2.3. Definitions and competing terms**

A generally accepted definition of scientific-technical translation and its variables is still lacking. Technical translation, scientific translation, scientific-technical translation, translation of LSP, specialized translation, among other variants, are terms often used uncritically and synonymously to classify different types of translation activity. These designations are thus used ambiguously. In Translation Studies literature, not only is the same term sometimes used to refer to different types of translation (e.g., technical translation may include or exclude legal translation or medical translation, depending on the author), but the same author may also use different terms to refer to the same type of translation (e.g., scientific translation or medical translation to refer to the translation of Patient Information Leaflets). Besides this, many authors do not include a definition of the term used, assuming that the term is consensual. The proliferation of terms specific to each specialization area (legal translation, medical translation, financial translation) further hampers the definition of scientific-technical translation.

This is not an isolated case of conceptual vagueness in Translation Studies, as seen in Chapter 1. Other well-known examples are the terms “strategy” and “tactics” (Gambier 2016b) and “problem” (Toury 2011). As stated by Snell-Hornby (2007, 123): “Terminology has often proved to be a problem in scholarly discourse, and Translation Studies is a case in point.” Similarly, Marco (2009, 65–66), referring to the “terminological chaos,” asserts that “there is divergence even with regard to the definition of the object of study (see Mayoral Asensio 2001, 45–47) (...) therefore, it should come as no surprise that disagreement also shows in its terminology.” Marco concludes his analysis by establishing a link between Translation Studies’ terminological chaos and social prestige of

---

<sup>5</sup> Whenever a search returned publications already identified in previous searches, these were eliminated in order to not have duplicates. The number of publications here reported are unique, i.e., for each query, the publications that are retrieved are compared and each publication is only counted once no matter the number of times the publication appears in each search. This is the only way to make it relevant to refer the total number of publications identified.

professional translators and translation scholars in comparison to other professionals and scholarly communities. According to him, a higher degree of terminological coherence may ultimately result in greater recognition, an argument to which I am sensitive.

Thus, in this context and for the purpose of this dissertation on the translation of biomedical content, the need to establish a term for the translation of medical and biomedical texts emerges: whether this is characterized as technical, scientific, scientific-technical translation, translation of language for special purposes, or another related term.

Translation Studies literature uses classifications—sometimes designated as typologies or categorizations—to organize translation activity according to different criteria: by subject matter, by text-type or by genre, by degree of specialization, among others. These classifications are summarized in Table 5 (next page); their authors, however, have not usually drawn on any systematic research into technical or scientific translation to propose a definition, nor have their data been documented. This state-of-the-art review, like any state-of-the-art, does not purport to be complete, but is intended to summarize the main views of authors who have dealt with definitions of non-literary translation.

Based on this survey, the most common classification used is by subject matter. Technical translation is most commonly defined as the translation of texts belonging to the field of technology and engineering, sometimes also including any domain considered “specialized.” For Schubert (Schubert 2011), for example:

Technical translation is a type of translation. In this term, the word ‘technical’ refers to the content of the documents, not to the tools used. Due to the semantic ambiguity of the English adjective ‘technical’, the term can relate to content either from technology and engineering or from any specialized domain.

Scientific translation, on the other hand, is typically defined as the translation of science. Montgomery (2011, para. 1) thus defines scientific translation as follows:

Translation of science is as old as science itself. Due to its role both in collecting and disseminating knowledge, translation has been no less integral to scientific progress than teaching and research. By “scientific” is here meant rational study of the natural world, including the human body, thus medical knowledge also.

Criterion	Examples	Author(s)
by subject matter or domain	medical translation (translation of documents from the medical field); legal translation (translation of documents from the legal field)	e.g., Durieux (1988), Newmark (1988), Byrne (2006), Montgomery (2011), Schubert (Schubert 2011)
by text-type or genre	translation of patents; translation of contracts	e.g., Neubert and Shreve (1992); text linguistics researchers e.g., Beaugrande and Dressler (1981), Hatim and Mason (1990), Adam (1992), Reiss and Vermeer (1991)
by end purpose or function	marketing translation (documents used in marketing context); commercial translation (documents used for sales)	e.g., Pinchuck (1977), Olohan (2010)
by type of media	localization (the translation and adaptation of digital content to a specific local system); multimedia translation (the translation of multimodal content); audiovisual translation (the translation of audiovisual content)	e.g., Schäler (2011) for localization, Remael (2010) for audiovisual translation, Kaindl (2013) for multisemiotic translation
by degree of specialization or prospective reader	specialized translation (of expert-to-expert communication), or general translation (of layperson-to-layperson communication), and the different combinations in between such as expert to initiates, relative expert to the uninitiated, teacher to pupil or layperson to expert and expert to layperson <sup>6</sup>	e.g., Wright and Wright (1993), Díaz Fouces (1999), Gamero Pérez (2001), Krein-Kühle (2011), IULA research group e.g., Cabré Castellví, Estopà Bagot, and Vargas-Sierra (2012)
by task	transcreation, transediting, localization, post-editing, adaptation, re-writing	e.g., Stetting (1989) for transediting
by translation strategy	pragmatic translation (as the translation of a message “as efficiently and accurately as possible”)	e.g., Casagrande (1954)
by degree of human involvement	translation memory-assisted translation, human translation, machine translation, translation from scratch	e.g., Forcada (2011) for machine translation, CRITT group e.g., Carl, Bangalore, and Schaeffer (2016) for translation from scratch

Table 5. State-of-the-art review of the classifications of translation activity (overview).

The differentiation between technical and scientific translation is generally put in these terms: technical translation deals with the application of knowledge for practical purposes and scientific translation with natural sciences or, in other words, knowledge ascertained by observation and experimentation. For Bennett, for instance, academic discourse and scientific translation are interchangeable (e.g., Bennett 2014). For Byrne (2006, 8): “scientific translation relates to pure

<sup>6</sup> See Pearson (1998) regarding the different combinations of expertise.

science in all of its theoretical, esoteric and cerebral glory while technical translation relates to how scientific knowledge is actually put to practical use, dirty fingernails and all.”

Another common classification is by degree of specialization. By drawing on the concept of Language for Special Purposes (LSP)—inherited from teaching of foreign languages—Mayoral Asensio (2004), for instance, argues for the uselessness of categorizing translation activity. According to this author, LSP and related terminology have lent the categories of “texts of specialized languages” and “specialized texts” to Translation Studies, listing legal texts and scientific texts as examples that have resulted in tags like “legal translation” or “scientific translation.” In this context, the author explains that “legal translation” implies the translation of specialized legal texts.

There are also translation scholars that opt to not frame their research in any translation category or that use a combination of categories. In his cognitive study about the impact of metadata on translator performance, Teixeira (2014), for instance, selected excerpts from a troubleshooting guide for the IBM Tivoli Monitoring software for three translation tasks and did not contextualize the guide within a text typology or specialization. A user guide for software could be classified as technical translation or as software localization, depending on the criterion. By adopting this approach, scholars such as Teixeira not only avoid the problematic issues associated with categorizations but also question their usefulness.

On the other hand, there are authors that choose to combine several criteria, such as Gouadec (2007), who presents two sets of categories to describe translation. Although Gouadec does not clarify the basis or purposes of these two sets, it can be inferred that the first part (2007, 12) is an attempt to systematize the categorizations resulting from an analysis of the translation market and the second part (2007, 27–54) represents Gouadec’s proposal. In the latter, Gouadec provides a classification of translation based on sheer volume—i.e., whenever the volume of work is significant, a category or subcategory emerges—sometimes resulting in overlapping (sub)categories in an attempt to describe the “true world of professional specialized translation” (2007, xiv). The author draws a line between “general” and “specialized” translation (see Table 6 below).

Category	Definition
1. General translation	translation of documents that cannot be classified as specialized since they do not belong to a specific subject matter, do not need a specific translation method or specific software beyond a word processor.
2. Specialized translation	translation of documents related to (i) a highly specialized subject matter; (ii) and/or of a particular type; (iii) and/or targeted at a particular audience; (iv) and/or embedded in a specific medium that entails special tools and methods.

Table 6. Systematization of Gouadec’s main categories of translation (2007, 27–28).



Some of the examples provided for general translation—such as user guides and company presentations—could be easily classified as specialized translation according to the author’s own definitions.

Specialized translation is further subdivided into (i) translation of specialized material; (ii) translation of specialized types of material; (iii) special target/channel/purpose translations; (iv) translation of material embedded in a specific medium (see Table 7 below).

The author goes on to define technical translation as: “a specialisation in its own right. It covers the translation of any material belonging to a particular area of knowledge, technical field or technology (...) providing the materials require special knowledge of the area involved” (2007, 30).

<b>Subcategory</b>	<b>Definition</b>	<b>Examples</b>
translation of specialized material	translation of material pertaining to a specific subject matter	technical translation; commercial translation; legal translation; biomedical and pharmaceutical translation; scientific translation; marketing and advertising translation
translation of specialized types of material	translation of documentation of a particular type	CV translation; translation of patents; translation of insurance policies
special target/channel/purpose translations	translation of documentation done for a specific target (courts, institutions, publishing houses), channel (Internet) or purpose (sworn)	court translation; Internet translation; institutional translation; editorial translation; sworn translation
translation of material embedded in a specific medium	translation of documentation present in video, film, and code.	localization (of software; of websites; of videogames); media (e.g., voice-over; subtitling; dubbing)

Table 7. Systematization of Gouadec’s subcategories of specialized translation (2007, 28–54).

According to Gouadec’s categories, the translation of a package insert related to a medical device, for instance, could be classified (i) by subject matter—as a medical and biomedical translation, a technical translation, or an advertising and marketing translation; (ii) by special target/channel/purpose—as an Internet or online translation; (iii) by the specific medium—as localization. Gouadec points out shortcomings for this set of categories, without an apparent solution, when used in the translation market: “When referring to their work, translators use all the above categories but those categories intersect and overlap” (2007, 12).

### 2.3.1. Critical voices

These different categories have been criticized by several authors. One of the main criticisms is that no category or definition can aim to comprehend the complexity of a reality that is often ever-changing and overlapping (e.g., Mayoral Asensio 2007, 55; Franco Aixelá 2015, 3). Another criticism is that “classifications of translation are not straightforwardly related to different ways of

translating, to specific problems, strategies and solutions and their usefulness is therefore rather limited when we think of translating and training translators” (Mayoral Asensio 2007, 52–55).

The categorization of texts by subject matter is considered to be unrealistic, since texts and fields of knowledge intersect with various subject matters (Mayoral Asensio 2007, 51). The same subject matter includes different text-types. In medical translation, a translator may be asked to work on patient information leaflets, TV documentary scripts, PowerPoint presentations, and device manuals, among an array of different text-types. In legal translation, for instance, a translator may come across contracts, legislation, court procedures, registry documents, administration, treaties, etc. A medical translator may be asked to translate a patient consent form mostly containing legal language and norms, and a legal translator can be asked to translate a patient consent form mostly with medical language and norms.

Another argument to support this point of criticism that has not been mentioned by some authors, like, for instance, Byrne (2006) or Mayoral Asensio (2007), is related to the problems arising from the conceptualization of a clear-cut line between scientific knowledge and the application of that same knowledge for practical purposes.

Firstly, there are a number of fields that can fit both definitions depending on the way that same knowledge is presented. For example, in the medical field, diagnostic methods can be discussed in a research paper (knowledge that is ascertained by observation and experimentation) or in the instruction manual of a diagnostic device (applied knowledge). Not to mention that more and more texts mix several topics and different approaches to such topics. This also raises questions about the most appropriate distinction for training purposes (for instance, teaching medical translation in a technical translation class or in a scientific translation class) or if those type of distinctions are important.

Secondly, authors that adopt the differentiation between scientific knowledge and applied knowledge usually classify fields such as legal, finance, and economics as applied knowledge, when it is not straightforward even among scholars of these fields if these academic disciplines are applied knowledge or “pure” science. On this matter, Byrne (2006, 3) adds, and I agree: “Simply because a field or subject area has unique or specialised terminology does not make it technical.”

The definition by genre has also been questioned. It is a common assumption that there is a link between genre and translation strategies and therefore that it is quite useful to know to what genre a specific text belongs (cf. Gambier 2016b, under “2. Strategy, text-types and types of problems”).

This concept—understood as crucial—is especially used in scientific-technical-centered Translation Studies literature for training purposes (Gambier 2016a, under “2. Specialization and training”). However, in Translation Studies literature, the concept of genre<sup>7</sup> is sometimes ill defined and occasionally not defined at all. Critics also point out that genre, subject matter and text-types are often used as synonyms and do not account for texts that combine characteristics traditionally assigned to different genres (cf. Mayoral Asensio 2007, 54; Gambier 2016a, under “2. Specialization and training”).

Critics have also argued against the differentiation between general and specialized texts or between texts written for experts and texts for laypeople. The argument is that this distinction is typically based on the level of terminological density. Yet, to reduce scientific-technical texts to their terminological issues is a misconception, as already discussed in previous sections.<sup>8</sup>

This attempt to distinguish between general and specialized texts faces several challenges. Firstly, scientific-technical language and content can be found, to varying degrees, in a large proportion of texts and communicative situations that fall under the label “general” (Mayoral Asensio 2007, 50; Franco Aixelá 2015, 2). Secondly, the classification of text as general or specialized can depend on the prospective reader. An information leaflet may be general for a doctor but specialized for a patient. Moreover, specialized communication does not only take place between experts, and the writer and the prospective reader communicate in varied combinations. In medical settings, for instance, communication can happen expert to expert (e.g., between doctors and nurses, imaging experts and doctors), expert to layperson, expert to initiate (e.g., doctors to trainees), relative expert to the uninitiated (e.g., administrative staff to the patient’s family), teacher to pupil (e.g., university professor to medical student), or layperson to expert and expert to layperson (e.g., between doctors and patients and their families). If the distinction between general and specialized is adopted, the classification of some of these interactions is not straight forward.

---

<sup>7</sup> One commonly accepted definition is proposed by Eggins and Martin (1997, 236) as “different genres are different ways of using language to achieve different culturally established tasks, and texts of different genres are texts which are achieving different purposes in the culture.”

<sup>8</sup> This does not mean that terminology does not play an important part in scientific-technical translation or even that the terminological task in the translation workflow can be plainly disregarded so much as to say that “the terminology is remarkably similar to the extent that separate, specialised dictionaries are frequently unnecessary” or even that “a translator should have less trouble locating appropriate specialised terms in the target language than with non-specialised, general terms” (Byrne 2006, 3–4). This oversimplification and generalization can be misleading. Terminology is considered to be important not only as part of the technical communication workflow (Isohella and Nissilä 2015, 1), but also as part of the translation workflow. In fact, terminology is often regarded as one of the error categories in the quality control phase of the translation workflow in scientific-technical translation (e.g., SDL 2011).

Attention should also be drawn to the problematic nature of superimposing a pre-established definition on target cultures. On this point, Delabastita (2010, under “1. ‘Literature’ and ‘translation’”) maintains—referring to the definition of literature—that it should not be imposed on cultures and rather than formulating a “static ‘one-size-fits-all’” definition that is “probably rightly” rejected and that cannot truly express the myriad of continuously varying typologies, scholars should “try to understand the functional principles that underlie the culture's own definitions and practices.” This theory has its roots in Toury’s definition of translation as “any target-language utterance which is presented or regarded as such within the target culture, on whatever grounds” (1985, 20).

What generalized approaches have failed to acknowledge is that definitions are purpose-bound. In an attempt to propose an overarching definition of technical or scientific translation, it is likely that different definitions are needed according to the purpose for which the definition is used. A researcher does not have the same needs as a teacher interested in defining the didactic objectives of a subject or a translator applying for a translation position. Therefore, it is argued that different definitions are in order, according to the purpose for which they are used and based on the target “culture’s own definitions and practices” (Delabastita 2010, under “1. ‘Literature’ and ‘translation’”). Against this backdrop, the next sections are dedicated to scientific-technical translation in Portugal, namely in the Portuguese language market, published research, and universities’ curricula.

## **2.4. Portuguese case**

### **2.4.1. Language market**

Translation professionals and translation associations replicate the terminological confusion around the definition and classification of scientific-technical translation present in Translation Studies literature.

In the membership section of its website,<sup>9</sup> the Portuguese Association for Translators and Interpreters (APTRAD) classifies translators by “specialization area,” such as law, marketing, or tourism. There is also a category that mixes subject matter with genre (“literature/poetry”), and two categories by prospective reader or context (“public institutions/administration” and “international entities”). Regarding health-related topics, the association distinguishes between “Life Sciences,” “Pharmaceutical” and “Medical.”

---

<sup>9</sup> This search was conducted in August 2015 and updated in August 2017.

The Portuguese Association of Translators (APT) also categorizes translators by “specialization area” in the membership section of its [website](#), but also includes a type of media category: “translation of cinema and audiovisuals.” Regarding health-related subjects, APT opts for a single umbrella category, “Health Sciences”.

Taking a closer look at how translators see and describe themselves by analyzing the profile section of surveys conducted in Portugal, in general in the surveys analysed most respondents consider that they practice technical and scientific/specialized translation, which suggests a broad-reaching category. However, when questioned about the domains most requested by their clientele or the most frequent documents/topics worked on, there is a proliferation of different criteria within the same category, namely subject matter (e.g., medicine, automotive engineering), media (e.g., software), and task (e.g., localization). This is true for the surveys conducted by Durão (2007), Ferreira-Alves (2011, 2012), and Calhanas (2016). According to the survey of Scientific and Technical Language Service Providers (Durão 2007) conducted with 157 Portuguese translators, technical and scientific translation clearly stands out. For Durão, scientific translation corresponds to the translation of content from the fields of mathematics, astronomy and astrophysics, physics, chemistry, life sciences, space and earth sciences, agriculture sciences, and medical science. Technical translation corresponds to the translation of documents on “technological sciences.” The survey, following these definitions, shows that technological sciences yielded the highest number of answer (48%), followed by medical (23%) and life sciences (12%). As reported by the survey “The Professionalisation of Translation in the North of Portugal” (Ferreira-Alves 2012), with 244 respondents from the north of Portugal, 86.1% of translators thought of themselves as practicing technical and specialized translation. When questioned about the most common domains, 66 respondents stated legal translation, 59 technical translation (including automotive engineering), 31 informatics, localization, software and computer science, and the fifth position was occupied by medicine and health sciences.<sup>10</sup> In a more recent survey concerning translation competence (Calhanas 2016) with 136 respondents from different geographical areas of Portugal, more than 41% identified themselves as technical translators, 19% as audiovisual translators, and less than 10% as scientific translators. Taken together, the data from the professional associations and surveys show that translators identify themselves as making use of different criteria, combining subject-matter and media, reproducing the terminological confusion present in the literature.

---

<sup>10</sup> These categories result from the respondents’ answers.

### 2.4.2. Research

Very little research has been carried out in scientific-technical translation in Portugal. Data from three reference databases (RCAAP, PORBASE and DGEEC) show two aspects of interest. First, most publications are master’s theses. As an aftermath of the Bologna Process, the number of master’s students has risen significantly and the master’s theses resulting from internships are extremely popular. These, as the databases show, are mostly on technical or scientific topics. Second, at doctoral level, there are two dissertations identified in these databases that focus on scientific-technical translation: Durão (2007) and Sousa (2007). This shows that scientific-technical translation is not adequately represented in translation studies in the Portuguese context.

The table below shows the publications on technical and scientific translation registered in these three reference databases. It is important to note that these databases do not claim to be exhaustive and therefore these numbers are merely indicative.

	Total	Master Theses	Articles/Journals	Doctoral dissertations	Books	Source
Technical translation	54	47	5	1	1	RCAAP
	1	--	--	--	1	PORBASE
	--	--	--	--	--	DGEEC
Scientific translation	22	20	0	1	1	RCAAP
	4	--	3	1	--	PORBASE
	--	--	--	1	--	DGEEC

Table 8. Publications on scientific-technical translation in Portugal (data collected in August 2017).

The Open Access Scientific Repositories of Portugal (RCAAP)—an online portal that collects, aggregates and indexes Open Access scientific content from Portuguese institutional repositories—registers 54 documents dedicated to technical translation, of which 47 are master’s theses, 5 articles, 1 doctoral dissertation and 1 book. The earliest publication dates from 2012. The same search querying abstracts dedicated to “scientific translation” yielded a significantly lower number of publications: 23 documents, of which 20 are master’s theses, 1 article, 1 doctoral dissertation and 1 book. The earliest publication dates from 2007.

The doctoral dissertation (Durão 2007) that comes up in both searches analyses the curricula on offer in Portugal and aims to propose an undergraduate degree program based on a questionnaire conducted with English to European Portuguese scientific and technical Translation Service Providers. The book is a self-published practical manual dedicated to the subject of technical translation (Cavaco Cruz 2012).

A similar search conducted in the National Bibliographic Database (PORBASE) shows only one publication dedicated to technical translation: the previously mentioned book by Cavaco Cruz (2012); and 4 publications dedicated to scientific translation: the doctoral dissertation previously mentioned (Durão 2007), the proceedings from a seminar organized by the European Commission Representation in Portugal, the Latin Union, and the Foundation for Science and Technology (1999); a non-indexed Portuguese scientific journal organized by Durão (2004); and an “opinion article” dedicated to the difficulties of translating statistical related matters (Pestana, Ventura, and Sequeira 2013).

According to the database of Portuguese Directorate-General for Statistics of Education and Science (DGEEC), of the 12 doctoral dissertations completed in the subject area of translation, only one is dedicated to a scientific-technical related topic, more precisely to legal translation from German to Portuguese (Sousa 2007). Given the limited number of studies, no conclusion was drawn regarding the terminology used.

### 2.4.3. Translation teaching

The importance and relevance of scientific-technical translation is starting to be echoed in the curricula of BA and MA courses at global level, as stated by Franco Aixelá in 2004, “which not only show an increasing weight given to technical translation in an effort to adapt to the needs of the market, but are starting to push literary translation into the background as an optional subject” (2004, 31).

Examining literature on curriculum planning, the distinction between general and specialized translation appears to be particularly prolific. It is in this context that Díaz Fouces (1999, 39) suggests that “general translation” and “specialized translation” belong on the same continuum, even though he does not designate or problematize the concepts in this way:

si la traducción especializada debe asegurar una sólida formación específica en determinados ámbitos, la general debiera procurar una formación de amplio espectro, presentando el mayor número posible de tipos textuales que permita un tratamiento digno de los mismos de forma que se proporcione al aprendiz (precisamente) una formación *generalista* que tienda a reducir los ‘primeros encuentros’ en su futura vida profesional.<sup>11</sup>

---

<sup>11</sup> In English: “if specialized translation should ensure solid specific training in certain fields, general translation should aim for broad-range training, introducing the highest possible number of text-types that allows them to be properly handled in such a way that the student has access to (precisely) generalist training that tries to render the ‘first encounters’ with their future professional life easier” (my translation).

Unlike Hurtado Albir (1996, 31), Díaz Fouces does not clearly state that this distinction is artificial or that it does not survive outside the didactic space. Hurtado Albir, on the contrary, highlights that the term “general text” clashes with practice, reinforcing the continuum of specialization that is always present in texts to some degree. In her textbook, Hurtado Albir clarifies that “general translation” corresponds to an introduction to translation practice and this should be the basis for specialized translation (Hurtado Albir 1999, 250). “Specialized translation” is used by Hurtado Albir as “real professional translation” (1996, 31, my translation). This designation is translator-centered and therefore not restricted to so-called specialized texts but also includes audiovisual and literary translation.

Against this backdrop, a survey into the academic degrees offered by Portuguese universities since the academic year of 2015-2016 was conducted. The data was drawn from the universities’ websites and personal communications by e-mail with the coordinators of the different translation degrees offered.<sup>12</sup>

The results obtained from the analysis of the curricula can be summarized as follows.

The number of degrees in translation has increased from 23 to 31 in comparison with Ramos Pinto’s data from 2010 (published in 2012). It must be taken into account that in 2006, Durão (2007) already had reported 23 translation degrees in Portugal, the same number reported in 2010 by Ramos Pinto. Even considering that the degrees stated may not be the same, and taking the number at its face value, we are looking at a considerable increase in the number of translation degrees offered in the last 5 years which may suggest a greater interest in this field of study.

Scientific-technical translation has gained a predominant place in Portuguese universities: of the 31 translation degrees offered by private and public universities and polytechnic institutions during the academic years under analysis, 23 degrees offer at least one module in scientific-technical translation (74.19%), 22 in technological competence (70.97%), and 16 in audiovisual translation (51.61%). In comparison with audiovisual translation, scientific-technical translation is more commonly taught: 54 modules across all degrees in scientific-technical translation versus 20 modules in audiovisual translation. The weight of scientific-technical translation in academic degrees in Portugal is thus in stark contrast with the academic publications in scientific-technical translation in Portugal.

---

<sup>12</sup> A special thank you is in order to the Professors that so kindly made themselves available to answer my questions: Professor Alexandra Lopes, Professor Clara Sarmento, Professor Fernando Ferreira-Alves, Professor Graça Chorão, Professor Isabel Augusta Chumbo, Professor Joana Guimarães, Professor Pedro Dono, and Rita Menezes.



In the majority of cases, scientific-technical translation is taught without computer-assisted tools. Only 13 modules (of the 54) are taught in conjunction with technological competence. Technological competence, sometimes referred to as “instrumental subcompetence,” is one of the identified translation competences in competence models. This term has come to be used to refer to the knowledge associated with the use of translation tools and documentation resources (EMT 2009, 7; Hurtado Albir 2017, 127:40). According to the data available, it seems that although most Portuguese universities offer modules on technological competence, they offer them separately from the rest of the curricula.

Looking at the terms used to designate scientific-technical modules, the data shows that the most common designation for scientific-technical translation is technical and scientific translation, followed by specialized translation. From the curricula and personal communications, it could also be gathered that scientific-technical translation comprehends different text-types, subject matters and media, from the translation of economics and legal texts to websites. This is in line with the international literature.

## **2.5. Summary and conclusions**

This chapter started with a discussion of the weight of research on scientific-technical translation in comparison with literary translation and the importance and legitimacy of studying this topic. In the first half of the chapter, a review of the descriptive literature on scientific-technical translation was presented, together with the different interpretations and uses of the term “scientific-technical translation” and related terms. This section was followed by a review of criticisms raised regarding scientific-technical categories and competing proposals. The second half of the chapter zooms in on the situation in Portugal, shedding light on the perspectives of the Portuguese language market, published research and universities regarding this topic.

In view of the above assessment, while a variety of definitions and terms have been suggested for non-literary translation, it is suggested that scientific-technical translation be defined for the research purposes of this study as any translation of content pertaining to a specific subject matter that does not fulfill a primarily aesthetic function. This designation is, in this case, circumscribed to the translation of material pertaining to a subject matter, and the aesthetic function is thus reserved to literary translation as the main distinctive characteristic that sets it apart from other professional translation activities. This designation includes medical and biomedical translation, legal translation, and financial translation, among others.

The next chapter looks at the published research on medical and biomedical translation and describes the data and main findings of a small case study conducted to explore questions such as who translates what in biomedical translation English-European Portuguese with what function and written to whom.

## **CHAPTER 3 — MEDICAL AND BIOMEDICAL TRANSLATION: BACKGROUND, CONTEXTS AND AGENTS**

### **3.1. Introduction**

The aim of this chapter is to contextualize the study by performing a systematic literature review of the existing body of published research on medical and biomedical translation. To this end, a survey was conducted in the Translation Studies Bibliography to identify all the relevant work and summarize its aims, methods and data. This is described in section 3.2. The chapter then moves on to define medical translation, based on the definitions frequently used in the literature, and propose a definition for biomedical translation (§ 3.2.2.). The next subsections focus on medical devices and more precisely on the industry surrounding medical devices (context), the characterization of medical devices (definition) and the types of texts accompanying these devices (source texts).

This chapter also looks at the context of the practice of biomedical translation in the Portuguese context (§ 3.3.). Given the lack of available data, a case study approach was adopted to explore questions related to the context of the practice of biomedical translation, including who the translation agents involved in the practice of biomedical translation are, which types of tasks are performed, and what the text-types are and who the target audience is. The findings drawn from this case study will inform the choice of participants and text-type in the main study described in Chapter 4.

### **3.2. Medical communication and Translation Studies**

This section aims to present an outlook on the research conducted on medical translation developed within Translation Studies. It therefore does not go into the research developed on this topic within medical literature.<sup>1</sup> The main questions this outlook aims to answer are: (i) what is the (possible) relevance of medical translation within Translation Studies in general? and (ii) what are the major research trends within medical translation? From these data, it is the intention of this section to discuss the overall nature of research on medical translation in order to contextualize the present study.

---

<sup>1</sup> Within the framework of Medical Studies, there are some publications devoted to medical translation, namely to the translation of questionnaires. Further research is recommended to understand what the most common topics and approaches of this type of research are. This outlook would be relevant to broaden the understanding of how translation studies are approached within medical studies and their methodology, as well as to (potentially) explore the relevance of studies on medical translation for medical practice.

To this end, a systematic search was conducted in the Translation Studies Bibliography (TSB) in September 2018 in order to further understand the nature of research in medical translation.<sup>2</sup>

Medical translation and related terms are common themes within Translation Studies. To understand the possible relevance of medical translation within translation studies, in a first approach, TSB's predefined keywords were scanned in order to potentially identify within this list themes related to medical translation (see van Doorslaer 2005, *passim*). The keywords "medical discourse=medical sciences=medicine," "medical sciences=medicine," and "medical translation=medical" are among these themes, signaling therefore that translation scholars used them frequently as keywords to describe their research.

The presence of medical translation within Translation Studies is undeniable. Translation scholars have used the keyword "medical discourse" 487 times. The keyword "medical sciences" can equally be found 487 times, and the keyword "medical translation" 41 times.<sup>3</sup>

In order to better understand the significance of these numbers, other searches were conducted. The keyword "scientific discourse" had 400 hits and "technical translation" 185. By comparing the number of publications that have chosen the keywords "scientific discourse" and/or "technical translation" with the number of publications under medical translation and related terms, it is possible to say that medical translation is a popular topic within non-literary translation. When compared with legal translation, medical translation is still more widespread among translation scholars (321 hits for legal translation).

Studies on medical translation are mainly devoted to interpreting studies. Interpreting studies account for more than 200 publications in a total of 487. Terminology is another relevant trend with 86 publications. Translator training accounts for 70 of the publications and quality 41 publications. Two reference books on medical translation were also identified in this survey, namely Fischbach (1998) and Montalt and González-Davies (2014). The former is devoted to an historical approach, training and translators at work, and the latter is a textbook for training purposes.

---

<sup>2</sup> The method of searching the Translation Studies Bibliography to describe research on a given field within Translation Studies is not uncommon (e.g., van Doorslaer 2005, 2009; Zanettin, Saldanha, and Harding 2015; Rosa 2016b) and is considered reliable in the sense that this bibliography provides the search tools to describe published research on translation in different languages, from different publishing houses and on different themes, as long as it is indexed in this database. TSB does not claim to be complete and therefore any outlook based on this bibliography is not considered comprehensive, but rather indicative.

<sup>3</sup> Since the simple search of "medical translation" in the All fields option of the TSB yielded only 272 hits, it was considered that any further analyses should be done using keywords in order to have access to more complete data.

Special issues were also identified, including Meta's *Traduction médicale et documentation / Medical translation and documentation* (Quérin 2001) and *Linguistica Antverpiensia's Translation and knowledge mediation in medical and health settings* (Montalt i Resurrecció and Shuttleworth 2012). Meta's issue is mainly dedicated to databases and other documentation resources. *Linguistica Antverpiensia's* issue is devoted to participant-, text- and concept-centered approaches to knowledge mediation in medical translation. The focus is thus on knowledge mediation and the interaction between translation agents, a common topic also seen in medical interpreting research.

This brief survey has shown that even though publications approach medical translation from different perspectives, there is a strong focus on training and documentation. This is in line with the literature review conducted on scientific-translation in general where studies have been predominately devoted to didactic and terminological considerations.

### 3.2.1. Medical DTS and translational norms

Turning now to descriptive research dedicated to medical translation, the search for "DTS," "Descriptive Translation Studies" and "descriptive" in the keywords and abstracts in the TSB returned only nine publications in a universe of 487 medical translation studies (see Table 9 on the next page). This shows that descriptive translation studies of medical translation are scarce.

This survey also shows that these publications are mainly focused on interpreting (Valero-Garcés 2007; Merlini and Favaron 2009; Hadziabdic 2011), and on legal-medical documents (Gallardo San Salvador 2012; González Núñez 2013). Other scholars are devoted to the conceptual, linguistic and social motivations behind term choice (Bowker and Hawkins 2006), the proposal for a training program for translators of informative texts, of which some are medical (Valdeón 2010), the concept of "genericity" (Vogeleer 1995), and the characterization of communicative texts from the concept of "text genre" (García Izquierdo 2009). What these data show is that even though medical translation is a popular research topic within Translation Studies, there are very few published descriptive translation studies of medical translation. Moreover, this survey also invites the question of whether the designation "descriptive" is used in these studies to describe a descriptive analysis of a corpus, rather than a descriptive translation studies approach to the study of translation regularities and their motivations.<sup>4</sup>

---

<sup>4</sup> Rosa (2016b, 197) comes to a similar conclusion regarding descriptive translation studies research on audiovisual translation.

	Type of publication	Aim of the study	Corpora	Research method
<b>Vogeleer 1995</b>	Book Chapter	To study the concept of “genericity” in French medical texts.	Conceptual descriptive medical texts in French.	Cognitive linguistic analysis.
<b>Bowker and Hawkins 2006</b>	Journal Article	To study conceptual, linguistic and social motivations behind term choice in English.	Specialized medical texts corpus containing half a million words comprised of articles taken from the MEDLINE database and a second corpus composed of texts from the Web.	Corpus-based approach to research different sets of “medical combining forms” in context.
<b>Valero-Garcés 2007</b>	Book Chapter	In an interpretation setting, to study doctor–patient interaction in dyadic and triadic exchanges.	Transcripts of recordings carried out at healthcare centers in Spain and the USA.	Institutional discourse analysis. Mainly descriptive and qualitative, including some comparative quantitative analyses.
<b>García Izquierdo 2009</b>	Book	Reflection regarding the characterization of communicative texts from the concept of “text genre.”	Corpus of English and Spanish texts	Empirical-descriptive analysis of the genre “Información para pacientes / Fact Sheet for Patients.”
<b>Merlini and Favaron 2009</b>	Book Chapter	Presentation of an interpreter training program at an Italo-American healthcare facility to show how the concept of “norm” contributed towards a shift in trainees’ attention from “externally imposed instructions onto internally generated behavioural patterns.”	Na.	Na.
<b>Valdeón 2010</b>	Book	Edited volume that overviews the “informational” subfield, including health texts. Proposes a training program for translators of informative texts.	Na.	Na.
<b>Hadziabdic 2011</b>	Thesis	To study the experience and perception of interpreters in healthcare by individuals, healthcare professionals, and family members.	Individual interviews, written descriptions, reviews of official documents, and focus group interviews. Serbo-Croatian speaking individuals in Swedish healthcare environment.	Explorative and descriptive in nature.
<b>Gallardo San Salvador 2012</b>	Journal Article	To study and classify medical-legal documents (English-Spanish).	Five examples of the most “representative” medical-legal documents.	Comparative and descriptive in nature.
<b>González Núñez 2013</b>	Journal Article	Overview of European Legal Framework regarding interpretation policy in healthcare.	European Union and the Council of Europe legal instruments.	Descriptive in nature.

Table 9. Descriptive translation studies of medical translation (data collected in September 2018).

Regarding norms, the search identified no publications on medical translational norms and eight publications related to medical discourse norms. Of these, five were dedicated to interpreting (Garzone and Viezzi 2002; Angelelli et al. 2007; Merlini and Favaron 2009; Lesch and Saulse 2014; Cambridge 2010) and the remaining three to written medical discourse norms (Corpas Pastos 2002; I. A. Williams 2008, and 2009). None of the latter three publications addresses translational norms as such. Therefore, it seems that medical translational norms have not attracted attention from the scholarly community to date.

### **3.2.2. Expectations about medical translation**

Turning now to research focused on expectations, a similar search was conducted for “expectations” and returned eighteen publications (see Table 10, next page). There are therefore more publications that discuss expectations related to medical translation than descriptive translation studies or translational norms.

The majority of these publications, though, are not focused on the study of expectations and only briefly discuss expectations from the researchers’ points of view. In other words, these are studies that assume the expectations of the prospective reader (the readers’, patients’, or health providers’ expectations), based on the researchers’ knowledge.

The three publications that are specifically dedicated to the study of expectations in medical translation are “The translation of Finnish medical texts: who is the expert?” (Ruuskaanen 1994), “The cultural interpreter: an appreciated professional. Results of a study on interpreting services: client, health care work and interpreter points of view” (Mesa 2000), and “Estudiantes de medicina e interpretación social: trabajo de campo” (Cebrián Sevilla 2004).

The first study, by Ruuskaanen (1994), describes and discusses the differences between the expectations of clients and translators in Finland regarding technical texts and the knowledge of specialized translators and editors. This study involved thirty Finnish medical healthcare professionals and twenty translators of scientific or medical texts from Finnish to English. The survey data showed evidence that the expectations of clients and translators about who is responsible for the text are different.

	Type of publication	Aim of the study	Nature of expectations
Ticca 2017	Book Chapter	To identify the activities of lay interpreters, based on an analysis of a large corpus of video-recorded medical appointments in a rural clinic in Yucatan.	Expectations of agents in medical appointments about the role of the interpreter.
Crezee and Asano 2016	Book	To present the healthcare setting, including anatomy, physiology, medical terminology, and typical conditions, diagnostic tests, and treatment options (textbook).	Expectations of providers and patients about sociolinguistic and sociocultural situations.
Corpas Pastor and Roldán Juárez 2014	Journal Article	To develop a multilingual lexicographical resource for doctors and translators.	Expectations of medical translators about lexicographical resources.
Feinauer and Lesch 2013	Journal Article	To describe the conflict between the expectations of healthcare professionals about interpreters' ability to explain medical procedures and interpreters' understanding of the information.	Expectations of healthcare professionals about interpreters' knowledge.
Martínez Motos 2012	Book Chapter	To review and discuss the models for quality assessment of patient package inserts.	Readers' expectations about patient package inserts.
Pittarello 2012	Journal Article	To identify the strategies used by medical interpreters to communicate medical terminology and to promote or exclude the addressees' participation.	Doctors' expectations about patients' messages.
Gavioli and Baraldi 2011	Journal Article	To analyze interpreters' interactions via the organization of sequences of turn-taking and its effects on intercultural mediation.	Participants' expectations about the context.
Farini 2010	Book Chapter	To describe how interpreters coordinate the interpreting activity and in which situations the interpreter boosts the patients' or the doctors' voices.	Participants' expectations about doctor-patient communication.
Kruger 2010	Book Chapter	To discuss term formation and translation strategies in public information texts.	Translation of expectations, attitudes and cultural differences.
Gonzalez-Nava 2009	Book Chapter	To discuss communication as a factor for the success of medical treatment.	Patients' expectations regarding treatment.
Uluköylü 2008	Book Chapter	To describe interpreters' problems during communication between patients and healthcare providers.	Expectations of healthcare providers.
Allaoui 2005	Book	To analyze the tasks and responsibilities of interpreters in interactive situations in medical settings.	Expectations of the different parties involved in the interpretation situation.
Cebrián Sevilla 2004	Journal Article	To describe the opinion and expectations of future medical doctors about interpretation.	Expectations of medical students about interpretation.
Rosenberg 2002	Book Chapter	To describe the interpreting situation and the mediation between English doctors and Spanish-speaking mothers.	Expectations of family members of patients about the translation.
Rouleau 2001	Journal Article	To analyze medical dictionaries.	Readers' expectations about medical dictionaries.
Mesa 2000	Book Chapter	To report on the degree of client and healthcare worker satisfaction with the Inter-regional Interpreters Bank of Montreal.	Clients' and healthcare workers' expectations about interpreters.
Gentile et al. 1996	Book	To describe the basic principles and practices of liaison interpreting (textbook).	Professionals' expectations about interpreters' work
Ruuskaanen 1994	Book Chapter	To describe the differences between expectations of clients and translators regarding technical texts and qualifications of translators and editors.	Clients' and translators' expectations about texts and qualifications of translators and editors.

Table 10. Expectations medical translation (data collected in September 2018).



Mesa (2000) reports on the opinions and expectations of clients and healthcare workers regarding the interpreting services of Montreal's Inter-regional Interpreters Bank. The findings, based on data from focus groups and questionnaires conducted with 104 clients, 321 healthcare workers, and 52 interpreters, showed a convergence of opinions that the "Bank's interpreters meet the expectations of clients and health care workers" and resulted on the publication of a reference sheet on best practices on how to work with interpreters (2000, 78).

Cebrián Sevilla's (2004) study reports on the opinions and expectations of fifty students of medicine regarding the interpreters' work. Based on the expectations elicited through a questionnaire, the author has identified a convergence of opinions regarding the interpreters' function as a mediator. Although these students have demonstrated that they know little about the profession of interpretation, they have identified confidentiality as the most important aspect of an interpreter and that she/he should have some knowledge of medicine, even if basic knowledge (2004, 27).

First and foremost, these publications taken together suggest that expectations in healthcare settings can be complex and the need for further investigation about the expectations of translators/interpreters and healthcare providers.

Secondly, as the analyzed studies show, in the majority of cases expectations are briefly mentioned or discussed and have not been systematically studied from a descriptive and emic perspective, but assumed based on the researchers' knowledge. Moreover, the importance of expectations for the production of the target text are often assumed. In other words, studies on medical translation assume that translators have expectations about what the readers want and need from the translated text and that these expectations are at the basis of translators' motivations behind certain textual decisions.

In addition, the distinction between different types of beliefs and expectations were not considered in these studies. The questions used to capture expectations were vague, most elicited nonspecific personal normative beliefs (what the participants believe they should do) and normative expectations (what the participants believe others should do). Normative attitudes and empirical expectations, previously identified as central to normative behavior, were not elicited in these studies.

Therefore, very little is known about the expectations of translation agents and readers about what they considered to be the "appropriate" relation between source and target texts in healthcare settings along with how and to which extent expectations motivate the translators' translation

behavior, including the decision-making processes and the textual regularities. This study seeks to obtain data which will help to address these research gaps.

### 3.2.3. Biomedical translation literature

Of the publications on medical translation, fourteen were identified as related to biomedical translation (see Table 11, below).

	Type of publication	Aim of the study
Ortega Arjonilla 2015	Book Chapter	To discuss the difficulties in the translation of specialized medical texts from French to Spanish.
Bolaños-Medina 2012	Journal Article	To discuss accuracy related to clinical trial protocols, including didactic considerations.
S. Vandaele, Raffo, and Boudreau 2008	Journal Article	To present a website created for the teaching of biomedical translation.
Carlucci 2007	Journal Article	To discuss the problems of teaching and learning biomedical translation in the Spanish-Italian language pair from the perspective of the teacher/translator.
Leanza 2007	Journal Article	To define the different roles of community interpreters and their processes.
Vázquez y del Árbol 2006	Journal Article	To describe the differences and similarities of non-translated texts in English and Spanish.
López Rodríguez, Faber, and Tercedor 2006	Journal Article	To present a research project on medical terminology aimed at the creation of an information system on oncology.
I. A. Williams 2005	Journal Article	To analyze the thematic use of the semantic field of the Discussion section of biomedical reports in a non-translated Spanish corpus and an English-Spanish translated corpus.
Weeds et al. 2005	Book Chapter	To research the application of distributional similarity techniques to the problem of structural organization of biomedical terminology.
S. Vandaele 2001	Journal Article	A selective bibliography for the translation of biomedical sciences in French.
Collier, Nobata, and Tsujii 2001	Journal Article	To describe the identification and classification of terms from molecular biology.
Tercedor 2000	Book Chapter	To stress the usefulness of phraseological information for conceptual and discourse analysis using a corpus of English and Spanish biomedical texts.
Bolden 2000	Journal Article	To analyze the role of medical interpreters in interaction between doctors and patients.
León Pérez 1998	Book Chapter	To present a medical course on translation based on the reading of specialized medical literature.

Table 11. Biomedical translation (data collected in September 2018).

The majority of these publications were published from 2005 onwards and are journal articles. These publications are mostly aimed at translator training, presenting and discussing problems in the translation of specialized texts (Ortega Arjonilla 2015; Carlucci 2007) providing specific resources for translation trainees and professional translators (S. Vandaele, Raffo, and Boudreau 2008; S. Vandaele 2001) and presenting a course on medical translation (León Pérez 1998). There is also a number of publications dedicated to terminology and phraseology (López Rodríguez, Faber, and Tercedor 2006; Weeds et al. 2005; Collier, Nobata, and Tsujii 2001; Tercedor 2000). In addition, Leanza (2007) and Bolden (2000) devoted their studies to the role of interpreters and their interaction with patients and doctors. Vázquez y del Árbol (2006) and Ian Williams (2005) analyzed translated and non-translated corpora in order to understand what makes target texts different (and similar) to source texts. Bolaños-Medina (2012) provides an overview of clinical trial protocols as a text genre, discusses the quality requirements and cultural aspects, and suggests that this is a particularly “suitable genre” for translator training (2012, 27).

This brief survey shows that most studies on biomedical translation have been focused on a didactic and terminological perspective. This is the first time that biomedical translation is studied from a descriptive and target-oriented approach to translation regularities and their possible motivations, such as beliefs and expectations.

### **3.3. Definition of medical and biomedical translation**

Medical translation is commonly defined as “a specific type of **scientific** and **technical translation** that focuses on medicine and other fields closely related to health and disease such as nursery, public health, pharmacology, psychiatry, psychology, molecular biology, genetics and veterinary science” (Montalt 2011, para. 4, see also 2012, 1). It is commonly accepted that medical translation has characteristics that set it apart from other specific types of translation (Montalt 2011, para. 5). It is conditioned by ethical codes of research and healthcare that establish that the accuracy and reliability of information, confidentiality and sensitivity, are necessary requirements. It is also assumed that competence in medical translation is dependent on the familiarity of the translator/interpreter with the specificities of healthcare settings.

In an attempt to describe medical translation within a didactic setting, Montalt and González-Davies (2014) classified the most frequently translated genres into four categories, namely Research genres, Professional genres, Educational genres and Commercial genres. Professional genres are those that health professionals use in their daily work (Montalt and González-Davies 2014; Montalt

2011), and these authors included Manuals and Maintenance guides (2014, 30), the types of documents this dissertation focuses on in the Professional genres category.

In this context, biomedical translation is understood as a specific type of medical translation that focuses on the translation of content from biomedicine, including the translation of instructional materials about medical devices.

### **3.3.1. Medical devices and instructional texts**

The medical devices industry plays an increasingly important role in the European Union on two fronts. On the one hand, in matters of diagnosis, prevention, monitoring, treatment and alleviation of disease, the medical devices industry provides “innovative health care solutions” that are vital for the wellbeing of the European citizens (European Commission 2018, under “The importance of the medical devices sector”). In fact, the World Health Organization recognizes the “ever more indispensable” role of medical devices in healthcare provision (World Health Organization, n.d., under “Biomedical engineering global resources”). On the other hand, the medical devices industry is considered to be “an influencer of expenditure,” representing a sector of 27,000 companies and employing 675,000 people in the European Union (European Commission 2018).

This industry is also considered to be “an important component of the larger health care system” of the United States of America (MedPAC 2017, 209). According to the Medicare Payment Advisory Commission (MedPAC), an independent congressional agency established to advise the U.S. Congress, the industry represented an expense of \$172 billion in 2013 (MedPAC 2017, 209). According to data from this report, there are approximately 5,300 to 5,600 U.S. companies in the industry, with 330,000 to 365,000 employees.

At the core of the increasing importance of medical devices is the advancement in technology which has fostered technological and scientific breakthroughs (from medical robotic systems<sup>5</sup> to virtual, augmented and mixed reality<sup>6</sup>) and the widespread use of medical devices for examinations, procedures, prescriptions, and health records. This begins to illustrate, albeit in a simplistic way, the range of potential applications of medical devices, their innovative and complex character, their widespread use, and the implications and consequences for patients, their families, and health professionals.

---

<sup>5</sup> For more information about medical robotics in surgery see Cenk Çavuşoğlu (2006).

<sup>6</sup> For more information about the application of virtual, augmented and mixed reality in health, see, for instance, Hamacher et al. (2016).

Against this backdrop, and given the role of medical devices in the current provision of healthcare for worldwide citizens, including Portuguese citizens, and the weight of this industry, the importance of studying communication in these contexts through the lens of translation is inevitable.

Medical devices are defined by to the European Commission as:

Any instrument, apparatus, appliance, software, material or other article, whether used alone or in combination, together with any accessories, including the software intended by its manufacturer to be used specifically for diagnostic and/or therapeutic purposes and necessary for its proper application, intended by the manufacturer to be used for human beings. (European Parliament 2007, 23–24)

Thus, the breath of products which can be considered medical devices is very wide, and can range from dressings and gloves to wheelchairs, from active implantable medical devices such as pacemakers to in vitro diagnostic devices such as blood analysis machines.

Using a medical device more often than not requires following a complex set of instructions and understanding “specific information about storage, use, disposal, or reprocessing” (Sethumadhavan, Cherne, and Shames 2017). Instructional materials, instructions for use (IFU), user manuals, instruction manuals or simply manuals are synonyms that refer to professional and technical communication materials which guide the health professional in her/his task in a healthcare setting. They are by definition provided (or commissioned) by the manufacturer and aim to inform and instruct the user on how to safely and correctly use the device taking into consideration the necessary precautions, including the intended purpose and performance of such a device. Because they are written or commissioned by the manufacturers of the medical device, they are written by experts for experts and as such can be defined as expert-to-expert communication. They are mainly written in English by native and non-native experts.<sup>7</sup>

These materials are mandatory as per European legislation. As outlined, for instance, in section 13 of Annex I of Directive 93/42/EEC: “Each device must be accompanied by the information needed to use it safely and properly, taking account of the training and knowledge of the potential users, and to identify the manufacturer” (Council of the European Union 1993b, 30).

Instructions for use are also standardized, or at least potentially so, since both European legislation<sup>8</sup> and industry best practice standards dictate how to write, design, and test for the usability of such

---

<sup>7</sup> English as a lingua franca thus plays an important part in this information flow. However, this aspect will not be addressed in this dissertation.

<sup>8</sup> For instance, the already quoted Directive 93/42/EEC (1993b), but also Directive 90/385/EEC (1993b).

materials. Because of the importance of medical devices to the lives of people and the economic and social impact of the medical devices sector, governmental institutions and private companies worldwide have dedicated themselves to establishing recommendations, standards and laws which affect and govern these documents and consequently communication among experts surrounding medical devices in healthcare environments. By way of illustration, the Medicines & Healthcare products Regulatory Agency of the United Kingdom provides, among other documentation, guidance for medical device manufacturers on when electronic instructions for use can be used (see Medicines and Healthcare products Regulatory Agency 2013). In the Portuguese case, Infarmed makes several guidelines available, including the relevant legislation on the Portuguese authority for medicines' website (see Infarmed, n.d.).<sup>9</sup>

In this context, medical devices are a product of biomedical engineering. This is the science and profession considered responsible for all types of medical devices, from the “innovation, research and development, design, selection, management [to its] safe use” (World Health Organization 2017a, 20).

To define biomedical engineering, the World Health Organization has adopted the definition of the International Federation of Medical and Biological Engineers which in turn will be adopted in this dissertation, namely:

Medical and biological engineering integrates physical, mathematical and life sciences with engineering principles for the study of biology, medicine and health systems and for the application of technology to improving health and quality of life. It creates knowledge from the molecular to organ systems levels, develops materials, devices, systems, information approaches, technology management, and methods for assessment and evaluation of technology, for the prevention, diagnosis, and treatment of disease, for healthcare delivery and for patient care and rehabilitation. (quoted in World Health Organization 2017a, 26)

---

<sup>9</sup> The dedicated webpage is <http://www.infarmed.pt/web/infarmed/entidades/dispositivos-medicos>.

### 3.4. Case study

The aim of this section is to explore the context of biomedical translation in the Portuguese market, including the circumstances around the practice of translation and discussion of the (potential) external factors that affect translators.

This was mainly motivated by statements of the volume of translation of instructional materials for medical devices from some translation companies. For instance, Hana Mendesova, Supply Chain Business Partner at Vistatec, reported that the majority of content related to the biomedical field that needs to be translated, reviewed, and/or checked for quality are user manuals related to medical devices or software (personal communication). Vistatec is a company listed on the 2018 ranking of the largest language services providers in the world (Dranch, Johnson, and Beninatto 2018). This testimony is further corroborated by Raina Peternek at Merle & Sheppard Language Consulting, a translation company based in Germany and New Zealand, and María Ángeles García from Pangeanic, a translation company based in Valencia (personal communication). In Portugal, Word-Way, Multilingues21, and Found in Translation are of the same opinion: instructional materials for medical devices are the most common text-type in healthcare settings (personal communications).

Therefore, to further understand the context of biomedical translation from English to European Portuguese, a case study<sup>10</sup> approach was adopted to conduct an exploratory study. This case study focuses specifically on the definition of the translation cycle, including the most common translation agents, types of tasks, text-types, target audience, and medium involved in medical and biomedical translation from English to European Portuguese.

This research is based upon a corpus of (approximately) 700,000 words of different text-types of medical and biomedical content that were submitted to me for translation, edition, revision, or quality control over the course of four years. The corpus analyzed was submitted by one translation agency specialized, inter alia, in medical and biomedical content: Found in Translation. The aim is to explore these aspects for the first time in this context and therefore this case study does not claim to be representative. Given, however, the lack of availability of data related to biomedical translation in the Portuguese context, the analysis was limited to the work of one translator and one translation agency.

---

<sup>10</sup> A case study is defined as “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (Yin 2009, 18; also quoted in Saldanha and O’Brien 2013, iBook location 823).



The data analyzed were collected from two sources: (i) the translation kits<sup>11</sup> of projects that the end-client or the translation agency identified as medical and/or biomedical from May 2010 to May 2014, and (ii) the e-mails exchanged between the translator and the project managers related to these projects.

#### **3.4.1. Translation company**

Found in Translation is a small-to-medium translation agency based in the Greater Lisbon area specializing, *inter alia*, in medical and biomedical translation. At the time of the interview (February 2015), Found in Translation had three project managers, three in-house translators/revisers, and one trainee, and worked with several freelance translators specializing in different subject matters. Based on the description on the translation agency's website,<sup>12</sup> it can be considered a typical Portuguese translation agency.

Ferreira-Alves (2011, para. 12) describes the prototypical case in the following way: "most of these agencies are SMEs or micro-enterprises, as defined by the OECD (2006), or even single-person companies that operate mainly as intermediaries for the so-called SLV (Single-Language Vendors) and MLV (Multi-Language Vendors) working at an international level."

#### **3.4.2. Translation agents**

The data showed that the main translation agents involved throughout the translation cycle from source text production to target text production are: (i) the holder of the proprietary rights of the medical device; (ii) the international translation company; and (iii) the local translation company.<sup>13</sup>

This supports the view that translation industry professionals do not operate in a vacuum. In fact, scientific-technical translation in general and medical and biomedical translation in particular can be described as involving more stakeholders than the traditionally identified author, translator, and reader.

#### **Holder of the proprietary rights of the medical device**

---

<sup>11</sup> The translation kit refers to the material sent for translation. This can include the source files prepared for the translation or localization task, the translation memory, the terminological database, the source reference, and the guidelines.

<sup>12</sup> Found in Translation's website is <http://www.foundintranslation.pt/pt/> (last accessed September 18, 2018).

<sup>13</sup> This description does not account for all the agents and possible scenarios involved in the translation cycle, but includes the most common as identified from the data.

The holder of the proprietary rights of the medical device is the company that produces or sells the medical device. In most cases, this is a pharmaceutical corporation, a provider of pharmaceutical services or a life sciences company (e.g., Pfizer, United BioSource Corporation, or Ecolab), or a multi-industry or multi-business global company (e.g., 3M). These companies are the Document Initiators. The document initiators are the companies responsible for writing or commissioning the source text. The production of this source text goes through its own process, which usually includes usability testing. These companies are also responsible for initiating the translation, requesting the translation from the international translation company (see Byrne 2006, 12).

### **International translation company**

The international translation company is the company entrusted with the translation of all the documentation of a given direct client (the holder of the proprietary rights of the medical device) into all the languages required. These companies may also be called MLV (Multi-Language Vendors). The documentation is translated into several languages at the same time and a source text is typically not translated only into Portuguese, but into other languages too. These international translation companies do not usually perform the translation in-house, but send the request to a local translation company.

### **Local translation company**

The local translation company is the company responsible for the TEP (Translation, Editing and Proofreading) phase of the documentation for the local language, which in this case is European Portuguese. These companies are also called SLV (Single-Language Vendors). Local translation companies are commonly responsible for the TEP process only for their own native languages. The majority of translations are done by freelancers (also called “resources” or “linguists”). Along with TEP, freelancer translators can also be responsible for other tasks of quality control.

### **3.4.3. Types of tasks**

The data showed that the life cycle of a biomedical translation goes through three main stages, as seen in Figure 9 (next page): (i) Pre-translation or Pre-localization; (ii) Translation or Localization; and (iii) Post-translation or Post-localization. Note that the source text production is not represented here not because it is not considered part of the translation life cycle, but because the tasks this dissertation discusses occur after the writing of the source text.

### **Pre-translation or Pre-localization phase**

This first phase consists of preparing the translation or localization project, including the selection and assignment of team members, a review of project specifications, the definition of the timeline and main guidelines, client approval of the project plan, creation of the glossary and style guide, and preparation of the file, translation memory, and reference material, to name just the main tasks.

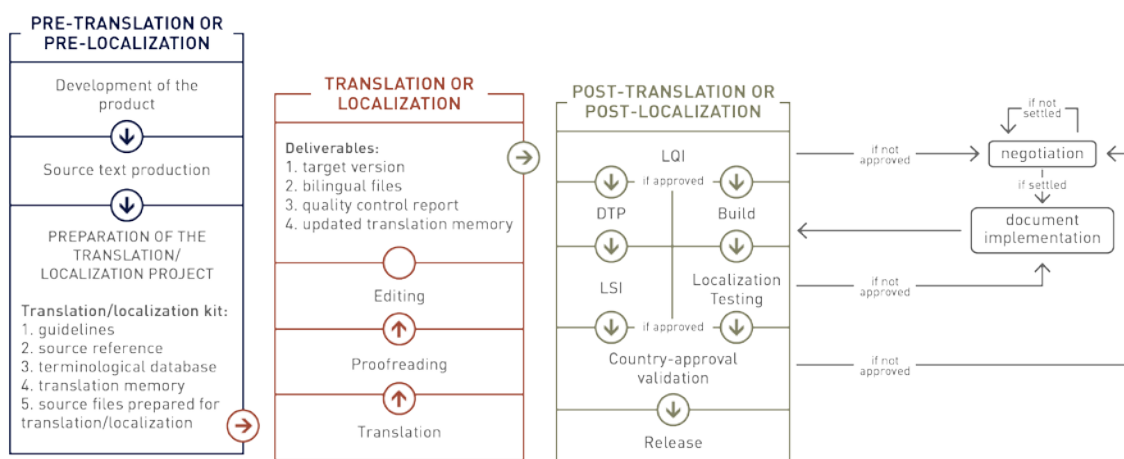


Figure 9. Life cycle of a biomedical translation.

### Translation or Localization phase

The second phase consists of the translation or localization of the source files according to guidelines (specified in the instructions, project order document or in the e-mail itself), together with self-revision or revision by a third party, and editing (self- or third-party verification of accuracy, contextual and cultural appropriateness). At the end of this phase, the translator not only delivers the target text, but also the bilingual files (i.e., an output file of the computer-assisted tool in which both source and target text are saved), an updated translation memory, and a quality control report.

### Post-translation or Post-localization phase

The third phase is dedicated to quality control procedures and consists of five stages.

Linguistic Quality Inspection (LQI) occurs first. This is the revision of (a sample of) files or content according to specific metrics (usually accuracy, terminology, country standards, language quality, style guide/project guidelines, formal correctness, customer-specific requirements) by a Language Quality Control Specialist usually assigned by the Local Section of the International Translation Company.

DTP (Desktop Publishing) or Build occurs second. If the target text is to be a printable document (e.g., flyer, patient information leaflet, packaging material) or static web or online-based content (e.g., online manuals), a master copy is created in Portable Document Format (PDF). This process is called Desktop Publishing. If, on the other hand, the target text is a piece of software, a website, or other kind of non-static, web or online-based content, the translated content is adapted into the software program by an engineer for each language. This is called the build.

Linguistic Sign Off (LSI) or Localization Testing (also called Engineering Quality Assurance) occurs next. Again, depending on the media, another quality control stage may be performed. During this stage, the content is checked in its final media, for example, in PDF or on the website. If the translated content is going to be published in a leaflet, for instance, the linguist checks for language quality and layout issues. If the translated content is going to be part of a piece of software, the content is reviewed for language quality, formatting problems (including truncation, display or incorrect formatting), and consistency between printed and online content.

Country-approval validation is the final step of quality control. In some cases, the final validation is done by an in-country freelance or in-house reviser working more closely with the end-client. It is the job of this linguist to approve the final version of the translated product, taking into consideration the specific requirements of the client and of the locale.

In each of these phases (except the second) the revision is done directly on the translated files or on a scorecard (a specific file where all the changes are marked). The translator is always asked to approve or reject each proposed revision and justify her/his decision. It is only after the reviser and the translator reach a final version, sometimes moderated by the project manager, that the translator has to implement all the agreed revisions in the bilingual file.

#### **3.4.4. Text-types**

This section looks at the text-types of the source texts. Twenty-three different text-types were identified among the translation requests (in no particular order): Training Textbooks and similar materials, Operator Manuals, Software User Manuals, Policy Manuals, Guidebooks, Safety Data Sheets, Material Safety Sheets, Patient Information Leaflets (PIL), Hospital Discharge Letters, Lab Reports, Package Inserts, Labels, Patient Consent Forms, Clinical Trial Agreements, European Commission Correspondence, Medical Consultancy Agreements, Protocol Summaries, News Releases, Notes on Clinical Trial Files, Software, Websites, Sales Call Scripts, and Questionnaires. The most common text-type is the instructional text (i.e., Operator Manuals, Software User Manuals, and Package Inserts). Examples of this are directions for use of a catheter, instructions for use of a

delivery system, or an operation manual for a diagnostic system. This text-type can be described as mainly informative in the sense that the main focus of this content is to clearly communicate the information (based on Reiss 1989, 108–9).

#### **3.4.5. Target audience**

The target audiences of the target texts as specified in the data are health professionals, patients, company employees, researchers, institutions, the general public, and commissioners. Although there is a clear overlap between company employees, researchers, institutions, commissioners, and health professionals, it is apparent from these data that the great majority of target texts are aimed at health professionals (83%). This is a broad category since health professionals can mean the operator of a surgical medical device, a general practitioner, or a family physician. Additionally, it becomes clear that there are text-types aimed at more than one single type of reader.

#### **3.5. Summary**

This chapter set out to identify and summarize the published research on medical and biomedical translation within Translation Studies. The aims, methods, and data of the relevant publications were described. Next, a definition of medical and biomedical translation is presented, along with a brief description of the weight of the medical devices industry, the definition of medical devices and a description of instructional texts. This literature review has shown that even though medical translation is a prolific topic within Translation Studies, very little is still known about translation regularities and their possible motivations from a descriptive and emic perspective, including the beliefs and expectations of translation agents and readers about what they consider to be the “appropriate” relation between source and target biomedical texts.

In the second half of the chapter, a case study was presented to explore the cycle of biomedical translation in the Portuguese translation market context, including who translates biomedical content, for whom and what for, in texts with what function and which other tasks are performed after the translation, by whom and what for. In summary, the data showed that biomedical translation involves a complex network of translation agents performing different translation tasks. Instructional texts, characterized by informative language, were the most common text-type, aimed at health professionals.

In the chapter that follows, the mixed methodology adopted in the collection and analysis of the textual and extratextual data of the main study will be described and discussed.



## **PART II. Methodology**

---

### **Chapter 4 — Process- and Product-oriented Methods and Data**

## CHAPTER 4 — PROCESS- AND PRODUCT-ORIENTED METHODS AND DATA

### 4.1. Introduction

If one aims to study translation as the socio-cultural construct of a translation event and translation act, it is as important to describe the nature of the socio-cognitive processes involved in translation as it is to describe the result of those processes, the target text. To this end, a mixed methodology is employed in this study. By combining process- and product-oriented methods, it is this study's objective to describe the norms and perceived norms involved in the translation of biomedical content and formulate explanatory hypotheses, shedding light on these translators' decision-making processes.

The main research question which guides this study is thus whether the observed and perceived translational norms of novice and experienced translators, revisers, and readers are similar or different regarding source and target orientation. In order to elicit the observed and perceived norms, data have been collected from textual and extratextual sources regarding novice and experienced translators, but also revisers and health professionals. By comparing the textual and extratextual sources of data it is this dissertation's aim to (i) describe the norms of these professionals, (ii) identify potential divergences between the textual and extratextual data of the participants, and (iii) determine whether there is a mismatch between observed and perceived norms regarding the translation of biomedical content.

This chapter deals with the methodology adopted in the collection and analysis of the textual and extratextual data. The first half of the chapter describes and discusses the mixed methodology based on quantitative and qualitative product- and process-oriented approaches to analyze the data resulting from the experiment. To this end, the chapter begins by listing the research questions that have guided the process- and product-oriented methods and data. The chapter then moves on to the general considerations of reporting methods. The next section presents the participants' profiles, selection criteria and recruitment. In the following section, the aim, design and results of a pilot study will be described. Next, the main design is outlined: the materials employed, including the criteria behind the choice of source text, the translation brief and data collection, as well as a description of the data sources, including keylogging, screen-recording, and other complementary methods used to elicit data. The methods used for data analysis, such as the operationalization of the units of analysis, the problem indicators, and the classification of the translation solutions, are also included among the main topics dealt with in this first half.



In the second half, the survey methods and data used in this study are described and discussed. First, the research questions and sub-questions are presented. Second, the main methodological considerations are presented and discussed, thus setting the background against which the study was conducted, including the reasoning behind choosing online self-administered questionnaires, and validity and reliability aspects related to the data collection are addressed. The following section describes the data and informed consent collection. The design of the questionnaires and the phrasing of the questions are discussed next, focusing on the different types of questions used and the reasons behind these choices. The last section is dedicated to discussing the data analysis procedures, focusing on the thematic analysis.

#### **4.2. Experimental data**

The process-oriented branch of Descriptive Translation Studies<sup>1</sup> is interested in what happens in the mind of the translator with the primary aim of describing the translator's mental operations (Englund Dimitrova 2010). In other words, the common goal in this line of research is to “model the architecture and dynamics of comprehension and production in translation based on empirical evidence” (Jakobsen 2014, s.l.). Today's research within this branch is empirical, experimental by its very nature (Fabio Alves and Hurtado Albir 2011, under “First theoretical and empirical steps”) and a broad range of research methods allows the researcher to elicit data “from which cognitive processes can be inferred” (Englund Dimitrova 2010).

The first known studies within process-oriented research date from the 1980s, and Krings' research, which mainly uses verbal protocols, “is considered to be the seminal work in this new emerging paradigm in written translation” (Fabio Alves and Hurtado Albir 2011, under “First theoretical and empirical steps”). Recent years have seen a rapid increase in international attention and publications dedicated to process-oriented research in written translation; this attention is mainly attributed to the research methods and tools now available (Saldanha and O'Brien 2013, iBook location 447). Some publications in the last decade dedicated to this line of enquiry are: Göpferich 2008; Göpferich, Jakobsen, and Mees 2008; I. Mees, Alves, and Göpferich 2009; G. Shreve and Angelone 2010; Cecilia Alvstad, Hild, and Tiselius 2011; O'Brien 2011; Ehrensberger-Dow et al. 2013; Ehrensberger-Dow, Englund Dimitrova, and Hubscher-Davidson 2014; Schwieter and Ferreira 2014; Ehrensberger-Dow, Göpferich, and O'Brien 2015. For an overview of recent publications, see Muñoz Martín (2014).

---

<sup>1</sup> See Holmes' (2000, 177) description of the process-oriented branch.

This section deals with the methods and data related to the experiment, beginning with the research questions these data aim to answer.

#### 4.2.1. Research questions, data, and methods

The process of designing the main experiment involved: (i) determining the research questions; (ii) selecting and recruiting the participants; (iii) developing the task description, including the translation brief; (iv) selecting the appropriate source text; (v) selecting the data elicitation techniques; (vi) conducting the pilot test and implementing the lessons learnt in the main experiment.

In process-oriented translation studies, there is not yet an “established way” to report data, which, as Englund Dimitrova (2005, 83) points out “is potentially both voluminous and difficult to read and interpret out of its context.” The report thus depends on the research design, on the nature of the data, but also on the research question (Saldanha and O’Brien 2013, iBook location 940). This chapter therefore starts by describing the design of the main experiment, beginning with the research question which these data aim to answer: what are the textual regularities regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair? (T1)

This question has a number of sub-questions:

NT. What are the textual regularities regarding source and target orientation of novice translators in the English to European Portuguese language pair?

NTa. What are the translation problems of novice translators in the English to European Portuguese language pair? (process-related question)

NTb. What are the translation solution types of novice translators in the English to European Portuguese language pair? (product-related question)

ET. What are the textual regularities regarding source and target orientation of experienced translators in the English to European Portuguese language pair?

ETa. What are the translation problems of experienced translators in the English to European Portuguese language pair? (process-related question)

ETb. What are the translation solution types of experienced translators in the English to European Portuguese language pair? (product-related question)

To sum up, this part of the study aims to interpret the translation solutions involved in the translation of an instructional text related to a medical device by novice and experienced translators, in relation to the beliefs and expectations of those same translators and the revisers and readers of

the instructional materials in order to determine the translational norms in place. In a second phase, the study aims to compare norms, beliefs and expectations in order to identify whether there is a distinction between observed norms and perceived norms.

#### **4.2.2. Methodological considerations**

Primarily based on the criteria identified by Williams and Chesterman (2002), Neunzig (2011), and Saldanha and O'Brien (2013) to ensure the validity and reliability of research findings, this empirical, experimental and descriptive study is primarily guided by the following aspects: ecological validity, triangulation, replicability, and representativeness.

Ecological validity refers to the “need to conduct research so that it reflects real-life situations” (Saldanha and O'Brien 2013, iBook location 120). Hence, the generalizability of the findings is increased by creating an experiment which reflects a real situation as closely as possible (Neunzig 2011). It is thus essential to design an experiment in which the environment and the task itself influence the participants as little as possible. To that end, it was considered important to use an authentic source text (see § 4.2.5.2.), a plausible translation brief, and a workspace that is as realistic as possible (see § 4.2.5.1.). Nonetheless, the elicitation techniques adopted in this study, as in other process-oriented research, are not a common part of the translator's daily work, and sections 4.2.5.3. and 4.2.5.4., dedicated to keylogging and screen recording, discuss the ecological validity of these research methods.

Triangulation, the combination of diverse methods and data, has been considered a key part of empirical, experimental research (Hansen 2005, para. 1). In order to attain a more comprehensible and significant insight into the translation process, there has been an increasing use of data triangulation, including cross-validating product and process data (Fabio Alves and Hurtado Albir 2011; Kumpulainen 2015, 51). Triangulation is used to refer to “[w]hen two methods are used to collect and analyze data on the same research question ..., which means cross-checking the results one set of data provides with results from another set of data” (Saldanha and O'Brien 2013, iBook location 112-113). As Mellinger and Hanson (2016, Part I) explain, “[t]he use of several methods, measures, or theoretical frameworks to examine a particular phenomenon or behavior improves the *robustness* of study and can corroborate findings across the various measures.” In this study, keylogging and screen-recording data collection methods, together with questionnaire data and product data, were combined in order to ensure triangulation. By triangulating data, it was possible not only to further validate conclusions, but also to “complete ... or reveal gaps or discrepancies and thus provide new knowledge” (Hansen 2005, para. 4).

Next, the principle of replicability is understood as “the extent to which other researchers ... could generate the same results, or come to the same conclusion, if investigating the same questions, using the same data and methods” (Saldanha and O’Brien 2013, iBook location 114-115). In order to allow for replicability, the researcher needs to be methodologically and theoretically transparent, describing the data elicitation techniques and methods of analysis, presenting the theoretical framework, clarifying the terminology used, and ensuring that the same elicitation techniques and analysis methods were applied throughout the study.

The fourth and final principle, representativeness, refers to the extent to which the data collection represents its object of study, taking into consideration the number and types of texts selected, the selection of particular texts, the selection of text samples from within texts, and the length of those samples (Biber 1993, 243). These aspects are of special importance if the researcher aims to generalize based on the findings from her/his corpus. However, the use of large, representative samples in cognitive research is problematic given the large amounts of data produced by empirical, experimental studies, and this has been identified as an area for improvement (Fabio Alves and Hurtado Albir 2011, under “4. Findings of cognitive approaches to translation”). Also, the difficulty in establishing the population from which a representative sample is to be determined further impedes claims of representativeness. In order to consider this study representative of its object of study (translational norms in biomedical translation), the researcher would first have to determine if the source text from which a sample was selected is representative of source texts in the biomedical field. Given the trend towards standardization of texts in the medical field in general (e.g., Montalt 2011; Montalt and González-Davies 2014), it is plausible to hypothesize that the same tendency can be found in the *biomedical* field and, hence, it can be assumed that it is possible to conclude whether or not a given text is representative of this area. However, given the restricted number of studies on biomedical translation, it is not possible at this time to determine whether or not a text is representative of biomedical translation and therefore further work needs to be done to better map this field. Also, tests for statistical significance have not been carried out due to the nature and size of the data.

As the number of studies which combine product and process data to study translational norms in biomedical translation is limited, the current study is innovative but also exploratory in nature, intended to explore the research questions from the perspective of these translators, revisers, and health professionals and lay the foundations for future empirical, experimental, descriptive studies with different groups of participants and/or source texts.

### 4.2.3. Pilot study and lessons learnt

In order to perfect the methodology for the main experiment, a pilot study was conducted between December 2015 and January 2016. The pilot aimed to observe and record the translation products and processes of three novice translators and three expert translators.

Some of the participants were personal acquaintances and the others were selected through a call for participants published in Portuguese translation forums on Facebook. The participants were all professional, trained translators in the English-Portuguese language pair, had postgraduate qualifications in Translation or Terminology, were familiar with computer-assisted translation and were native speakers of European Portuguese. They were either freelance translators or employees of translation agencies or institutions.

The participating novice translators were aged between 25 and 29 years old and had one to two years of experience and the experienced translators were aged between 41 and 50 years old and had fourteen to twenty-five years of experience (see Appendix 6).

The two groups of participants were asked to translate three excerpts of an authentic source text totaling up to 1100 words per participant. Across all participants, each excerpt was translated six times amounting to eighteen target texts. Most participants in the post-interview reported that the time needed to translate the three excerpts was too long for an experiment and that they thought that most translators would not be available for such a time-consuming task. In addition, the volume of data per participant resulting from the pilot study was substantial and the decision was made to reduce the number of words in the source text for the main experiment in order to make the experiment feasible.

The three excerpts were taken from a technical manual on a patient management and monitoring system published by Boston Scientific.<sup>2</sup> The user manual describes and explains how “authorized members of a clinic” can remotely monitor an implanted device (a pacing system) as part of the clinical evaluation of a patient and of remote patient monitoring. The three excerpts (see Appendix 7) were selected taking into consideration the following criteria:

(i) representativeness: each excerpt is representative of a specific section of the user manual (e.g., the introduction describes the function of the device, and the contraindications) so that the participant is familiar with the general structure of the excerpt;

---

<sup>2</sup> For more information on the product and manual, visit <http://www.bostonscientific.com/en-EU/products/remote-patient-monitoring/latitude-NXT.html>.

- (ii) meaning in context: each excerpt is comprehensible and self-explanatory on its own so that the participant easily understands the context without further research; and
- (iii) length: each excerpt does not exceed 400 words and the total number of words for all the excerpts does not exceed 1100.

The data collected were: (i) keylogging data, (ii) screen-recording data, (iii) pre- and post-interviews and (iv) the researcher's observational notes. Each participant was asked to translate one of the excerpts using different combinations of software tools, namely Inputlog + MateCat, Inputlog + usual CAT tool, and Translog II.

Inputlog<sup>3</sup> (for instance, Leijten et al. 2014) is a piece of keylogging software originally designed to research the writing process in Microsoft Word. However, there are several process-oriented translation studies that use this tool to record keylogging data from outside the main keylogging software (as for example Daems 2016). Hence, participants were asked to translate one of the excerpts using a CAT tool of their choice and the other using the online CAT tool Matecat.<sup>4</sup> The participants of the pilot study experienced several problems with Inputlog: on some computers, the software did not run at all or generated several errors during the translation process. For this reason, the software was not adopted for the main experiment. Participants also reported that they felt more comfortable using the Translog editor.

In order to prevent the carry-order effect, the order of the software was randomized (see table below).

Participant	P-NT-01	P-NT-02	P-NT-03	P-ET-01	P-ET-02	P-ET-03
	Translog II	Inputlog + CAT tool	Inputlog + Matecat	Translog II	Inputlog + Matecat	Inputlog + CAT tool
Editor	Inputlog + CAT tool	Inputlog + Matecat	Inputlog + CAT tool	Inputlog + CAT tool	Inputlog + CAT tool	Inputlog + Matecat
	Inputlog + Matecat	Translog II	Translog II	Inputlog + Matecat	Translog II	Translog II

Table 12. Mixed Editor Order.

Columns are labeled with participant codes where NT stands for Novice Translator and ET stands for Experienced Translator.

Regarding the screen-recording software, the software used in the first experiment was CamStudio. However, there were some incompatibility issues between the software and the participants' computers and therefore the software was replaced by Flashback upon the suggestion of one of the

<sup>3</sup> For more information on Inputlog see <http://www.inputlog.net/>.

<sup>4</sup> For more information on Matecat see <https://www.matecat.com/>.

participants. The other tool used was an iPhone voice recorder to record the participants' answers in the pre- and post-interviews.

All six experiments were conducted at the participants' usual places of business and the experiments took place using the participants' own computers (laptop or desktop computers), mice and keyboards to ensure high ecological validity. The researcher was present at all experiments in order to set them up. The participants were instructed to use all their habitual resources—not only the tools they had on their computers, but also any online resources. The majority of the participants reported that the presence of the researcher could be intimidating or intrusive. They said they felt “watched” and therefore the researcher was not present for the main experiment, except in the cases where the participants had asked to perform the task at the researcher's office.

A few days before the experiment, participants received an e-mail with a brief description of the experiment, which did not reveal the research questions or the goal of the experiments, and the consent form. They were asked to read the consent form fully and propose any changes if they felt the need. All the participants agreed to and signed the consent form and none proposed any changes. Consequently, the informed consent form used in the main experiment was the same.

Since the participants were asked to work on their own machines, the screen-recording and keylogging software needed to be installed on the participants' computers. In the case of the first two experiments, the researcher sent detailed instructions and links in the e-mail mentioned above so that the translators could download and install the software themselves before the day of the experiment. However, the first participant experienced unforeseen difficulties with this task, which caused the experiment to be postponed to a later date. Although the second participant did not experience any problems, he advised the researcher that it would probably be better for the researcher to install the software herself upon arrival at the translator's office in order to avoid problems that could affect the experiment and to prevent potential discomfort for the participant if he had to perform a task that he was perhaps not used to doing. Thanks to both these lessons, for the remaining experiments, the researcher installed the software on the translators' computers upon arrival and used the time to explain to them what the software actually did and clarify any questions and concerns regarding access to confidential material stored on the participants' computers. In the main experiment, the researcher sent a detailed document with screenshots explaining the process of using the software in order to avoid any issues.

At the beginning of the experiment, each participant was given an electronic version of the following documents: (i) a translation brief with a personalized task progression form indicating the task order

and the corresponding experiment procedure, and (ii) the source text and the three excerpts thereof in separate files. All instructions were repeated orally before each task.

The data and findings were presented in poster form at the 2016 EST Conference “Boundaries” at Aarhus University, which took place on September 15-17, 2016. A copy of the poster can be found in Appendix 8.

#### **4.2.4. Participants**

There were sixty participants in total in the main experiment, representing four professional categories, namely novice translators (n=15), experienced translators<sup>5</sup> (n=15), revisers (n=15), and health professionals speaking for the intended audience of the translations under analysis (n=15). The purpose of having these four groups of participants was to be able to compare and contrast the textual regularities and belief statements among these participants resulting from their different levels of experience (novice vs. experienced translators) and from their different professions (translators vs. revisers vs. health professionals).

All of the participants were native speakers of European Portuguese, and English was one of the translators’ and revisers’ source languages.

Some of the participants are personal acquaintances and agreed to participate. The remaining participants volunteered in response to a call for participants posted on dedicated Facebook pages for professionals and student associations or after being contacted by e-mail following a selection of appropriate profiles on Proz.com and the APTRAD and APT websites. With respect to novice translators, several staff members of Portuguese universities with higher education degrees in translation were contacted by e-mail and asked to provide contact details of translators who fitted the profile.

It became clear from the pilot study that the participants’ specialization was very important. Even though scientific-technical translators are usually accustomed to an array of different text-types and subject areas, some of the participants in the pilot study explicitly expressed concerns about their lack of knowledge in this area and that they would not feel comfortable accepting this task if it were

---

<sup>5</sup> Englund Dimitrova (2005, 76–77) classifies senior professionals as those with ten to fifteen or more years of experience and junior professionals as translators with less than ten years of experience. Other authors have opted for their own definition of novice and experienced translators. In this dissertation, the terms novice translators and experienced translators were chosen to designate translators with up to two years of experience and translators with more than ten years of experience respectively.



a real assignment. As a result, the recruitment of participants for the main experiment was strict about the specialization of the experienced translators.

There was no compensation for participating. Participants were informed that they could stop their participation at any time and were asked to read and give their agreement in an Informed Consent Form.<sup>6</sup> All data are anonymous, which means that the participants' identities were not known to the researcher during the analysis. To this end, the participants were assigned reference numbers and, later on, they were given fictitious names for the drafting of the dissertation and only relevant translation-related information was released. The fictitious names reflect the participants' genders and, in the case of the three health professionals that preferred not to be identified as either female or male, common Portuguese surnames were given instead.

In the analysis, participants' professional categories were mentioned either in full or using an abbreviated form, namely (NT) for novice translator, (ET) for experienced translator, (RV) for reviser, and (HP) for health professional.

Looking more closely at each group of participants, the novice participants' group comprised fifteen translators (three men) with up to two years of full-time experience, holding a higher education degree from Portuguese universities. The majority of the participants had completed at least one year of a master's program in translation at a Portuguese university. Even though it was not one of the selection criteria, all the novice translators not only reported having experience with medical and biomedical translation but also reported the translated text-types from the medical and biomedical field they more frequently translate (Appendix 13).<sup>7</sup>

The experienced participants' group comprised fifteen translators (three men). Participants' work experience ranged from eleven to twenty-nine years. Most of the translators (twelve) held a higher education degree in translation and were specialized in either medical translation or related areas or had experience translating medical and biomedical content (from one to twenty years of experience in this field).

In addition to the novice and experienced translators, fifteen revisers (seven men) and fifteen health professionals (four men) participated in the questionnaire phase.

All revisers had a minimum of four years' work experience and all had experience in revising medical and biomedical translation. The majority had a degree in translation at BA or post-graduate level,

---

<sup>6</sup> Appendix 1 includes the different Informed Consent Forms in accordance with the different participant profiles.

<sup>7</sup> Appendix 2 provides the background information on the individual participants.

and specialized in medical sciences. Of the two revisers who did not have a degree in translation, one had a DipTrans Certification<sup>8</sup> (Dália), and the other had a first degree in Pharmaceutical Sciences and an MSc in Health and Development (Isaura).

The health professionals were selected based on the premise that they could come across the target text at work. Hence, these fifteen participants (three non-binary, four men) either worked as health professionals or were studying to become health professionals, i.e., medical information specialists (one), biomedical engineers (three, and one student), medical doctors/physicians (one obstetrician, one medical intern, one general practitioner, one medical student), and nurses (five, and one student).

#### 4.2.4.1. Recruitment

During the recruitment phase, more than 180 translators were individually contacted because they answered the call for participants and showed interest in participating, or because they fitted the criteria and were recommended by other translators or universities contacted, or even because their profile had been previously selected from ProZ.com, APTRAD or APT websites. The recruitment phase took place from January 2015 to January 2018.

In general, translators, particularly most experienced, were not available to participate. Those who did not agree to participate mostly gave three reasons: (i) lack of time to spend on research projects, (ii) the need to install software they were not familiar with, or (iii) the methodology adopted in this study, which they considered intrusive, or they expressed that they were unwilling to share their translation processes with the researcher. Other researchers have expressed similar difficulties in recruiting participants. For instance, Bourdieu (2008, 128; also quoted in Saldanha and O'Brien 2013, iBook location 728) comments on “the extremely secretive attitude of a professional milieu that is ill disposed to the prying questions of outsiders” as a difficulty in recruiting participants. In the case of this study, rather than “secretive,” the main reason given for the unwillingness of potential participants contacted to share their translation processes is associated with suspicion and skepticism about translation research and the fear that their processes would be judged negatively. In the end, thirty-two translators participated in the experiment phase, sixteen novice translators and sixteen experienced translators, the data of two which were excluded because of technical issues.

---

<sup>8</sup> The Diploma in Translation (DipTrans) is a postgraduate-level qualification of the responsibility of the Chartered Institute of Linguists.

#### 4.2.5. Design of the main experiment

##### 4.2.5.1. Translation brief and data collection

The participants were sent the translation brief by e-mail, along with an informed consent and the source text in .project format (the format compatible with Translog II, see § 4.2.5.3.). The e-mail message,<sup>9</sup> which was identical for all participants, also added that if the instructions were not clear or if the participant had any technical or other type of issue, she/he could contact the researcher by e-mail or phone.

The translation brief<sup>10</sup> was divided into three sections, namely (i) informed consent, (ii) translation, and (iii) questionnaire. In the first section, the participant was asked to read and sign the informed consent.

The second section, dedicated to the translation task, briefly described the nature of the text, the objective of the translation, and the intended audience. The task consisted of translating a short biomedical text from English to European Portuguese. The text was to be translated bearing in mind that if it were a real situation, the translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience were health professionals. In addition, the client had not sent any resources or additional information other than the text itself.

Since time pressure was not a variable that was under study, the translation brief made it clear that the participant could take as much time as she/he needed. However, given the research tools adopted in this study (screen-recording and keylogging), participants were asked to translate in one go, translating the text from start to finish without stopping, except for natural reasons (for instance, if they needed to take a bathroom break, drink water or eat, or get up to stretch their legs). This meant participants did not have the inconvenience of pausing and restarting the screen-recorder and the keylogging software. Given the length of the text, 244 words, it was plausible that translators could perform the task in one sitting (no more than two hours). Translators could use whatever resources they liked, including paper, digital, and online resources. A detailed explanation with screenshots was also included in this section of the translation brief to show how to download and use the screen-recording and keylogging software. In the third section, participants were asked to answer the questionnaire (see § 4.3.).

---

<sup>9</sup> See Appendix 3 for the e-mail in Portuguese sent to the participants in the experiment phase.

<sup>10</sup> See Appendix 4 for the translation brief in English.

Given that the experimental task aimed to be as similar as possible to a routine translation task for a freelance translator in order to ensure ecological validity, the participants were not asked to come to the laboratory, but to perform the task wherever they preferred. Most preferred to perform the task in their own offices, one experienced translator asked to perform the task at my office (Amélia), and one novice and one experienced translator performed the task at the university (Anabela and Josélia). The data collection was carried out between June 2017 and January 2018.

When the task was finished, the participants sent a copy of all the materials to the researcher's e-mail: the signed informed consent, the keylogging logs (in .xml format), and the screen-recording file (in .fbr format). The questionnaire was completed online (see § 4.3.) and therefore there was no need to send the corresponding file.

#### 4.2.5.2. Source text

The source text used in the main experiment was taken from a published, non-confidential package insert copyrighted by 3M™, a multi-industry or multi-business global company producing biomedical products, among other items. The package insert<sup>11</sup> published<sup>12</sup> on the company's website briefly describes the biomedical device—a Film Dressing with Non-Adherent Pad—the purpose for which it was designed (to cover acute wounds), the contraindications, warnings, precautions, and instructions for use, including storage and shelf life, supply and order information, and an explanation of symbols.

For the main experiment, paragraphs of different sections considered common in this type of text were chosen, namely description, indications, warnings, precautions, and instructions for use. References to product names were removed and sentences were adapted accordingly. This source text contained 244 words according to the word count tool in Microsoft Word. The text used in this study can be found in Appendix 5.

There were several reasons why this source text was chosen. First, it was important that the text-type was from a scientific-technical field. This is also one of the main reasons why the topic of biomedical translation was chosen for this study. The most common text-types selected in process-research studies are taken from newspapers, popular science and travel literature, according to Saldanha and O'Brien (2013, iBook location 116). "While these are legitimate text types for

---

<sup>11</sup> See Chapter 3 for more on the legislation that govern this type of content. For instance, Directive 93/42/EEC (1993b), and Directive 90/385/EEC (1993b).

<sup>12</sup> For the full package insert and other related documentation see <https://multimedia.3m.com/mws/media/4989920/tegaderm-pad-package-insert.pdf> (last accessed 3 July 2018).

translation,” the authors added, “we cannot build more sophisticated process models on evidence from newspaper texts, popular science and travel literature alone” (2013, iBook location 116). Second, based on the literature review, there is a marked predominance of experimenter-constructed texts in process-oriented research, which raises questions of ecological validity (Sjørup 2013 and Teixeira 2014, for instance, are exceptions). Therefore, the source text was also selected based on the fact that this text was part of an authentic translation project in the language pair in question (English to European Portuguese). Although the important pragmatic advantages of using experimenter-constructed texts that fit the purposes of the research and the difficulty of selecting an authentic source text are recognized (since translation companies and direct clients can be reluctant to release their translated material and briefs due to confidentiality concerns), the validity of conclusions reached through experiments using constructed or inauthentic texts related to real translation phenomena can and should be questioned. A third reason for choosing this source text is related to its degree of difficulty, a common concern when selecting a source text for an experimental task. Despite a few exceptions in the literature (Fábio Alves, Pagano, and Silva 2010), there is a predominance of studies that rely on readability indices to measure the complexity of the text and “ensure” comparability between texts regardless of the problems already raised in the literature by, for instance, O’Brien (O’Brien 2004, 2010), Jensen (2011), Hvelplund (2011), Sun and Shreve (2014), among others.

The degree of difficulty is another argument in favor of using texts from authentic translation projects. As part of real projects assigned by direct clients or translation companies to professional translators, participants are more likely to be acquainted with these types of texts, their language and terminology. By using a text that belongs to a real translation assignment entrusted by a translation company to a freelancer specialized in medical and biomedical translation, this dissertation guarantees the task is realistic and provides a high degree of ecological validity.

#### 4.2.5.3. Keylogging

Translation problems and solutions are frequently elicited from participants through think-aloud protocols (TAP). However, the main disadvantage of this method is that it has been shown to slow down the translation process (Ericsson and Simon 1999). In fact, Jääskeläinen (2011, 16) even questions the validity of TAP as a method for translation research, and the method was not adopted for this reason. The researcher also opted not to collect gaze data through an eye tracker despite its increasing popularity as a quantitative research method (for instance Hvelplund 2014). Not only is its potential to contribute to answering the research questions effectively low, but the ecological validity of some eye trackers is questionable, and “the reliability of eye-tracking data as indication of

cognitive processing has not yet received much critical attention in the context of translation research” (Hvelplund 2014, 209). For these reasons, keylogging software was chosen instead.

With the development of keylogging software, innovative perspectives on the translation process have been made possible. Translog,<sup>13</sup> one of the most popular keylogging instruments used in translation process research and the program selected for this study, was initially developed by Jakobsen and Schou (1999) at the Copenhagen Business School and has had several re-implementations. The latest version of this program—Translog-II—records user activity data which include all the translator’s keystrokes and gaze movements (when connected to an eye tracker) allowing the flow of the translation process to be observed (Carl 2012, 2). Keystroke data also include insertion, deletion, navigation, copy, cut and paste, return key and mouse operations (Carl 2012, 2). This information is saved in a log file and from this file the researcher can create other files in order to analyze the data. For this study, the researcher mainly generated the linear view.

This recording does not curb the translation process since the keylogger runs in the background (Carl 2012, 2). However, the elicitation techniques used here are not a common part of the translator’s daily work and the less computer-savvy participants of both the pilot test and the main experiment reported several disadvantages and problems with using the program. By asking the translators to use the Translog editor, with which they were not familiar, the software was not only a constant reminder for the participants that they were being monitored, but also imposed an additional constraint on the translation task. Some participants said that the use of the program created a sense of urgency and time pressure even though it was made clear in the brief that translators could take as much time as they needed; others also mentioned that they usually review the translation a few hours or even days after completing it and that the nature of this study did not allow them to do so. It was also reported that the lack of familiarity with the program created unwanted additional pauses when searching for a specific button or when resizing a window. In spite of these reports, and in particular if compared with other elicitation techniques such as eye trackers and think-aloud protocols, these elicitation techniques are far less intrusive and are hence considered to be more ecologically valid.

#### 4.2.5.4. Screen recording

Screen-recording software has also been used in translation process research, providing complementary information on participant behavior. The combined use of keylogging software in

---

<sup>13</sup> For more information on the software and to download it, visit <https://sites.google.com/site/centretranslationinnovation/translog-ii>.

conjunction with screen-recording software makes it possible to capture both the writing production flow and other onscreen activities carried out by the translator, such as running Google searches or looking up a term in a digital dictionary. This allows for later observation and analysis of problem-solving or decision-making activities. Since screen recording provides additional information as to what happens during a pause, when compared to keylogging data, the researcher has a more accurate picture of decision-making processes. For example, the reported problems of unwanted additional pauses created due to the lack of familiarization with Translog were observed in the screen recording.

Flashback by Blueberry Software (formerly BB FlashBack Screen Recorder),<sup>14</sup> the screen-recording software opted for in this study, is a commercial software which has been previously used by researchers in process-oriented studies (e.g., Pym 2009). Even though it is not the most common in experimental research, there are two main reasons why this software was chosen: (i) in the pilot study, two out of the three participants experienced problems with CamStudio,<sup>15</sup> namely with the installation of the program and compatibility with their operating systems; and (ii) the researcher had previous experience in conducting an experimental study with Flashback (in the context of the PEnPAL in Translation project<sup>16</sup>). Flashback has various versions. The version used in this study was Flashback Pro, which generates one video file with the screen recording and capture of keystrokes in .fbr format. This recording, like the keylogging software, does not constrain the participant's translation process.

#### 4.2.5.5. Other complementary data

Besides the keylogging, screen recording, and questionnaire data (see § 4.3.), e-mails were exchanged with the participants with follow-up questions regarding the physical resources used by the participants during the translation (if any) and any problems encountered during the experiment, including technical and translation problems. The latter was done with the aim of complementing the data and findings from keylogging and screen recording and hence increasing the validity of the data through triangulation. The data on the participants' backgrounds was gathered by e-mail or in person (see Appendix 6).

---

<sup>14</sup> For more information on this software or to download it, visit <https://www.flashbackrecorder.com/>.

<sup>15</sup> CamStudio is an open-source screen and audio recorder originally released by RenderSoft. For more information on CamStudio see <http://camstudio.org>.

<sup>16</sup> For information on the PEnPAL in Translation project, visit <http://www.ulices.org/projects/penpal-in-translation.html> or see, for instance, Gato et al. (2016).

#### 4.2.6. Data analysis

As described in the previous sections, the data for analysis include keylogging files (Translog logs), screen-recording files (Flashback files) and follow-up questions (e-mails). From these files, the researcher has produced:

1. Files that show the time taken to reach the translation solution types, along with postponed, interim and alternative versions made before the translator reaches the final version, and whether or not the translator uses resources to help her/him reach the final translation solution. This information, together with the follow-up questions, help determine the translation problems encountered by novice and experienced translators while translating a biomedical source text (questions NTa. and ETa.).
2. The final target texts of the novice and experienced translators, providing data to determine the translation solution types of both groups of participants (questions NTb. and ETb.).

The analysis process involved the following steps in this order for each participant:

1. Extracting the target text.
2. Extracting potentially problematic units from the Translog file based on time taken to reach the postponed, interim, alternative and final versions, and the corresponding solutions.
3. Identifying and extracting potentially problematic units from the Flashback file, confirming the time taken to reach the postponed, interim, alternative and final versions and the corresponding solutions, and identifying (if applicable) whether or not the translator used online or digital resources to help her/him reach a translation solution.
4. Using follow-up questions to confirm the main translation problems and other potential doubts that arose from the analysis.
5. Classifying the translation solution types (see § 4.2.6.2.) and determining whether they are source- or target-oriented.

##### 4.2.6.1. Defining translation units and problem indicators

The definition of a translation unit and, consequently, of the unit of analysis is a common topic in Translation Studies. A considerable amount of published literature bases its definition on the comparison of source and target texts (Fábio Alves and Vale 2009, 253). These comparisons usually result from a linguistic approach where the translation unit corresponds to a language segment in the source language for which a linguistic equivalent can be established in the target language (Dragsted 2004, 32). Instead of this approach, the translation unit is defined in this study based on



the translator's perspective. Adopting a process-oriented approach, the translation unit is "identified on the basis of cognitive processes observable (indirectly) in a set of data" (Dragsted 2004, 32).

A translation problem<sup>17</sup> in this perspective is the point of departure for the textual analysis and therefore the translation units considered of interest for the analysis are problematic translation units (see § 1.6.1.1.). Translation problems are defined by the translator, in this case. Hence what is considered a translation problem by one translator might not be considered so by another. Problems, from the translator's point of view, arise when she/he does not know the translation solution immediately upon reading a source text item. What the researcher of the translator's process observes when the translator faces a problem is a pause, but that is not all, as will be described in the next section.

### **Problem indicators**

In order to identify problematic units of translation, a classification of problem indicators was used. This was based on Göpferich's (2010b, 116–18, 2010a, 08) proposal which was in turn based on and adapted from Krings' (1986, 21) think-aloud study. Importantly, Göpferich's (2010b, 116–18, 2010a, 08) proposal was also applied to think-aloud protocols. Therefore, the classification used in this study was largely adapted to the identification of problems in keylogging and screen-recording data. This classification distinguishes between primary and secondary problem indicators. Primary problem indicators signal the existence of a translation problem and are considered enough "clear evidence" of the presence of one and, for that reason, for operational purposes, the occurrence of a single problem indicator is sufficient to "count those phenomena as translation problems" (Göpferich 2010a, 08). Secondary problem indicators, however, are only indirect evidence of the existence of a translation problem, signaling the hypothesis of a problem, and therefore these phenomena are considered indicative of translation problems.

The phenomena that are considered primary problem indicators are the following:

- (i) consultation of an external resource (e.g., an online dictionary);
- (ii) writing alternative translation solutions, (i.e., when the translator postpones her/his decision by writing several possible translation solutions, often separated by a single slash);
- (iii) postponed decisions through the use of punctuation marks which signal doubt (such as question marks or suspension points).

---

<sup>17</sup> The distinction between translation problems and translation difficulties—as proposed by Nord—is not adopted in this dissertation, since "it is never clear-cut" (Gambier 2016b, under "3.2 Solving a problem").

The phenomena that are considered secondary problem indicators are:

- (i) an interim version;<sup>18</sup>
- (ii) a pause of, at least, 1 second;
- (iii) omission (which may indicate omission as a conscious translation solution or a problematic area to be resolved at a later stage);<sup>19</sup>
- (iv) non-translation (which may indicate a loan as a conscious translation solution or a problematic area to be resolved at a later stage).

Göpferich (2010b, 117) and Krings (1986) also consider “gaps in the target text resulting from not knowing how to translate certain source-text units” to be primary problem indicators. In this study, this indicator was deemed to be rather vague and not clearly indicative of a translation problem since a “gap” can also be interpreted as an omission and hence a legitimate solution type for a source segment. Instead, the primary problem indicators 2, 3 and 4 were added. Krings (1986) also includes other secondary problem indicators which were not considered applicable for this study (see Göpferich 2010b): underlining the source text since, in the present study, the translations were conducted on a computer; revisions in the target text, which for the purposes of this dissertation are included in the definition of an interim version; and think-aloud data, which was not elicited for this study and hence is not considered relevant, including the participants’ reflections on the function of the target text and other similar issues (“*Metaproblematierungen*”), verbalizations of negative evaluations of target-text units by the translator, vocalized non-lexical phenomena such as sighing, and the inability to think of an equivalent.

The methodological considerations regarding postponed, interim, alternative and final solutions and pauses will be discussed below.

### **Postponed, interim, alternative and final solutions**

During the translation process, the participants were seen to check or self-revise the first draft immediately after writing a target text item, after finishing writing the translation of a full sentence regardless of the number of translation problems in that sentence, and/or at the end of the translation of the entire text. “From the point of view of the researcher,” Toury (2012, 217) points out, this “may be taken as good evidence of a **decision-making** process (Wilss 1994), which is precisely what we are after; that is, decisions that have not only been *formulated in language*, but also *committed to paper*” or, in the present case, committed to the keylogging software Translog-II.

<sup>18</sup> For more on interim versions, see **Postponed, interim, alternative and final solutions** below.

<sup>19</sup> In the keylogging file, what the researcher observes is a textual omission. In other words, the option of not translating a source unit is observed as a lack of information in the target text.

Toury further stressed that the ability to distinguish between textual-linguistic items which posed minor and major problems—represented by the number of interim versions—and textual-linguistic items which did not pose problems—identified by the lack of interim versions—“will certainly enhance our understanding of the constraints to which translators choose to subject themselves, and of the interdependencies and the relative force of them as constraints on the act” (Toury 2012, 218). However, to date, very little attention has been paid to interim solutions as a form of evidence of the decision-making process (Toury 2012, 217).

The phenomenon that describes the type of temporary or potential solutions which externalize the cognitive translation process in writing has been referred to in the literature by means of various terms such as *drafts*, *interim solutions*, *tentative solutions*, *provisional solutions*, and *written alternative translation solutions*. Behind this notion is “the assumption that, as a rule, translators do not attain a result which they are willing to accept (under the norms they have subjected themselves to) in one fell swoop, but rather in *a series of shorter moves*” (Toury 2012, 216).

Mossop (2014) frames this type of decision-making process as self-revision. Discussing self-revision, this author (2014, 182–86) states that—based on self-description during workshops on revision and empirical studies—most production can be described in terms of three phases of translation production, namely (i) pre-drafting, i.e., planning prior to the first written word; (ii) drafting, i.e., the production of the written translation per se, and (iii) post-drafting, i.e., the editing work carried out after the draft. It is in the drafting and post-drafting phases that self-revision takes place.

Borg (2017, 301), on the other hand, defines temporary or potential solutions as “written alternative translation solutions which are generated mentally and externalized in writing: the translator writes down various possible solutions and postpones the choice between these to a later draft.” There is a subtle distinction though between postponed decisions, i.e., when the translator writes several possible translations for a source text unit and postpones the decision to a later time, and other types of tentative or interim solutions, i.e., when the translator externalizes his or her cognitive translation process by writing and rewriting translation solutions until reaching the final version; both signal translation problems, however. Table 13, Table 14 and Table 15 illustrate this distinction with the process data.

Table 13 (next page) provides an example of the observed translation process of a novice translator. On the left, the keylogging data shows the translator’s choices and hesitations using a forward slash and a question mark. On the right, we can see the final version. This is an example of a postponed decision.

	Draft 1	Final TT
<b>Segment 3</b>	O•Penso•com•Compressa•Não•Aderente•é •um•pens•so•impermeável•/resistente• à•água•e•com•uma•barreira?•anti viral•antibacteriana.	O Penso de Película com Compressa Não Aderente é um penso impermeável, com uma barreira antiviral e antibacteriana.

Table 13. Draft data, segment 3 of Novice Translator Graça.

Table 14 provides an example of keylogging data (on the left) which illustrates the observed translation process of another novice translator. In this example, we can see the translator writing the target text with hardly any pauses. After finishing writing the whole sentence, she stops and, after a short pause, replaces the word “traumas” with “danos,” deleting part of the word “(trauma)” and writing “dano.” This is an example of an interim version and the target text.

	Draft 1	Final TT
<b>Segment 14</b>	Não•esticar•o•penso•duante•a•aplicação,•v isto•que•a•tensão•pode•causar•traumas•na• pele.←←←←←←←←←←←←←←←←←←←←←← o•	Não esticar o penso duante a aplicação, visto que a tensão pode causar danos na pele.

Table 14. Draft data, segment 14 of Novice Translator Luísa.

Table 15 below shows an example of the observed translation process of an experienced translator. On the left, the keylogging data shows the translation process of translating “Remove the paper frame from the dressing while smoothing down the dressing edges.” As can be observed, in this first interim version the translation has an omission regarding “smoothing down the dressing edges.” This could be an intentional omission or an indicator of a translation problem whose final decision has been postponed. On the right, the target text shows that the translator opted to translate the omitted section. Amélia, the author of this translation, was contacted after the translation in order to confirm that omission was used as a processing tactic. This is an example of an interim version and the target text.

	Draft 1	Final TT
<b>Segment 22</b>	[▲]•etire•o•papel•protetor•do•penso•enq uanto•[Delete][Delete][Delete]	Retirar o restante papel protetor do penso enquanto este é colocado devagar.

Table 15. Draft data, segment 22 of Experienced Translator Amélia.

## Pauses

In translation process research, it has commonly been assumed that pauses are indicators of cognitive effort and cognitive processing. In other words, the cognitive effort related to the decision-making process and problem-solving in translation manifests as a pause in the translation process. This assumption is based on the notion from cognitive psychology that “the longer the delay between stimulus and response, the more cognitive operations are inferred as being required to produce that response—for a given task” (Butterworth 1980, 155). On discourse production research, a similar assumption is made: “Pauses are assumed to reflect moments in the course of producing a stretch of speech or text where the producer engages in thinking about what to say next, how to say it, or to evaluate what has been said” (Schilperoord 2002, 63).

A minimum pause length must be decided upon to identify and select relevant units of analysis. Defining the minimum pause length can help differentiate between pauses that matter for a particular study and pauses that do not. Hence, studies with different research aims have selected different pause durations. There is therefore a “considerable variation in the operationalisation of pauses in different research settings” (Kumpulainen 2015, 49). For instance, there are researchers who set the minimum pause length as one second (e.g., Jakobsen 1998), two seconds (e.g., Lörscher 1991), three seconds (e.g., Krings 1986), four seconds (A. Jensen 2000), five seconds (e.g., Jakobsen 2003; Englund Dimitrova 2005), and more than five-six seconds (e.g., Fábio Alves and Vale 2009).

However, as Englund Dimitrova (2005, 97) reminds us, the value chosen to define what is to be considered a minimum significant pause for analysis is “to some extent arbitrary and mainly chosen for operational purposes.” Following O’Brien (2006, 14), one second was the minimum pause measurement opted for because a number of studies on pauses in translation use one second as the minimum measurement and adopting the same measurement ensures comparability of results. Importantly, and as Englund Dimitrova (2005, 97) clearly indicated, the researcher only has access to indirect evidence of the translation process since the data recorded by computer loggings “only shows when the unit in question was written down, not when it was actually transferred to the TL in the mind of the translator (cf. Lorenzo 1999: 24).”

The relationship between pause and problem-solving is not linear, however. A pause does not necessarily provide an undoubted indication of cognitive processing. A pause can also signal, for instance, that the translator recalled that she/he has something to do later in the day or that a noise caught her/his attention and the researcher does not have collection methods at her/his disposal to differentiate between pauses that result from cognitive processing related to the translated task and

other pauses. Furthermore, it could be mistakenly assumed that a pause signals cognitive processing directly related to the target unit that is going to be written immediately after the pause. However, that might not always be the case. The translator may be thinking about a translation problem that has already been translated, reading a previous passage or trying to find a solution to a problem further ahead in the text. Pauses have thus not been considered indicative of translation problems unless they occur alongside other indicators.

#### 4.2.6.2. Classification of translation solutions

The most relevant concepts regarding the data analysis will now be discussed before presenting the translation solutions classification adopted.

##### **Macro- and micro-level translation solution types**

The terminology used for the different processes employed by translators to solve translation problems and for how problems are categorized has been as fertile as the number of works dedicated to studying and systematizing these matters (Pym 2016, 1).<sup>20</sup> Strategies, procedures, techniques, and shifts are some of the competing terms used in translation studies to name the same types of processes, as Gambier (2016b) explains. These terms refer to the potentially conscious macro- and micro-processes of accomplishing the translation task. With the aim of standardizing the terminology, Gambier (2016b) proposes the terms “strategies” and “tactics” to refer to global and local problem-solving respectively. Solutions in this perspective are defined as the materialization of those strategies and tactics in the target text and hence strategies activate global or macro-level solutions visible in the target text, while tactics activate micro-level solutions also visible in the target text (recall § 1.6.1.1).

“Translation strategies have been, and are, considered,” as Gambier (2016b) explains, “a kind of operation in the translator’s mind while translating (cf. Lörcher 1991; Jääskeläinen 1993).” Therefore, since the classification carried out in this study is based on a textual comparison of the source text with the different target texts and does not seek to analyze the cognitive processes behind translation, the term “translation solution types” is adopted (following Pym 2016, 2017).<sup>21</sup>

The descriptive process of a researcher interested in analyzing translators’ translation problems can therefore be summarized as the pairing of TT items with ST items followed by a description of the

---

<sup>20</sup> Among the several publications dedicated to this topic, some of the most well-known are Vinay and Darbelnet’s (1958), Nida’s (1964), Catford’s (1965), Malone’s (1988), Newmark’s (1988), van Leuven-Zwart’s (1989), Levý’s (2011), Chesterman’s (1997, 2016b).

<sup>21</sup> Pym (2016) in turn opts for “translation solutions” based on Zabalbeascoa (2000).

“nature of the relationship between the ST segment and the TT segment, and it is precisely the name given to the relationship between these two segments of ST and TT that we can call ‘solution-type’” (Zabalbeascoa 2000, 122).

### **Non-mandatory changes**

The solution types that this dissertation focuses on are linguistic or textual-linguistic. In their simplest form, the translation solution types signal a change (Chesterman 2016b, 89), but not a mandatory change. The changes analyzed in this study are those which are not the result of obligatory grammatical rules (Chesterman 2016b, 90), for instance, the post-modification of noun phrases (e.g., *o cão castanho*) when translating from English (e.g., *the brown dog*), since European Portuguese noun phrases are as a rule post-modified.

### **Comprehension vs. production**

Chesterman (2016b, 89) primarily distinguishes between comprehension and production solution types. Comprehension solution types refer to the translator’s analysis of the source text, including reading the text, creating hypotheses of meaning, testing plausibility, and related documentation tasks (Gile 1992, 253). These are primarily processual and as such they can be observed and studied by researchers by analyzing translation process research data. Even though this type of analysis can lead to interesting and useful insights regarding the translation processes of novice and experienced translators, that is not the focus of this study. This analysis is focused on production solution types, in other words, “how the translator manipulates linguistic material in order to produce an appropriate target text” (Chesterman 2016b, 89).

### **Graded continuum of normative force**

Translators’ behavior is not expected to be 100% systematic or consistent. Translators do not always apply the same translation solution types to problems nor do they always choose source- or target-oriented solutions. The decision-making process is “differently motivated in different problem areas, but it can also be unevenly distributed throughout a translation assignment within a single problem area” (Toury 2012, 89). Hence, translation solutions will be described in terms of (i) the average percentage of translation solutions that are source-oriented and (ii) the average percentage of translation solutions that are target-oriented (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time).

This is not because the translator is inconsistent, incoherent, lacks translation competence or is not aware of her/his work. There are different motivations at play during a translation and, as discussed

before, a variety of constraints and motivations affect translators' decision-making. At the same time, there are some norms which are more forceful than others, representing a graded continuum in terms of normative force (see 1.5.1.).

Therefore, it is important to further describe the tendency to opt for source- or target-oriented translation solution types described in terms of primary norms, secondary norms, and tolerated permitted behavior. It was considered that a model to define and distinguish different levels of tolerated behavior would usefully supplement and extend the quantitative description and analysis of the data. This tripartite model, first proposed by Toury (1995, 67–68, 2012, 90–91), was operationalized by Alvstad (2001, 41) and Rosa (2004, 23–24), allows for the “gradual distinction between norms in terms of *intensity*” (Toury 2012, 89). While Alvstad's (2001, 41) classification defined the norms as those which motivated translation solution types identified in 100% of the analyzed units, prevailing norms as those in 51% to 99% of the translation solutions, and secondary norms as those in less than 50%, the threshold used in this dissertation follows Rosa's (2004, 23–24) model:

- (a) primary norms, which motivate/drive 91% to 100% of the translation solution types identified in the problematic translation units analyzed;
- (b) secondary norms, which motivate/drive 51% to 90% of the translation solution types identified in the problematic translation units analyzed;
- (c) tolerated permitted behavior, which motivate/drive translation solution types identified in less than 50% of the problematic translation units analyzed.

### **Classification**

The classification adopted to describe the translation solution types that the participants in the main experiment tended to use is heavily based on Chesterman (2016b, Chapter 4). Chesterman proposes a “heuristic” classification consisting of thirty syntactic, semantic and pragmatic translation solution types (which he called “strategies”<sup>22</sup> at the time of writing). Chesterman's set aspires to organize the different taxonomies put forward by Translation Studies researchers into one comprehensive proposal, mainly inspired by the work of Vinay and Darbelnet (1958), Nida (1964), Catford (1965), Malone (1988) and van Leuven-Zwart (1989).

---

<sup>22</sup> Recall that Chesterman's typology uses the term strategies for local changes. In the update section of the 2016 edition of *Memes of Translation*, Chesterman, after reading Gambier's (2016b) entry, recognizes the terminological confusion (see 2016b, Chapter 4). Even though Chesterman's typology was adopted and adapted for the analysis of the corpus, usage of the term follows my own choice and is based on Pym.



Since this classification is applied to describing the translation solutions types employed by novice and experienced translators involved in the task of translating an instructional biomedical text from English to European Portuguese, certain solutions types included in Chesterman's classification were not retrieved from the corpus while others were added to be able to accommodate the specificity of the text, the task, and the translators' characteristics and experience. Moreover, the description and analysis of the corpus has shown that no macro-level solution type was used by the translators and hence the categorization presented here is limited to the micro level.

Every deviation from Chesterman's (2016b) typology is clearly identified and explained. Below, each translation solution type is defined and an example from the corpus is given. The classification described here is therefore both theoretically motivated and data-driven. Since several translation solution types can co-occur in a single problematic unit (Chesterman 2016b, 90), it should be noted that the examples provided could also be used to describe others.

Given the aim of the present dissertation, Chesterman's (2016b) proposal was initially re-organized into two main groups: source- and target-oriented translation solution types.<sup>23</sup> A third group has also emerged from the corpus analysis, however. The data show a translation solution type which is not clearly source- or target-oriented. This is clearly marked and discussed at the end.

### **Source-oriented (SO)**

This set of eight syntactic, semantic and pragmatic translation solution types includes:

- SO1: Literal translation
  - (SO1a) Literal translation — Syntactic or Structural calque
  - (SO1b) Literal translation — Lexical calque
  - (SO1c) Literal translation — False friends
- SO2: Loan
- SO3: Source language interference by high-frequency
- SO4: Spelling calque
- SO5: Non-compliance with standard grammar
  - (SO5a) Non-standard syntax
- SO6: Non-compliance with standard terminology

---

<sup>23</sup> Organizing translation solution types based on source or target orientation is not new. Vinay and Darbelnet (1958) distinguished between two methods of translating: direct or literal translation and oblique translation. Within direct or literal methods, they included borrowing, lexical and structural calque and literal translation. In oblique translation, they considered transposition, modulation, equivalence and adaptation. However, it should be noted that, as previously explained in Chapter 1, the descriptivist approaches of scholars such as Toury and the linguistic approaches of authors such as Vinay and Darbelnet are not compatible (see 1.3.1.3.).

SO7: Non-compliance with standard punctuation

SO8: Non-compliance with standard capitalization

### *SO1 — Literal translation*

A literal translation—often considered by some authors (and translators) as the default solution type (see Chesterman 2016b, 92)—was defined by Chesterman as “maximally close to the SL form, but nevertheless grammatical (Chesterman 2016b, 91). This definition is close to Vinay and Darbelnet’s (1958, 48; see also § 1.3.1.3.): “la traduction littérale ou mot à mot désigne le passage de LD à LA aboutissant à un texte à la fois correct et idiomatique sans que le traducteur ait eu à se soucier d’autre chose que des servitudes linguistiques.”<sup>24</sup> Literal translation is considered, in this dissertation, to be the epitome of source-oriented translation (see Chapter 1). Interpreted as syntactic by Chesterman, it is regarded here as both lexical and syntactic and is divided as such. False friends are also included in Literal translation.

#### *(SO1a) Literal translation — Syntactic or Structural calque*

In a syntactic or structural calque, the translator opts to copy<sup>25</sup> the source structure. This translation solution type is often called literal or word for word translation and it is considered a grammatical target language unit. Examples:

ST: Press the dressing into place.

TT: Pressionar o adesivo no local. [Anabela, NT]

TT: Pressione o adesivo no local. [Bárbara, NT]

[Gloss: *Press the dressing on the place.*]

#### *(SO1b) Literal translation — Lexical calque*

In a lexical calque, the translator opts for the target word orthographically closest to the source and corresponding broadly to the semantic meaning of the source.

Example:

ST: The dressing **consists of a** non-adherent, absorbent pad ...

TT: O penso **consiste numa** almofada absorvente, mas não aderente ... [Bárbara, NT]

<sup>24</sup> In the English translation: “Literal, or word for word, translation is the direct transfer of a SL text into a grammatically and idiomatically appropriate TL text in which the translators’ task is limited to observing the adherence to the linguistic servitudes of the TL” (Vinay and Darbelnet 2004, 129).

<sup>25</sup> Pym (2016, 3) names this solution type the “copying structure,” defining it as “Syntactic or compositional structures are brought across from one language into another.”

[Gloss: *The dressing **consists of one** cushion absorbent but non-adherent ...*]

It is important to clarify at this point that it is not my intention to convey the message that there is a one-to-one correspondence between languages. Revisiting the last example: *consists of one* in English is not the same as *consiste numa* in Portuguese. A language cannot be separated from its culture and all that it entails. When a translator opts for a target word which she/he considers closest to the source, the translator is choosing to introduce a word into the target text (and the target language and culture) which may be frequently used in that context in the source language, text-type and context. This does not mean that if the text was written originally in the target language the writer would opt for this word. However, because of repeated use in translation, “there are many fixed calques which, after a period of time, become an integral part of the language” (Vinay and Darbelnet 2004, 85).

*(SO1c) Literal translation — False friends*

Translators also opt for target units which resemble the form of the source unit, but which have a different meaning. This is commonly known as false friends or *faux amis*. This translation solution type is not considered by Chesterman (2016b, 85–112). Examples:

ST: Open package and remove **sterile** dressing.

TT: Abra a embalagem e retire o penso **estéril**. [Bárbara, Graça, Nelson, Odete, NT]

[Gloss: *Open package and remove **sterile** dressing.*]

TT: Abra a embalagem e remova o invólucro **estéril**. [Julieta, NT]

[Gloss: *Open package and remove **sterile** casing.*]

“Sterile” is here translated as “estéril” (meaning infertile) instead of “esterilizado” (meaning sterilized). The use of “estéril” as a synonym of “esterilizado” has become very common to the point that on the Infarmed<sup>26</sup> website the word “estéril” appears 875 times, “esterilizado” eighty-seven times, and “esterilizada” 146 times.<sup>27</sup> Since the use of “estéril” with the meaning of sterilized has become very common, and it could even be said this word has become a former false friend. Example:

ST: ... for covering **acute** wounds.

---

<sup>26</sup> Infarmed—the National Authority of Medicines and Health Products—is the Portuguese agency responsible for the evaluation, authorization, regulation and control of human medicines and health products. Its website is <http://www.infarmed.pt>.

<sup>27</sup> The search was conducted on October 25, 2017.

TT: ... para cobrir feridas **agudas**. [Bárbara, Carolina, Dora, Elzira, Graça, Iolanda, Nelson, Odete, Pedro, NT]

[Gloss: ... *for covering sharp wounds.*]

“Acute,” meaning in this context “severe” or “critical” (see Oxford University Press 2017b, s.l.), was translated by some of the participating translators as “agudas” (the feminine plural adjective for “sharp” or “stressed on the last syllable”). Use of “agudo” to describe wounds has not become as common as the case of “estéril”; “feridas agudas” does not appear on the Infarmed website, “lesões agudas” appears four times, “feridas graves” appears twice and “lesões graves” 459 times.<sup>28</sup> The expressions “lesão” and “ferida” can be considered synonyms in this context.<sup>29</sup>

### SO2 — *Loan*

“Loan, Calque” is considered by Chesterman (2016b, 92) to be an umbrella translation solution type which involves loaning or, in other words, directly transferring from one language to another and literally translating an expression (lexical calque) or syntactic structure (syntactic calque). Since there is an overlap between calque and literal translation, this solution type is defined as involving only direct transfer or loaning from one language to another. Example:

ST: Peel the paper liner from the paper-framed dressing ...

TT: Tire o revestimento de papel da **frame** ... [interim] [Nelson, NT]

[Gloss: *Take the wrapping of paper of the frame ...*]

### SO3 — *Source language interference by high-frequency*

Source language interference by high-frequency describes the choice of a sentence, phrase, clause, or word which, because of its high frequency in translated texts, is preferred by the translator over a dictionary-equivalent translation, for instance. This is not the result of a literal translation of the source unit under study, but thought to be the result of a high number of previous literal translations and, hence, is (potentially) indicative of strong interference by source language forms and as such indicative of tolerance of source language interference.

This solution type is not considered by Chesterman (2016b, 85–112). Example:

ST: **Peel** the paper liner ...

---

<sup>28</sup> The search was conducted on October 25, 2017.

<sup>29</sup> These are considered synonyms following the morphological tool WebJspell developed under the research projects Linguatca and Natura. For more information see <http://natura.di.uminho.pt/webjspell/jsolhelp.pl>.

TT: **Remove** a parte interior ... [Julieta, NT]

[Gloss: **Remove** the lower part...]

To peel means “to remove or separate ... from the outside or surface of something” (Oxford University Press 2017f, s.l.). “Remove” is more frequent in translated instructional texts than “peel” and, therefore, the translator feels more confident in opting for a more common word than dictionary-equivalent translation, for instance “descolar” (Amélia, ET).

#### SO4 — Spelling calque

Within non-standard spellings, examples can be found in the corpus of calques at orthographical level. In these cases, translators are led by the forms of the source units and recreate them in non-standardized spellings. This solution type is not considered by Chesterman (2016b, 85–112).

Example:

ST: This **product** ...

TT: Este **producto** ... [interim] [Hermínia, Nelson, NT]

[Gloss: *This product* ...]

The Portuguese noun “produto” is spelled in an interim version as “producto.”<sup>30</sup>

#### SO5 — Non-compliance with standard grammar

The corpus further includes examples of ungrammatical structures. These are the result of source-oriented solution types since they do not follow the target norm as prescribed by normative grammars recognized in the target context as references for translators, such as “Dicionário de Erros e Problemas de Linguagem” (Nogueira 1995), “Nova Gramática do Português Contemporâneo” (Cunha and Cintra 2000), or *Ciberdúvidas da Língua Portuguesa* (Bom and Costa 2017). This solution type is not taken into consideration by Chesterman (2016b, 85–112).

Example:

ST: ... while the dressing remains ...

TT: ... **enquanto que** o penso permanece... [Bárbara, NT]

[Gloss: ... while the dressing stays ...]

---

<sup>30</sup> See, for instance, Priberam (n.d.) for the standard spelling of the Portuguese word “produto.”

According to Ciberdúvidas da Língua Portuguesa (Bom and Costa 2017), “enquanto que” is considered by some authors to be a structural calque of the French “pendant que” or “tandis que” and is believed to be substandard in European Portuguese.

*(SO5a) Non-standard<sup>31</sup> syntax*

ST: ... bonded to a **larger thin film backing** with a non-latex, hypoallergenic adhesive.

TT: ... fixada a um **suporte mais largo de película fina** com um adesivo hipoalergénico e sem látex. [Carolina, NT]

[Gloss: ... bonded to a **backing wider of thin film** with a non-latex and hypoallergenic adhesive.]

*SO6 — Non-compliance with standard terminology*

Examples can be found in the corpus of non-industry standard terminology. This refers to the choice of non-standard terms, i.e., the use of terms which are considered uncommon in the subject matter or domain, or in the text-type or genre, or for the end purpose or function of the translation. It also includes the use of terms which are not specific to the subject matter or domain, in this case medicine and biomedicine. This solution type is not included by Chesterman (2016b, 85–112). Example:

ST: The **dressing** may be used ...

TT: A **bandagem** pode ser aplicada ... [Felícia, NT]

[Gloss: The **bandage** can be applied ...]

The noun “bandagem” is a loan from the French “bandage” meaning, as in English, “a strip or band of woven material used to bind up a wound, sore, or fractured limb” (Oxford University Press 2017c, s.l.). The semantic difference between “dressing” and “bandagem” is disregarded in this case.

*SO7 — Non-compliance with standard punctuation*

---

<sup>31</sup> Non-standard language refers in this dissertation to the use of language that departs significantly from standard, conventional use according to the general rules of grammar.

Translators sometimes opt for the same punctuation as the source text or for punctuation used according to the rules of the source language (as opposed to the rules of the target language). This solution type is not included in Chesterman (2016b, 85–112).

Example:

ST: The dressing consists of a non-adherent, absorbent pad bonded to ...

TT: Consiste numa compressa absorvente, não aderente ligada a ... [Manuel, NT]

[Gloss: Consists of a pad absorbent, non-adherent bonded to ...]

#### *SO8 — Non-compliance with standard capitalization*

Non-compliance with standard capitalization describes the translator's choice to use the same capitalization as the source text or capitalization used according to the rules of the source language (as opposed to the rules of the target language). This solution type is not included in Chesterman (2016b, 85–112). Example:

ST: Film Dressing with Non-Adherent Pad

TT: Penso Película com tecido não-aderente [interim] [Nelson, NT]

[Gloss: Film Dressing with non-adherent tissue]

In European Portuguese, the norm for titles is the capitalization of all initial capital letters with the exception of prepositions, articles, and uninflected words (see the 1990 Portuguese Orthographic Agreement in Correia, Ashby, and Janssen 2015).

#### **Target-oriented (TO)**

This set of eighteen syntactic, semantic and pragmatic solution types include:

TO1: Transposition

TO2: Unit shift

TO3: Phrase structure change

TO4: Clause structure change

TO5: Sentence structure change

TO6: Cohesion change

TO7: Dictionary-equivalent translation

TO8: Explicitation changes

(TO8a) Explicitation

(TO8b) Implication

(TO8c) Hyponymy/Hypernymy

- TO9: Emphasis change
- TO10: Paraphrase
- TO11: Information changes
  - (TO11a) Addition
  - (TO11b) Omission
  - (TO11c) Other information changes
- TO12: Distribution change
- TO13: Compliance with standard punctuation
- TO14: Compliance with standard terminology
- TO15: Compliance with standard capitalization
- TO16: Compliance with standard spelling
- TO17: Synonymy
- TO18: Converses

#### *TO1 — Transposition*

Transposition is considered a solution type that describes any translation problem involving a change of word class. Example:

ST: ... is a waterproof **bacterial and viral barrier** dressing. [adjectives]

TT: ... é um tipo de bandagem à prova de água, **bactérias e vírus**. [Felicía, NT] [nouns]

[Gloss: ... it is a type of bandage waterproof, **bacteria and virus proof**.]

#### *TO2 — Unit shift*

Introduced by Catford (1965), this solution type involves the translation of a source unit by a different unit. Units are morphemes, words, phrases, clauses, sentences, and paragraphs. Example:

ST: Do not stretch the dressing during application **as tension can cause skin trauma**.

TT: Não ajuste o penso durante a aplicação; **tal tensão poderá provocar um traumatismo na pele**; [Odete, NT]

[Gloss: Do not adjust the dressing during application; **such tension may lead to a traumatism in the skin**;] [English clause becomes Portuguese sentence.]

#### *TO3 — Phrase structure change*



This solution type involves internal structure changes at phrase level, including number, definiteness and modification in the noun phrase and person, tense, and mood in the verb phrase.

Example:

ST: ... can cause skin trauma. [singular]

TT: ... poder provocar lesões na pele. [Eva, ET] [plural]

[Gloss: ... *can cause skin lesions.*]

#### *TO4 — Clause structure change*

Clause structure change refers to the solution type that comprises changes related to the structure of the clause, such as a change from active to passive voice. Examples:

ST: Stop any bleeding at the site before applying the dressing.

TT: Antes de colocar o penso, estanque qualquer possível hemorragia; [Odete, NT]

[Gloss: Before applying the dressing, seal any potential bleeding;] [The temporal adverbial clause in English comes after the main clause and in the Portuguese translation before the main clause.]

ST: Do not use the dressing as a replacement for sutures and other primary wound closure methods.

TT: O penso não deve ser utilizado como alternativa às suturas e a outros métodos primários de encerramento de feridas ou de lesões. [Dora, NT]

[Gloss: The dressing should not be used as an alternative to sutures and other primary methods of closing wounds and lesions.] [Active to passive voice.]

#### *TO5 — Sentence structure change*

Sentence structure change describes a change in the sentence structure. This solution type includes a change from a main clause to a combination of a sub-clause and main clause.

Example:

ST: Position the framed window over the wound site or catheter insertion site **and apply dressing.** [compound sentence]

TT: Posicione o penso sobre a área ferida ou a zona de inserção de um catéter, **de modo a cobri-la;** [complex sentence] [Odete, NT]

[Gloss: *Position the dressing over the wounded area or region of the insertion of a catheter, so as to cover it.*] [The English conjunction “and” + main clause are translated by the Portuguese adverb clause of purpose.]

*TO6 — Cohesion change*

A change in the cohesion of a sentence is a solution type which affects intertextual references, repetition or omission of those references, or the addition or omission of connectors. Example:

ST: **The dressing** consists of a non-adherent, absorbent pad ...

TT: Consiste numa compressa absorvente, não aderente... [Manuel, NT]

[Gloss: *Consists of a non-adherent, absorbent pad ...*]

In this case, it is worth bearing in mind that European Portuguese is considered a null-subject language (Martins and Carrilho 2016, 562) and therefore the above sentence is grammatical.

*TO7 — Dictionary-equivalent translation*

Instead of opting for a lexical calque, the translator opts for a meaning-based translation commonly found as the translation in authoritative bilingual dictionaries. This solution type is not included in Chesterman (2016b, 85–112). Examples:

ST: The Film Dressing with Non-Adherent Pad **is designed for** ...

TT: O Penso de Película com Compressa Não Aderente **é concebido para** ... [Bárbara, NT]

[Gloss: *is conceived for ...*]

TT: O Penso em Película com Compressa Não Aderente **é indicado para** ... [Dora, NT]

[Gloss: *is suitable for ...*]

*TO8 — Explicitation changes*

Chesterman considers Abstraction change and Explicitness change to be two separate solution types, where the former is defined as a change at abstraction level from abstract to more concrete or vice-versa (2016b, 100) and the latter as a change towards either more explicitness or more implicitness (2016b, 105–6). Given that both the name and definition of the solution types can be a source of confusion, this classification proposes a single solution type (Change of explicitation) subdivided into Explicitation and Implication, and Hyponymy/hypernymy. Explicitation “refers to

the way in which translators add inferable information explicitly in the TT” and implicitation to when inferable information is not included in the target text.<sup>32</sup>

*(TO8a) Explicitation*

Examples:

ST: This product is not designed, sold **or intended** ...

TT: Este produto não é concebido, vendido **e não tem o intuito**... [Bárbara, NT] [interim]

[Gloss: *This product is not conceived, sold **and is not intended** ...]*

ST: **Firmly smooth** adhesive border to the skin.

TT: **Cole de modo suave, mas firmemente** a borda adesiva à pele. [Iolanda, NT]

[Gloss: ***Glue in a smooth but firm way to the adhesive border to the skin.***]

*(TO8b) Implicitation*

Example:

ST: ... a larger thin film **backing with** a non-latex, hypoallergenic adhesive.

TT: ... a uma película fina maior **com** adesivo sem látex e hipoalergénico. [Bárbara, NT]

[Gloss: ... a larger thin film **with** a non-latex and hypoallergenic adhesive.]

*(TO8c) Hyponymy/Hypernymy*

A change in the hyponymy/hypernymy relationship. Given that the use of this solution type leads to a more explicit or more implicit target text, it is filed within *Explicitation changes*.

Example:

ST: The dressing consists of a non-adherent, absorbent pad **bonded to** a larger thin film backing...

TT: O penso consiste numa compressa não-aderente e absorvente **colada numa** banda fina, mais larga ... [Odete, NT]

[Gloss: *The dressing consists of a non-adherent, absorbent pad **glued to** a wider thin band ...]*

---

<sup>32</sup> Considerable literature has grown up around the theme of explicitation and, more specifically, the explicitation hypothesis put forward in 1986 by Blum-Kulka “according to which translations are always longer than the originals, regardless of the languages, genres and registers concerned” (Klaudy 1998, 84). For more on this topic, see, for instance, Pym (Pym 2005), Gile (2005), Frankenberg-García (2004), Becher (2010), Mesa-Lao (2011) and Faber and Hjort-Pedersen (2013).

The verb “bond,” according to the American Heritage Dictionary of the English Language (“S.v. ‘Bond.’” 2016), means “To join securely, as with glue or cement.” Therefore, the verb “colar” (glue in English) is considered a hyponym of the more general concept “bond.”

*TO9 — Emphasis change*

The translator opts at micro level to add, reduce or alter the focus of emphasis or theme. Example:

ST: This product is not designed, sold or intended for use except as indicated.

TT: Este produto não se destina a outras utilizações além das indicadas **nem para tal é vendido**. [Anabela, NT]

[Gloss: This product is not aimed at other uses except those indicated, **nor sold in such a way.**]

By emphasizing “nem para tal é vendido” at the end of the sentence, attention is drawn to the aim of the sale of this product, rather than its intended use.

*TO10 — Paraphrase*

The translator rewords, rewrites or recreates the source unit at micro level in such a way that she/he interprets the source unit and renders using different lexical choices. The result can be described as a free translation or as being undertranslated. Example:

ST: Follow your “gauze and tape” protocol for use.

TT: Siga as instruções de utilização. [Graça, NT]

[Gloss: Follow the instructions of use.]

*TO11 — Information change*

Information change includes the addition, omission, and other changes of information considered by the translator to be relevant or irrelevant at micro level. The corpus includes omission, addition, and other information changes.

*(TO11a) Addition*

ST: Do not use the dressing as a replacement for sutures and other primary **wound** closure methods.

TT: O penso não deve ser utilizado como alternativa às suturas e a outros métodos primários de encerramento de **feridas ou de lesões**. [Dora, NT]

[Gloss: The dressing should not be used as an alternative to sutures and other primary methods of closing **wounds and lesions**.]

ST: Film Dressing with Non-Adherent Pad

TT: Penso de película **Transparente** Não-Aderente [Iolanda, NT]

[Gloss: **Transparent** film dressing with Non-Adherent Pad] [Addition of **transparent**]

*(TO11b) Omission*

ST: Peel the paper liner from **the paper-framed dressing** ...

TT: Retire o forro de papel do **penso** ... [Bárbara, NT]

[Gloss: Remove the lining of the paper of **the dressing** ...]

ST: **Film Dressing** with Non-Adherent Pad

TT: **Penso** com Compressa Não-Adesiva [Julieta, NT]

[Gloss: **Dressing** with Non-Adherent Pad] [Omission of **film**]

*(TO11c) Other changes*

ST: Film **Dressing** with Non-Adherent Pad

TT: **Adesivo** de Película com Penso Não-Aderente [Anabela, NT]

[Gloss: Film **adhesive tape** with Non-Adherent Dressing]

In this context, “dressing” refers to “the remedies, bandages, etc. with which a wound or sore is dressed” (Oxford University Press 2017a, s.l.). For reference, the dictionary-equivalent translation for “dressing,” according to Manuila et al. (2004), is “penso.” In this translation, the translator opts to translate “film dressing” as “film adhesive tape.” Example:

ST: The Film Dressing with **Non-Adherent Pad** is ...

TT: A fita para curativos com **bordos não-aderentes** é ... [interim] [Odete, NT]

[Gloss: The strip for dressing with **non-adherent edges** is ...]

A pad, in this context, refers to a wad of absorbent material placed over a wound as a dressing (OED). In this translation, “pad” was translated as “bordos,” meaning “edges.”

*TO12 — Distribution change*

Distribution change affects the use of “equivalent” semantic components, where the translator opts for more items (expansion) or fewer items (compression). Example:

ST: ... a **larger** thin film backing ...

TT: ... uma película fina, **de maior superfície**, ... [Manuel, NT]

[Gloss: ... a thin film with a larger surface ...]

*TO13 — Compliance with standard punctuation*

Translators opt for punctuation based on the rules of the target language (as opposed to the rules of the source language) as fixed by normative resources such as Cunha and Cintra's grammar (2000) or "Guia do Tradutor" (DGT 2015), a Portuguese style guide for translators from the European Commission's Portuguese section of the Directorate-General for Translation. This solution type is not included in Chesterman (2016b, 85–112). Example:

ST: Application:

Open package and remove sterile dressing.

TT: Aplicação:

Abra a embalagem e retire a película esterilizada; [Odete, NT]

[Gloss: Application:

Open package and remove the sterile film;]

According to "Guia do Tradutor" (DGT 2015, 35), items in a list should end with a semicolon.

*TO14 — Compliance with standard terminology*

Compliance with standard terminology describes the choice of standard terms, i.e., the use of terms which are considered common and specific to the subject matter or domain, text-type or genre, or for the end purpose or function of the translation. This solution type is not included by Chesterman (2016b, 85–112). Example:

ST: Film Dressing with Non-Adherent Pad

TT: Penso de Película com Compressa Não-Aderente [Elzira, NT]

[Gloss: Film Dressing with Non-Adherent Pad]

*TO15 — Compliance with standard capitalization*

Compliance with standard capitalization describes the translator's choice to use capitalization according to the rules of the target language (as opposed to the rules of the source language). This solution type was considered useful to describe when a translator writes a target unit in an interim



### TO18 — Synonymy

The translator opts for a synonym or near-synonym at micro level to avoid repetition within the text. It is worth mentioning that tolerance of repetition is low in European Portuguese. Example from Amélia (ET):

ST: Position the framed window over the wound site or catheter insertion **site** and apply dressing.

TT: Posicionar o penso na **zona** da ferida ou no **local** de inserção do cateter e aplicar o penso.

[Gloss: Position the dressing on the wound **zone** or catheter insertion **site** and apply dressing.]

Site in the source text is translated as “zona” and “local” in the target text.

### Other changes (OC)

#### OC1: Typos

The corpus includes typos. These changes are considered non-standard since they do not follow the target norm as stipulated by normative resources, such as dictionaries considered reliable by the participant translators. These are, according to the external resources used in the translation assignment, the online dictionaries Infopédia (<https://www.infopedia.pt/>) and Priberam (<http://www.priberam.pt/Produtos/Dicionario.aspx>). This solution type is not included in Chesterman’s classification (2016b, 85–112). Examples:

ST: The dressing **consists** of ...

TT: O penso é **consituído** por ... [Dora, NT]

[Gloss: The dressing **consists** of ...] The standard spelling of this Portuguese option for “consists” is “constituído” (see, for instance, Infopédia or Priberam).

ST: ... is not **designed** ...

TT: ... não é **cocebido** ... [Hermínia, NT]

[Gloss: ... is is not **conceived** ...] The standard spelling of this Portuguese solution for “designed” is “concebido” (see, for instance, Infopédia or Priberam).

### Excluded target-oriented solution types

A set of solution types included in Chesterman’s classification were not identified in the data. By identifying the solution types the novice and experienced translators chose during their translation process, it was also possible to identify excluded solution types. Since the translation process is a problem-solving process allowing for the non-random choice between different possibilities,



analyzing this not only enables dominant norms to be identified and proposed but also non-normative behavior to be ascertained. As Toury (2012) reminds us: “Any choices simultaneously highlight the excluded alternatives” (68). In this case, these excluded alternatives, all of which are target-oriented, were the following:

*Level shift*

The level of the mode of expression is changed and the levels are phonology, morphology, syntax, and lexis. One of the factors is intonation.

*Scheme change*

Changes related to rhetorical schemes, such as, for instance, parallelism, repetition, alliterations, metrical rhythm.

*Converses*

Pairs of verbal structures expressing the same reality but from different points of view.

*Antonymy*

An antonym is combined with a negation item.

*Interpersonal change*

Interpersonal change describes a change in formality, degree of emotiveness and involvement, and technical lexis.

*Illocutionary change*

Illocutionary change describes a change in speech act.

*Content and coherence scheme change*

This macro-level solution type is related to the order of the content in the target text. Translators can opt to change the content order of the source. Chesterman included this solution type in his taxonomy as *Pr6: Coherence change* which describes “the logical arrangement of information in the text, at the ideational level” (2016b, 107).

*Trope change*

Trope change describes a set of solution types applicable to the translation of rhetorical tropes.

### *Cultural filtering*

Cultural filtering describes the domestication of target language cultural items in order to conform to target norms or cultural references.

### *Partial translation*

Partial translation describes the decision to partially translate the source text. This solution type is chosen depending on the purpose of the translation such as, for instance, a summary translation so that the reader can understand the gist of a source text or the partial translation of an interview to be used in a newspaper article.

### *Visibility change*

Visibility change refers to a change in the presence and status of the translator in the target text by way of adding paratext such as footnotes or endnotes, explanations within brackets, or introduction or forewords.

### *Re-editing*

Re-editing describes a set of (micro-level) solution types or the (macro-level) solution type of re-ordering, rewriting and poorly editing written source texts into clear, coherent target texts. Chesterman (2016b, 108) names this solution type “transediting” based on Stetting’s (Reiter-Palmon et al. 2012) work. However, since Stetting’s “transediting” is commonly applied in Translation Studies to describe the writing activities, including translation and editing, that take place in newsrooms, the term “transediting” is used in this dissertation specifically to describe journalistic translation.

## **4.3. Survey data**

The questionnaire,<sup>33</sup> the main instrument for the collection of participant data in research, is defined by Trobia (2008, 652) as “a set of standardized questions, often called items, which follow a fixed scheme in order to collect individual data about one or more specific topics.” Matthews and Ross (2010, 201; also quoted by Saldanha and O’Brien 2013, iBook location 607) further clarify that a questionnaire is “(1) a list of questions each with a range of answers; (2) a format that enables standardized, relatively structured, data to be gathered about each of a (usually) large number of cases.”

---

<sup>33</sup> In this dissertation, the term “survey” is used to refer to the study design and “questionnaire” to the instrument of data collection (cf. Saldanha and O’Brien 2013, iBook location 452).

Questionnaires have been used to some degree in translation studies. However, good questionnaire design practices have received scant attention in translation literature, as pointed out by Saldanha and O'Brien (2013, iBook location 608). As stated by these authors, published research has not closely described either the design of questionnaires or the rationale behind the choice of types of questions and their relation with construct validity, reliability testing, the effect of low response rates on conclusions, or ethical considerations (see Saldanha and O'Brien 2013, iBook location 608-609).

Since it is not this chapter's aim to introduce the reader to the vast literature on questionnaires in social research, it addresses only aspects related to the design of this study. For an overview on questionnaires as research instruments in Translation Studies, see Chapter 5 of *Research Methodologies in Translation Studies* (Saldanha and O'Brien 2013).

Fowler (1995), Tourangeau, Rips and Rasinski (2000), De-Vaus (2002), Lavrakas (2008), and Matthews and Ross (2010) offer detailed outlines of the literature on questionnaires, including a number of best practices, which were taken on board when designing the questionnaires and collecting and analyzing the data.

The questionnaires were largely identical for the four groups of participants under study: novice and experienced translators, revisers, and health professionals. Consequently, for economy purposes and to avoid unnecessary repetition, this report focuses on only one of the groups of participants, the revisers. The differences among the questionnaires will be pointed out throughout the rest of the chapter.

#### **4.3.1. Research questions, data, and methods**

Drawing on Conrad and Kreuter (Conrad and Kreuter 2017), the process of designing the questionnaires involved: (i) determining the objective; (ii) selecting the mode; (iii) developing the analysis plan; (iv) writing the questions; (v) pretesting the survey questions; (vi) organizing the questions into a questionnaire.

This section presents and discusses the design of the questionnaires, taking as a starting point the research questions about which information is sought, i.e., the objectives:

T2. What are the perceived norms regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair?

RV. What are the translational norms regarding source and target orientation of revisers in the English to European Portuguese language pair?

HP. What are the translational norms regarding source and target orientation of readers in the English to European Portuguese language pair?

MISP1. Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of revisers and the observed and perceived norms of revisers?

MISP2. Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of readers and the observed and perceived norms of readers?

These questions lead to a number of sub-questions, equivalent for all the four groups of participants under study: novice and experienced translators, revisers, and health professionals. As previously mentioned, this report focuses on only one of the groups of participants, the revisers.

Question RV has two sub-questions:

RV1. What are the textual regularities expressed by preference regarding source and target orientation of revisers in the English to European Portuguese language pair?

RV2. What are the perceived norms regarding source and target orientation of revisers in the English to European Portuguese language pair?

Question RV2, the question on revisers' beliefs, has a number of sub-questions:

RV2.1. What are the personal normative beliefs of revisers about themselves?

RV2.2. What are the beliefs of revisers about other revisers, translators, and readers (i.e., the revisers' reference network)?

RV2.3. Do revisers prefer to follow the collective pattern of behavior interdependently or independently of what their reference network does?

Question RV2.2., the question related to the reference network, also has a number of sub-questions, which are:

RV2.2.a. What are the empirical expectations of revisers about other revisers, translators, and readers?

RV2.2.b. What are the normative attitudes of revisers about other revisers, translators, and readers?

RV2.2.c. What are the normative expectations of revisers about other revisers, translators, and readers?

The operational definitions were discussed at length in Chapter 1 (mainly in § 1.6) and therefore will not be repeated here. The methods and data reported in this section are related to the questionnaires and follow-up questions, i.e., questions sent by e-mail to clarify some beliefs, and they focus on the perceived norms and beliefs of the participants.

### 4.3.2. Methodological considerations

The first paragraphs present the data collection procedure. These are followed by a discussion of the issues of validity and reliability.

#### 4.3.2.1. Mode of data collection

Questionnaires, as opposed to focus groups or interviews, were adopted as the data collection instrument for this set of data due to a number of factors, such as the research questions and the efficacy of eliciting beliefs and expectations based on previous literature on social norms and medical translation.

Even though questionnaires were first used in research to elicit factual data, they have become “a popular research tool because they provide a relatively objective and efficient means of collecting information about people’s knowledge, beliefs, attitudes and behaviours (Oppenheim 1992; Sapsford 1999)” (Kuo 2014, 106; also quoted in Robert and Remael 2016, 586). In fact, Bicchieri (2017a, Kindle pages 67-68) identifies questionnaires as the “tool of choice” to measure the different types of beliefs that matter for norm identification: “The first and most important step in norm identification is thus an independent assessment of individual expectations.” Bicchieri continues:

Using questionnaires allows us to measure personal normative beliefs and empirical and normative expectations, as well as to check for their internal consistency. Questionnaires are also the tool of choice to find out whether participants in experiments are aware that a specific norm applies to their situation, as well as to measure consensus about the salience of the norm in that situation. (2017a, Kindle pages 67-68)

The literature identified on expectations in medical translation also resorted to questionnaires, namely Ruuskaanen (1994), Mesa (2000), and Cebrián Sevilla (2004) (see Chapter 3).

Since this part of the study aimed to elicit attitudes, beliefs and expectations in order to answer some of the research questions (see previous section), the choice to use questionnaires as research instruments was mainly based on the fact that previous studies on social norms use these instruments with proven validity. This was not the only reason, however.

Other aspects taken into account when choosing the data collection instrument were the time needed and the nature of the data. Interviews and focus groups are more time consuming than questionnaires and can produce more unstructured data (Saldanha and O’Brien 2013, iBook location 455). In the case of interviews, this was experienced first-hand by the researcher in the pilot study

described in section 4.2.3. Another aspect considered was how the questionnaire should be administered, specifically whether or not the researcher should be present. Since self-administered questionnaires mean participants are less influenced by the researcher and may feel more at ease to answer truthfully, this was the mode chosen (Conrad and Kreuter 2017).

#### 4.3.2.2. Validity and reliability

The quality of research is not only closely connected with the question of validity, but also with reliability. In the context of survey methods and data, validity and reliability can be approached from various viewpoints and these will be discussed in this chapter: the validity of the questionnaire itself, which “rests on whether your research tool measures what it purports to measure” (see mainly Table 16), the design of the questionnaires, which “includes working with operational definitions to try to find questions and answers that will distinguish between the presence or absence of a particular characteristic” (see § 4.3.3.), and pretesting, “to identify issues of validity as well as other possible problems with the questionnaire which can be changed prior to the main research study” (see below under “Internal validity”) (Matthews and Ross 2010, 216).

The validity and reliability of research also includes a discussion of internal and external validity. The first is “concerned with whether you are ‘investigating what you claim to be investigating’ (Arksey and Knight, 1999)” and the second is “concerned with the extent to which ‘the abstract constructs or postulates generated, refined or tested’ are applicable to other groups within the population (LeCompte and Goetz, 1982) or to other contexts or settings (Lincoln and Guba, 1985)” (Ritchie and Lewis 2003, 273).

#### **Internal validity**

Internal validity is thus related to the questionnaire’s ability to effectively provide evidence of the observed and perceived norms of the participants under study. To this end, and in order to ensure the explanatory power of the identified indicators for translational norms, the operational definitions of the main concepts were discussed and established at length (in Chapter 1, mainly § 1.6.) and the phrasing of the statements which express the different types of beliefs were identified in the literature (§ 1.6.1.). Moreover, to enhance the response rate and the understanding and comprehensibility of the questions, the questionnaire was revised by two experts, blind peer-reviewed by two researchers and pretested by two translators, and the lessons learnt were implemented in the final versions of the questionnaires.

An expert revision is a revision conducted by a questionnaire design expert, a subject matter expert, a questionnaire administration expert, or a computer-based expert system with the goal of identifying potential response problems and recommending possible improvements (Conrad and Kreuter 2017). In this study, it was conducted by two subject-matter experts: the supervisors. In addition, the questionnaire also underwent a blind peer review. During the online course “Questionnaire Design for Social Surveys” organized by the University of Michigan in 2018, the questionnaire underwent a blind peer review and received feedback, which was implemented. Finally, the questionnaire was pretested by two translators.

There is, however, a number of threats to validity involved in the use of questionnaires in general and self-administered online questionnaires in particular as data collection instruments.

There is a risk, as in any measurement of beliefs, that participants provide what they think to be a socially desirable answer instead of their observed belief (Bicchieri 2017a, Kindle location 980), where social desirability refers to the “tendency of some respondents to report an answer in a way they deem to be more socially acceptable than would be their ‘true’ answer” (Callegaro 2008, 825). Participants do this, consciously or unconsciously, to “project a favorable image of themselves and to avoid receiving negative evaluations” (Callegaro 2008, 825). This type of respondent-related source of bias is associated with cultural characteristics, personality characteristics, and item characteristics. That is to say, translators may have adapted their answers based on what they think the cultural norms are (cultural characteristics), what they think the social standards are so that they “portray themselves in a favorable light” (personality characteristics), and based on the wording of the question itself (item characteristics) (Callegaro 2008, 825–26). The mode of data collection has also been shown to be a source of desirability bias, that is, when the respondent adapts his or her answer in order to please the researcher. Usually, and according to previous studies, self-administered methods of data collection, such as the online questionnaire conducted in this experiment, result in answers that may reveal the respondents’ beliefs more clearly (Callegaro 2008, 826).

Secondly, extratextual sources of translation behavior are, as amply discussed in Chapter 1, “partial and biased” evidence of norms (Toury 2012, 87–88). There can be a significant difference between what translators say they believe to be the proper and correct way of translating and what they actually believe and do. This distance between the perceived or expressed belief and the observed belief may be the result of different factors, as expressed by Toury (2012, 88): “due either to

subjectivity or naiveté, or even lack of sufficient knowledge on the part of those responsible for the verbalizations.”

In spite of these threats, participants’ data can still be used “conservatively with some reliability,” provided that the researcher acknowledges that the reported statements might sometimes be inaccurate (Gile 2006, para. 4).

Additional problematic aspects are associated with the design itself (e.g., phrasing of questions, types of questions and mode of administration) and with survey methods (e.g., coverage error, sampling error, nonresponse error, measurement error). The following sections will address the aspects that affect the design of this study.

### **External validity**

The external validity of this phase of the study refers to the extent to which the findings are representative of the population of novice and experienced translators, revisers, and readers of biomedical content. In order to consider the findings<sup>34</sup> of this phase representative of a wider target population, the researcher would have to first determine whether the participants selected were representative of this population. However, such an endeavor is not possible for the reasons set out below.

Given the professional status of translators in general and translators in Portugal in particular, it is not possible to ascertain the number of professionals working from English to European Portuguese in medical and biomedical translation. Therefore, it is not possible to (i) determine the total population of medical or biomedical translators, revisers, and readers in the contemporary Portuguese translation market or, as a result, (ii) extrapolate results to the wider population, since it is not possible to determine if the sample selected is representative or not.

As Ferreira-Alves states in his socioprofessional study of Portuguese translators: “it is impossible to quantify the size of the market” (2012, 283, my translation).

There are several reasons for this, some of which are:

(i) the National Statistics Institute does not have statistics about the number of freelance translators, but only of translation companies (most of which are one-person companies and microenterprises);

---

<sup>34</sup> See Chapter 6 and 7 for the findings.



(ii) even though the Portuguese Ministry of Finance has data on how many translators and interpreters are registered with the corresponding “Economic Activity Code,” according to the report “The Status of the Translation Profession in the European Union” (Pym et al. 2012, 18), “informants doubt that this represents the true extent of professional translation activity in the country”;

(iii) since translation is an unregulated activity in Portugal (by law, translations are certified by notaries and lawyers, and court translation and interpreting is entrusted to freelance translators with no specific official status), as in a great number of countries in Europe (Pym et al. 2012, 20–21), the number of professionals not registered with the corresponding “Economic Activity Code” is unmeasurable.

As Teixeira (2014, 173) points out regarding the generalizability of the findings of his own study:

Even though one might be tempted to generalise the findings of individual studies to the translation process in general, it is only the combination of several studies – even if having similar limitations – that can allow us to think that some conclusions are of general nature.

Therefore, as discussed in the previous chapter regarding process- and product-related methods, this study is exploratory and intends to explore the research questions with regard to the sixty participants involved. Further research will be required to test the descriptive hypotheses put forward in this dissertation.

#### **4.3.3. Data collection and informed consent**

The participants were sent the link to the online questionnaire by e-mail, along with the informed consent form.<sup>35</sup> There was no compensation for participating.

The informed consent forms (see Appendix 1) for the four groups of participants were largely identical. The consent forms were provided in English, except for the informed consent forms aimed at the health professionals, which were in Portuguese.

In the introduction, the participants were given a brief description of the context of the study, indicating only that the research was conducted as part of a PhD in co-tutelle at the University of Lisbon and Ghent University, the name of the researcher, and the names of the supervisors and respective universities, in case the participant wanted to contact them.

---

<sup>35</sup> For the participants’ profiles and the recruitment process, see section 4.2.4.

The form was divided in five sections: aim, data collection, data storage, confidentiality, and the participant's rights. In the paragraph describing the aim, it was made clear that the data to be collected would be used only for research purposes. In the following paragraph, it was clarified that the instrument to collect the data was an online form. Regarding data storage, it was stated that the data would be stored in its original format on the researcher's computers and would not be released by any means or shared with any other person or institution. In the next paragraph, which dealt with confidentiality, it was assured that confidentiality would be maintained at all times, that the participant's real name would only be known to the main researcher and that it would be anonymized in the questionnaire, and that the participant's personal data would not be disclosed to any institution or person. Finally, the participant was informed that she/he had the right to refuse to participate in the experiment at any time, including after the data collection. The participant was also ensured the right to access her/his data at any time and to a copy of all the documents based on the data collected by sending an e-mail request to the researcher.

The total number of participants of the main experiment, as previously mentioned, was fifteen for each group, totaling sixty participants. The data collection period of the questionnaires followed the experiment collection period; it was launched in June 2017 and closed in January 2018.

There are many difficulties in using an online questionnaire as a research method and ensuring a high response rate. As Kuo (2014, 115) explains, since "each small design element can cumulatively have a large negative effect on a respondent's willingness to complete a survey," various tactics have to be put in place to ensure that participants are willing to answer the questionnaire and do so from start to finish.

Building on Reips (2000, 110–11; also quoted in Kuo 2014, 116) and on Conrad and Kreuter (Conrad and Kreuter 2017), different attempts were made to persuade the agents to participate in this study. It was stated that the research was serious giving them the opportunity to contact the universities to confirm the reliability of the study, that research cannot be carried out without empirical data and hence that Translation Studies cannot prosper without the help of its agents. Every communication was also personalized by contacting the agent by name after a background check of their profile. Each agent was given further information about the context in which their data would be used (in a PhD dissertation). And, finally, the participant was assured that her/his information would be kept private and that her/his identity would be protected.

#### 4.3.4. Design of the questionnaires and phrasing of questions

The questionnaires<sup>36</sup> were designed using SurveyMonkey, an online survey tool platform.<sup>37</sup> This tool was chosen, rather than Google forms, for instance, because of its statistics features and its compatibility with the NVivo quality analysis software. The platform provides various paid versions, namely Standard, Advantage, and Premier. The version used in this study was Standard, given that it allows for unlimited questions and responses for each questionnaire, data exporting, and text analysis.

The translators' and revisers' questionnaires were in English and the health professionals' questionnaire was in Portuguese. Careful consideration was given to the translation and adaptation of the questionnaire for the health professionals (see Appendix 9). The use of translated questionnaires and the reliability of comparing findings from questionnaires in different languages—in this case, in English and Portuguese—was taken into account even though the literature in Translation Studies dedicated to this topic is limited (see Saldanha and O'Brien 2013, iBook location 610).

On the first online page of the questionnaire, a brief introduction reminded the participant that the questions do not apply to translation in general, but to medical and biomedical translation in particular. The expected time taken to complete the questionnaire, 15 minutes, was included, which was based on the pretesting and the statistics provided by SurveyMonkey considering the number and type of questions. Finally, participants were reminded of their rights and were provided with a link to reread the informed consent.

The revisers' questionnaire consisted of twenty-one questions divided into five sections: (i) profile (five questions), (ii) assessment of the quality of a translation (two questions), (iii) reviser's perception of revisers (of themselves and of their colleagues) (five questions), (iv) reviser's perception of translators (four questions), (v) reviser's perception of the reader of the translation (five questions).

Additional questions were sent by e-mail.<sup>38</sup> After analyzing the findings of the revisers' perceptions, a number of missing questions were identified that apply only to the revisers and not to the

---

<sup>36</sup> For a copy of the three questionnaires, see Appendix 9. These printed questionnaires are a copy of the online questionnaires answered by the participants. The layout and formatting are similar, although not identical, since these are presented in printed form and the online questionnaires were presented in a browser.

<sup>37</sup> See [www.surveymonkey.com](http://www.surveymonkey.com) for more information on the tool used to design and collect the survey data.

<sup>38</sup> See Appendix 10.

translators or health professionals. These questions were sent to the revisers and the answers were elicited between March and July 2018.

It should be noted that the translators' questionnaire also consisted of twenty-one questions but that of the health professionals' questionnaire had only sixteen questions. The differences between questionnaires are related to the participants' different profiles and will be detailed throughout the report. For instance, the translators' questionnaire was divided into four sections: (i) profile, (ii) translator's perception of translators (of themselves and their colleagues), (iii) translator's perception of revisers, (iv) translator's perception of the translation reader. The health professionals' questionnaire was also divided into four sections: (i) profile, (ii) assessment of the quality of a translated text, (iii) health professional's perception of health professionals (of themselves and their colleagues), (iv) health professional's perception of translators. In the case of the health professionals' questionnaire, belief statements about revisers were not elicited because the researcher assumed that the health professionals, in their capacity as translation readers, did not have sufficient insight into the translation workflow to have different expectations regarding both the translators' and the revisers' work.

Different types of questions were employed: open-ended and closed questions, including multiple choice, check-all-that-apply, rating scale (Likert scale and star scale), and yes/no questions.

Open-ended questions are exploratory and provide rich qualitative data, since the respondent "who is asked an open-ended question formulates the answer and gives the response in his or her own words" (Ballou 2008). Data gathered through open-ended questions need to be categorized and coded in order to be used in a quantitative analysis (see § 4.3.5.) (Matthews and Ross 2010, 211). Closed questions "restrict the possible responses to participants" (Saldanha and O'Brien 2013, iBook location 468) and can take different forms.

The questionnaire first concentrates on the textual regularities expressed by preference of the revisers and health professionals by asking them to assess the quality of translations of two excerpts. For each excerpt, a number of possible translations were given for them to choose from in a multiple-choice question. The translations represented source- to target-oriented options. In a second phase, the participants were asked to express their beliefs about themselves and their assumed reference network, namely other translators, revisers and health professionals (representing the readers of the target texts).

Table 16 (next page) summarizes the topics and types of beliefs elicited and the corresponding question numbers (as before, the revisers' questionnaire is used to illustrate all the questionnaires). The questions were grouped in a logical and sequential manner in order to facilitate the understanding of the questions.

Hence, personal empirical and normative beliefs, normative attitudes, and normative and empirical expectations were elicited in accordance with the operational definitions and indicators defined in Chapter 1.

Topics	Type of belief	Question number
Beliefs of revisers about themselves	personal empirical beliefs	9
		12
	personal normative beliefs	11
Beliefs of revisers about other revisers' actions	empirical expectations	10
	normative expectations	unnumbered question sent by email
Beliefs of revisers about other revisers' beliefs	normative expectations	unnumbered question sent by email
Beliefs of revisers about translators' actions	normative attitudes	8
		13
		15
Beliefs of revisers about translators' actions	empirical expectations	14
		16
Beliefs of revisers about translators' beliefs	normative expectations	unnumbered question sent by email
Beliefs of revisers about readers' actions	normative attitudes	17
		20
Beliefs of revisers about readers' actions	empirical expectations	19
		21
Beliefs of revisers about readers' beliefs	normative expectations	18

Table 16. Types of beliefs elicited in this study.

### (1) Profile (Questions 1–5)

In the first section, dedicated to the participant's profile, information was gathered regarding the reviser's main language pairs, the number of years she/he has been working on the revision of medical content, the types of documents she/he has worked with and the three most common text-types.<sup>39</sup> Regarding the types of documents, a list of common text-types in this field was provided based on Montalt and González-Davies' (2014, 29–31) list of frequently translated genres, and the previously identified text-types discussed in Chapter 3. The main aim of these questions (numbers 4 and 5) was to ascertain the relevance of biomedical content translation for the participant in comparison with other medical text-types.

<sup>39</sup> Participants were also asked to provide their name. This information was important to match the questionnaire with the reference number for the participant's profile and, in the case of the translators, to the data previously gathered in the experiment. Participant names were anonymized in order to ensure confidentiality. Therefore, in the analysis the researcher only had access to the answers associated with a reference number rather than the participant's real name.

The novice and experienced translators' questionnaires were similar. The health professionals' questionnaire in Portuguese was also similar, only differing in one question (number 3), in which participants were asked about their fields of study or work.

## **(2) Assessment of the quality of a translation (Questions 6-7)**

In the second section, dedicated to assessing the quality of a translation, the revisers and health professionals<sup>40</sup> were presented with two “checkbox” questions.<sup>41</sup> In both questions, participants were asked to read the instructions given to the translator and choose which of two or three translation options (depending on the question) they considered most appropriate. The aim of these questions was to determine the choices these participants considered to be most appropriate. In other words, whether participants considered source- or target-oriented translation options to be more appropriate for this language pair, text-type, and excerpt. In both questions, the source segments and instructions were derived from the experiment phase (see § 4.2., especially 4.2.6.). As recommended by the literature on survey methodology,<sup>42</sup> an “other” category was included so that respondents could add a different type of translation solution if they did not consider any of the proposed solutions to be the most appropriate.

The instructions given to the translator were the following: “Please translate the text bearing in mind that if this was a real situation your translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience is health professionals. Your client has not sent any resources or additional information other than the text itself.”

### **Question 6**

The source text in question 6 was: “The Film Dressing with Non-Adherent Pad is designed for covering acute wounds. Follow your “gauze and tape” protocol for use. This product is not designed, sold or intended for use except as indicated.”

The translation options were as follows. An analysis of the translation options for each target option is presented in this chapter in square brackets using the classification already discussed in section 4.2.6.2.

---

<sup>40</sup> Translators were not asked to assess the quality of a translation. Instead, as discussed in the previous chapter, translators were asked to perform a translation task (for the methodology related to the experiment see 4.2.).

<sup>41</sup> A checkbox question or “choose from a list” type of question is a closed question used when the researcher wants respondents to choose from a set of answers (Matthews and Ross 2010, 209).

<sup>42</sup> For instance, Matthews and Ross (2010, 209).

**Option A:**

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11b] está concebido [TO7] para aplicação [TO7] sobre feridas agudas [SO1c]. Para o uso correto [TO8a] siga o seu protocolo “gaze e adesivo” [SO1b]. Este produto não foi concebido nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option A is the second most target-oriented option presented, with 7 out of 9 of the translation solution types being target-oriented.

**Option B:**

A película [TO8c] com compressa [TO7] não-aderente [SO1b] é desenhada [SO1c] para cobrir [SO1b] feridas agudas [SO1c]. Siga o seu protocolo “gauze and tape” para utilização [SO1]. Este produto não é desenhado [SO1], vendido [SO1b] nem destinado a utilização exceto como indicado [SO1a].

Option B is the most source-oriented option in comparison with the remaining statements offered, with 8 out of 10 of the translation solution types being source-oriented.

**Option C:**

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11b] foi concebido [TO7] para ser aplicado [TO7] em feridas graves [TO7]. Para uma utilização correta [TO8a] siga o protocolo da sua instituição [TO8a] para a aplicação de gazes e adesivos [TO8a]. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option C is the most target-oriented option, with 10 in 10 of the translation solution types identified being target-oriented.

**Question 7**

The source text in question 7 was:

“Precautions:

1. Stop any bleeding at the site before applying the dressing.
2. Do not stretch the dressing during application as tension can cause skin trauma.”

The translation options are shown below.

**Option A:**

Precauções: [SO1b]

1. Estancar [TO8c] hemorragias [TO7] localizadas [TO10] antes da aplicação do penso [SO1b].
2. Não distender [TO7] o penso durante a aplicação [SO1B] devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão [TO12].

Option A is the more target-oriented option in comparison with the other option offered, with 5 in 8 of the translation solution types identified being target-oriented.

**Option B:**

Precauções: [SO1b]

1. Para qualquer sangramento no local antes da aplicação da película [SO1a].
2. Não esticar [SO1b] a película [TO11] durante a aplicação porque a tensão pode causar [SO1a] traumas [TO3] na pele [SO1b].

Option B is the more source-oriented option in comparison with the other option offered, with 5 in 7 of the translation solution types identified being source-oriented.

**(3) Revisers' perceptions of revisers (of themselves and of their colleagues) (Questions 8-12)**

The next questionnaire section, dedicated to the revisers' perceptions about themselves (self-beliefs) and their beliefs about other revisers, consists of five questions. In the translators' questionnaire, this section elicits translators' self-beliefs and beliefs about other translators, while in the health professionals' questionnaire it deals with health professionals' self-beliefs and beliefs about other health professionals.

The first three items are general, open-ended questions, followed by two "rating scale" questions. This means the typical design of a questionnaire was followed, whereby "a general question [is] followed by a number of more detailed sub-questions" (Matthews and Ross 2010, 212). The first three questions aimed at exploring what the respondents believed to be their own assessment criteria and the criteria of other revisers and elicited three types of beliefs: Q8) the revisers' beliefs



about the essential characteristics of a good translation (normative attitudes);<sup>43</sup> Q9) how the reviser assesses translations (personal empirical beliefs), and Q10) how the reviser thinks other revisers assess a translation (empirical expectations).

The two “rating scale” questions (questions 11 and 12) asked the respondents to rate five statements indicating to what extent they agreed or disagreed with each statement. Respondents could rate each statement using a Likert scale.

Likert scales are considered one of the most popular ways to measure attitudes in survey research and can be defined as “a special type of the more general class of *summated rating scales* constructed from multiple *ordered-category rating items*” (Brill 2008, 427, emphasis in the original). The common categories offered, coinciding with the ones adopted in these questionnaires, are Strongly Disagree, Disagree, Agree, and Strongly Agree. Some researchers include a neutral alternative of Neither Agree nor Disagree. However, this alternative was not given in these questionnaires in order “to force a positive or negative expression of attitude” (Brill 2008, 427) and avoid what the literature has identified as response distortions related to the use of Likert items and their scales. These distortions have been related to a central tendency bias, describing “respondent reluctance to select extreme response categories,” an acquiescence bias, describing respondents’ “desire to choose what they believe is the ‘correct’ or otherwise most appropriate answer,” and social desirability bias, describing “respondents’ attempt to portray themselves or an organization to which they belong in a favorable light” (Brill 2008, 429). These biases are addressed when applicable to the data analysis (see Chapters 5 and 6).

The statements, drawn and adapted from translators’ codes of ethics and style guides, described different views regarding translation appropriateness and expressed values which can be described as source- or target-oriented. The statements were randomized for each respondent in order to minimize the effect of question order.<sup>44</sup> An “other” category was included so that respondents could add a different statement if they knew of any other statements that applied to their or other revisers’ assessment criteria.

---

<sup>43</sup> The translators were not asked this question, since it was assumed to apply only to revisers and health professionals.

<sup>44</sup> The sequence or order in which respondents read and answer questions can affect their answers (De-Vaus 2002, 129). The order of questions can establish a norm of reciprocity or fairness, frame the way in which a question is interpreted, change the salience of alternatives, and can create the part-whole contrast effect (Oldendick 2008). As stated by Oldendick (Oldendick 2008), there is no way to eliminate question order effects and careful consideration must be given to the order of the questions. Randomization is cited by several authors as being useful to minimize question order effect (De-Vaus 2002; Oldendick 2008).

Below, a brief discussion will be presented of the interpretation of the statements offered to the participants as source- or target-oriented and the values associated with them. These themes have been extensively documented in Translation Studies literature and therefore the following discussion is limited.

### **From source- to target-oriented statements**

The source-oriented statements were: “You/other revisers *should* consider a translation appropriate: if it faithfully conveys the message as the author intended” and “You/other revisers *should* consider a translation appropriate: if it conveys the message faithfully.”

These statements are derived from the ATA Code of Ethics and Professional Practice, which reads: “**Faithful**, accurate and impartial translation or interpretation **conveys the message as the author** or speaker **intended** with the same emotional impact on the audience” (ATA 2010, 1, emphasis added). The main key expressions are “faithfully,” “conveys the message,” and “as the author intended,” all of which are connected to values associated with source orientation. A “tradition of sameness” lies at the basis of these values (van Wyke 2010, under “1. A tradition of sameness”).

As van Wyke (2010, under “1. A tradition of sameness”) reminds us, this tradition of invisibility and sameness goes back as far as 20 BCE, when Philo Judaeus prescribed to the Septuagint translators that they should not add nor omit anything, maintaining the form of the “original” (Judaeus 1997, 13). Today, these values live on in style guides, codes of ethics, translation standards, and belief statements.

van Wyke (2010, under “1. A tradition of sameness”) draws from the “Code of Ethics” of the Association of Translators and Interpreters of Alberta, the “Code of Professional Conduct” of the American Translators Association, and the “Code of Professional Practice” of the Fédération Internationale des Traducteurs (FIT) to claim that “most codes of ethics and/or practice directly call for translators to practice fidelity.” Chesterman (2016b, 184–86) also draws from FIT’s Translator’s Charter to discuss the prevailing translational norms and the values which inform them. The charter states that “every translation shall be faithful and render exactly the idea and form of the original – this fidelity constituting both a moral and legal obligation for the translator” (FIT 1994, under “Section I”). Chesterman (2016b, 176) also describes fidelity or faithfulness towards the intended message of the author as values that govern the norm of truth. This much-debated *relation norm* is the norm that applies specifically to translation and can be described as follows: “a translator should

act in such a way that an appropriate relation is established and maintained between the source text and the target text” (Chesterman 2016b, 176).

In quality control procedures, translations that are not faithful are sometimes described as mistranslations.<sup>45</sup> The associated error category is “meaning” and is used to describe a translated segment that does not convey the meaning of the source segment or even the nuance intended. The same category also describes translations which have added or omitted information. However, omissions and additions which are necessary for adaptation purposes are not considered errors.

The statements “You/other revisers *should* consider a translation appropriate: if it is the most natural-sounding translation conveying the meaning of the source text” and “You/other revisers *should* consider a translation appropriate: if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client’s terminology and the style guide” were considered more target-oriented than the first two above. The most target-oriented statement was: “You/other revisers *should* consider a translation appropriate: if the target text was translated as if the text was written originally in Portuguese.” These statements were derived from different proprietary translation style guides and express different values and therefore will be briefly analyzed individually.

If it is the most natural-sounding translation conveying the meaning of the source text: concepts such as fluency, ease of readability, clarity, intelligibility, and natural or natural-sounding translations are usually associated with target orientation. For instance, Venuti (1995) equates a transparent and fluent translation to a domesticated translation, masking the Otherness of the “original.” Chesterman describes the importance nowadays attached to fluency as a consequence of the Rhetoric meme, representing “the first of many pendulum swings between source dominance and target dominance,” adding that “translation is now seen not as source-oriented copying but target-oriented rhetoric, its main concern being audience reception” (2016b, 23). The values behind the concept of natural-sounding and related terms are clarity and understanding. Clarity is “primarily a linguistic value” (Chesterman 2016b, 173) and is quite problematic, since it is subjective, even though it is probably a universal value. The principle behind it is that language can represent reality unambiguously as if reality did not change according to one’s perspective. In this sense, Chesterman defines linguistic clarity as the extent to which “the receiver can, within an appropriate time, perceive the speaker’s intended meaning, the speaker’s intention to say something about the world and/or to produce some effect in the hearer” (2016b, 174).

---

<sup>45</sup> See, for instance, the LISA QA metric, the SAE J2450 metric or the MQM-DQF harmonized metric. Karwacka discusses “mistranslation” in the context of medical translation (2014, 22).

Fluent, natural-sounding translations are not only associated with clarity and understanding principles, but also with linguistic correctness. In quality control procedures, this is usually called readability<sup>46</sup> and it is an error category used to describe translated segments which are not well written or are non-idiomatic. These texts are easily recognized as translations and sometimes they are literal or word-for-word translations. Other examples are unnatural sentence structure, word order, or word combination and uncommon, peculiar uses of a word in context.

If it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide: This statement tries to express the main aspects which are considered important for a quality translation according to the quality control procedures<sup>47</sup> in place in the translation market, i.e., meaning (including mistranslation, addition, and omission), grammar, spelling and punctuation, terminology, and compliance (i.e., following the requirements specified by the client). This statement does not give emphasis to readability even though, as discussed in the previous paragraphs, this is one of the criteria assessed in quality control.

If the target text was translated as if the text was written originally in Portuguese: This statement, the most target-oriented, puts the value of clarity and understanding first, in detriment of conveying the full meaning of the source text. In comparison with the statement "if it is the most natural-sounding translation conveying the meaning of the source text," this statement prioritizes the naturalness of the translation, its readability and understanding to the point of masking its status as a translation, ensuring the translation does not appear to be a translation in the reader's eyes. When a translation is easily recognized as a translation, it is usually equated with literal or source-oriented translations that give priority to conveying the formal traits of the source message over meaning and/or linguistic correctness and readability.

#### **(4) Reviser's perception of translators (Questions 13-16)**

The questionnaire further included a section focused on the revisers' perceptions about translators. In the case of the translators' questionnaire, this section elicited the translators' beliefs about revisers, while in the health professionals' questionnaire, it dealt with their beliefs about translators.

---

<sup>46</sup> Besides the already mentioned LISA QA metric, SAE J2450 metric or MQM-DQF harmonized metric, Karwacka discusses readability in connection with medical translation (2014, 22).

<sup>47</sup> These can also be found in Karwacka (2014, 30).

For translators, this section consisted of seven questions, instead of the four questions in the revisers' questionnaire. After the analysis, however, the researcher felt the need to send additional questions to the revisers. These were sent by e-mail (see Table 16 and Appendix 10).

The translators' questionnaire first included three items of general, open-ended questions which ran parallel to those in the previous section and elicited three types of beliefs: the translators' beliefs about (i) which criteria translators think revisers should use to judge the quality of a translation (normative attitudes); (ii) which expectations translators think revisers have of their work (normative expectations), and (iii) how translators think revisers assess a translation (empirical expectations). The last two items consisted of two "rating scale" questions, in which normative attitudes and empirical expectations were elicited by providing two statements and asking the respondent to what extent she/he agreed or disagreed with each statement. These statements, one more source-oriented and one more target-oriented, were the same for the two questions: "Revisers *should* consider a translation appropriate: if it conveys the message faithfully" and "Revisers *should* consider a translation appropriate: if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide." The reason why participants were not offered the five statements described before to choose from was to keep the questionnaire as short as possible in order to encourage a high response rate, and the statements presented were randomly chosen. An "other" category was included so that respondents could add a different statement if they knew of any other statements that applied to translators.

The next item, a closed-ended question of the "scale rating" type, asked participants how they thought "revisers assess a faithful, literal translation." The Likert scale provided was: very low quality, low quality, medium quality, good quality, and very good quality. The aim of this question was to elicit the empirical expectations of translators about what revisers do, specifically regarding their perceptions about literal translations. Next, a closed "yes/no" question, also related to translators' empirical expectations, sought to determine whether the translators' beliefs are dependent on what they think revisers expect of them: "If you knew revisers evaluated positively non-faithful translations, would you translate freely?"

For the health professionals, this section was equivalent to the revisers' questionnaire.

### **(5) Reviser's perception of the reader of the translation (Questions 17-21)**

The final section of the questionnaire was dedicated to the revisers' perceptions about the readers of the translation and consisted of five questions.

The first three items were general, open-ended questions, followed by two "rating scale" questions. The three open-ended questions, aiming to elicit the normative attitudes, normative expectations and empirical expectations of revisers regarding the readers of the translation, were equivalent to the ones elicited in the previous section.

The two closed-ended questions, eliciting normative attitudes and empirical expectations, asked the participants to indicate to what extent they agreed or disagreed with each statement. The statements were different from the previous section and were selected from the set of five statements presented in the third section. The statements were: "You/other revisers *should* consider a translation appropriate: if it faithfully conveys the message as the author intended" and "You/other revisers *should* consider a translation appropriate: if the target text was translated as if the text was written originally in Portuguese," representing source and target orientation respectively. An "other" category was included so that respondents could add a different statement if they knew of any other statements that applied to translators. The revisers' questionnaire ended here.

The translators were additionally asked a closed-ended question of the "scale rating" type, asking participants how they thought "readers assess a faithful, literal translation." The Likert scale provided was: very low quality, low quality, medium quality, good quality, and very good quality. The revisers were sent this question by e-mail.

This section was not included in the health professionals' questionnaire because the health professionals were representing readers.

#### **4.3.5. Data analysis procedures**

SurveyMonkey collects the responses received and the researcher can analyze the data using an online tool or export it in PDF or spreadsheet format for external analysis. In this case, the researcher chose to export the data for each participant in PDF format for external codification and analysis using NVivo.

NVivo<sup>48</sup> is a popular computer-assisted qualitative data analysis software tool for processing qualitative and mixed-methods data. The software allows for a systematic, transparent qualitative data analysis process by providing an instrument to structure unstructured data. NVivo offers three types of paid editions for Windows: Pro, Plus, or Teams. The version used was NVivo 11 Pro for Windows, since this allows raw data imported from online questionnaires to be managed, indexed, and coded.

The open-ended and closed questions produced unstructured and structured data respectively. The structured data was processed using descriptive statistical analysis to summarize and describe the data. The unstructured data was processed using NVivo as described in the following paragraphs.

The process of coding qualitative data involves organizing data around themes (Saldanha and O'Brien 2013, iBook location 564). The coding process consists of identifying the relevant units of analysis and applying labels in order to group similar statements. The grouping of statements with labels allows the researcher to discover patterns (Saldanha and O'Brien 2013, iBook location 565). In this study, categories were not determined a priori, but emerged from the data. In addition, thematic analysis was the approach adopted to code the qualitative data. Thematic analysis refers to "the process of working with raw data to identify and interpret key ideas or themes" (Matthews and Ross 2010, 373).

One important aspect discussed by Matthews and Ross (2010, 374) is that "although the data must be interpreted, summarized and categorized, we must remain 'in touch' or 'grounded' in the raw data." This is particularly important when analyzing qualitative data, as opposed to quantitative data, in order to avoid a researcher's confirmation bias. Confirmation bias may be defined as "the tendency to notice and to look for what confirms one's beliefs" (Saldanha and O'Brien 2013, 562). Confirmation bias can be avoided if the researcher returns to the raw data at different times throughout the process to look at the data from different perspectives, which was the case for this research.

Figure 10 (next page) shows the coding of the revisers' statements, taking question 18 of the revisers' questionnaire as an example.

---

<sup>48</sup> For more information about NVivo and to download the software, visit <https://www.qsrinternational.com/nvivo/home> (last accessed 28 July 2018).

Nodes

Look for  Search In  Q18 Find Now Clear Advanced Find

Nodes

- ET
- HP
- NT
- RV
  - Q10
  - Q13
  - Q14
  - Q17
  - Q18
  - Q19
  - Q8
  - Q9
- Cases
- Relationships
- Node Matrices

Q18

Name	Sources	References	Created On	Created By
prof. norm		4	02/02/2018 16:34	SV
accuracy		4	02/02/2018 16:38	SV
clarity		4	02/02/2018 16:39	SV
linguistic correctness		3	02/02/2018 16:33	SV
reader-oriented		3	02/02/2018 16:37	SV
readability		3	02/02/2018 16:39	SV
purposeful		1	02/02/2018 16:42	SV
as if originally written in the TL		2	02/02/2018 16:32	SV
natural-sounding		2	02/02/2018 16:38	SV
terminological correctness		2	02/02/2018 16:40	SV
faithfulness		1	02/02/2018 16:32	SV
fluency		1	02/02/2018 16:41	SV

Figure 10. Example of coding in NVivo. Question 18 of the revisers' questionnaire.

In response to the question “In general, what expectations do you think the readers of the translation have of your work?”, the revisers offered their perceptions, which were coded as shown above, grouping statements by themes such as accuracy, clarity, and readability. The coding was further analyzed and themes that did not answer the question of normative expectations regarding the relation between source and target text were eliminated from the analysis, such as, in this case, statements related to the way the revisers themselves think the process should be performed. Appendix 13 shows all the data organized by theme and topic frequency, grouped first by group of participants, followed by type of belief, and then by question. Hence, the figure corresponding to question 18 (the coding of which is shown above) is as follows:

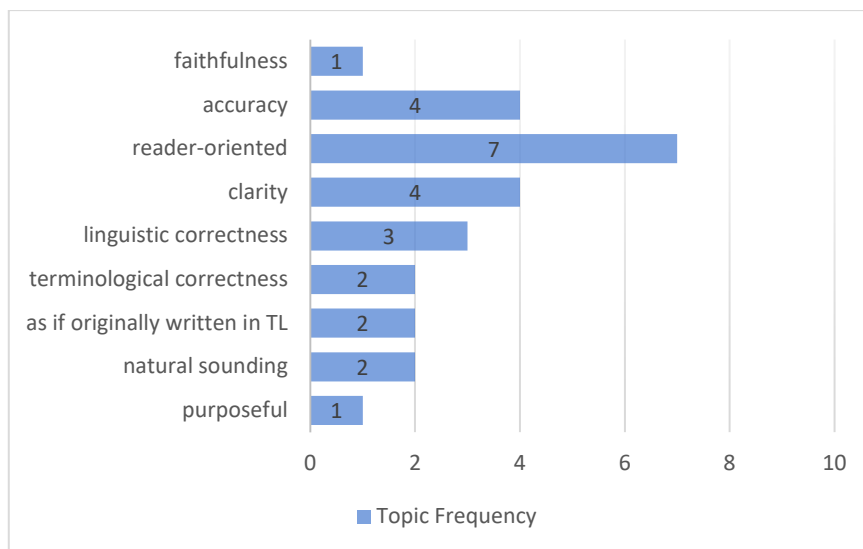


Figure 11. Answer to question 18 of the revisers' questionnaire.



#### 4.4. Summary

This chapter's aim was to report on the process- and product-oriented methods and data of this study. To that end, the chapter was divided in two large sections (4.2. and 4.3.), with the first dedicated to the experimental data and the second to the survey data.

In the first half, the chapter started by listing the research questions the data were intended to answer, followed by a discussion of general methodological considerations (4.2.1. and 4.2.2.). Attention was drawn to the lessons learnt from the pilot study in section 4.2.3. The pilot informed, for instance, the decision to reduce the size of the source text, to use Translog and Flashback, among other lessons. Next, the participants' profiles and recruitment process were presented (4.2.4.). The reasoning behind the choice of the source text and the design of the experiment was explored, including the translation brief, keylogging, screen recording, and the collection of other complementary data (4.2.5.). The next part was dedicated to a report on how the analysis of the data was conducted (4.2.6.). Translation units and the problem indicators were defined, and the classification of textual regularities adopted was discussed. Examples from the corpus were provided in order to clarify the typology. In order to ensure replicability, the terminology adopted was defined, and the data elicitation techniques and methods of analysis were made as clear as possible.

The chapter moved on to report on the methodology behind the questionnaire data. Section 4.3. began by describing the research questions, followed by methodological considerations, and argued that the most appropriate mode of data collection for this study, taking into consideration the research questions, was to use online self-administered questionnaires (4.3.1. and 4.3.2.). Validity and reliability considerations were also discussed in this section. It went on to describe the data collection and informed consents, the design of the questionnaires, and the phrasing of the questions (4.3.3. and 4.3.4.). Among other aspects, this section explained the relation between the indicators and the phrasing of the questions. In the last section, the data analysis procedures were described, paying special attention to coding and thematic analysis (4.3.5.).

The chapter that follows will present the study's findings regarding the novice and experienced translators' norms.

## **PART III. Results and Discussion**

---

**Chapter 5 — Novice and Experienced Translators' Norms**

**Chapter 6 — Revisers' and Health Professionals' Norms**

**Chapter 7 — Discussion and Concluding Remarks**

## CHAPTER 5 — NOVICE AND EXPERIENCED TRANSLATORS' NORMS

### 5.1. Introduction

This chapter presents the findings related to the process- and product-oriented data of fifteen novice and fifteen experienced translators. Based on the analysis methods identified in Chapter 4, it aims to answer the research question of “considering English to European Portuguese biomedical translation in the contemporary Portuguese market, what are the translational norms of novice and experienced translators regarding source and target orientation?” (question T1). This main question has a number of sub-questions. The primary aim of this chapter is to present an analysis of the data gathered and address each of the sub-questions in turn.

The first sub-question, regarding the textual regularities of the novice and experienced translators, is answered in the first half of the chapter (§ 5.2.). These paragraphs present and discuss the results of the experiment phase of the research. The analysis first deals with the translation problems each group of translators faced while translating the source text (sub-questions NTa and ETa)<sup>1</sup>. The translation problems are identified based on process-related problem indicators (as set out in Chapter 4, § 4.2.6.1.). The analysis then deals with the translation solution types activated in response to the problem-solving process (sub-questions NTb and ETb). Section 5.2. reports on the results of this analysis, presenting the textual regularities of the novice and experienced translators in terms of source and target orientation and focusing the discussion on the potential relations identified with the number of translation problems (§ 5.2.1.), the time spent on the task (5.2.2.). Literal translations (source-oriented) and explicitation and information changes (target-oriented) are also described (§ 5.2.3. and 5.2.4.).

The second sub-question, regarding the beliefs of the novice and experienced translators, is answered in the second half of the chapter (§ 5.3.). This section presents and discusses the findings of the questionnaire stage of the research. This part of the analysis intends to identify the personal normative beliefs, empirical and normative expectations, and normative attitudes of the novice and experienced translators. It also aims to understand whether the novice and experienced translators prefer to follow the collective pattern of behavior interdependently or independently of what their reference network does (§ 5.3.5.). Section 5.3.1. reports on the results of this analysis regarding the translators' beliefs about themselves, section 5.3.2. focuses on the translators' beliefs about other translators, section 5.3.3. on the translators' beliefs about revisers, and section 5.3.4. on the translators' beliefs about readers.

---

<sup>1</sup> For the sub-questions NTa and ETa, see § 4.2.1.

The purpose of the final section is to summarize the overall findings and correlate the textual regularities with the novice and experienced translators' beliefs (§ 5.4.).

## 5.2. Textual regularities of the novice and experienced translators

Focusing first on the novice translators' translation processes, interim versions and translated texts, this study identified the main textual regularities in response to translation problems.

Table 17 (below) presents the means of the total source- and target-oriented translation solution types applied by the novice translators in the interim versions and target texts, along with the standard deviations. The table also shows the mean of the total number of problems.<sup>2</sup>

Novice translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	43	46%	65%	8%	59%	61%	2%
<b>DEVIATION</b>	10	6	5	3	10	6	1

Table 17. Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level.

As shown in this table, the novice translators encountered an average of forty-three problems when translating the 244-word biomedical text. In response to these translation problems, the novice translators employed a number of translation solutions which were classified as source-oriented, target-oriented, or other (following the classification discussed in Chapter 4). The novice translators wrote down interim versions when facing certain translation problems. The translation solutions of their interim versions ranged from source-oriented to target-oriented. In this first phase (interim versions), most translation solutions were target-oriented, meaning that, on average, 65% of the novice translation solutions were target-oriented. This indicates that in this first phase the initial norm of target-orientedness is a secondary norm, motivating 65% of translation solutions. However, there is not a large discrepancy between the average percentages of source-oriented and target-oriented translation solutions employed in this phase. On average, 46% of the interim translation solutions were source-oriented, indicating that these translators also consider source-oriented translation solution types to be tolerated permitted behavior. (The *Other* category, indicating typos, is not considered relevant to answering the main research question and therefore it will not be included in this discussion.)

<sup>2</sup> For a breakdown by novice translator and by experienced translator, see Appendix 12.

Table 18 (below) presents the same type of data as the previous table but for the experienced translators.

Experienced translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	42	73%	50%	45%	64%	57%	1%
<b>DEVIATION</b>	14	11	5	12	14	5	0

Table 18. Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, group level.

The experienced translators faced an average of forty-two problems when translating the same text as the novice translators, a very similar mean to the number faced by the novice translators. In contrast to the novice translators, though, the experienced translators employed more source-oriented than target-oriented translation solutions in the interim versions: on average, 73% of the experienced translation solutions were source-oriented, while 50% were target-oriented. These numbers also indicate that in the first phase, the initial norm of source-orientedness is a secondary norm, motivating 73% of the translation solutions, and that the initial norm of target-orientedness is considered tolerated permitted behavior, motivating 50% of the translation solutions.

In their final translations, the novice translators again used both source- and target-oriented translation solutions (see Table 17 and Table 18, on the previous page and above). The data show that, on average, 59% of the novice translators' translation solutions were source-oriented and 61% were target-oriented (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time). The experienced translators also used both source- and target-oriented translation solutions: on average, 64% of the experienced translators' translation solutions were source-oriented and 57% were target-oriented (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time).

When comparing interim versions and target texts, it can be observed that there is an increase in source-oriented translation solutions among the novice translators from a mean of 46% to 59%, and target-oriented translation solutions also decrease from a mean of 65% to 61%. Among the experienced translators, there is a decrease in source-oriented translation solutions from a mean of 73% to 64%, and an increase in target-oriented translation solutions from a mean of 50% to 57%.

Nonetheless, these data must be interpreted with caution because the standard deviation is somewhat high. Standard deviation, measuring the “dispersion of the cases around the mean” (Matthews and Ross 2010, 354), shows a large amount of variation in the group. This suggests that these groups of novice translators and experienced translators are not homogeneous. In other words, when translating the same source text, these translators demonstrated somewhat varying behavior. However, process research has shown that there is individual variation, even “wide individual variation in the processes of novices as well as those of skilled professionals,” and therefore “it is dangerous to make sweeping generalizations about translation processes” (Tirkkonen-Condit 2005, 406). In the following two sections, possible explanations for this somewhat high standard deviation are discussed, namely the number of problems (§ 5.2.1.1.) and temporal aspects (§ 5.2.1.2.).

### **5.2.1. Number of translation problems**

A potential relation was identified between the number of problems and source- and target-oriented translation solutions that may plausibly explain the somewhat high standard deviation discussed in the previous section.

The novice translators faced between twenty-seven and sixty-four translation problems. The experienced translators faced between twenty-four and seventy-two problems. The source text was easier for some of the thirty translators than for others. Considering a mean of forty-three problems in the case of the novice translators and forty-two in the case of the experienced translators, this indicates that in both cases nine of the translators from each group faced fewer problems than the remaining six translators. Given that the standard deviation is high and that there is a possible connection between the number of problems and source or target orientation, for each group of translators, the findings of the translators were split into two subgroups: a first group consisting of translators who faced fewer problems than the mean and a second group consisting of those translators that faced more problems than the mean.

Table 18 and Table 20 (on the next page) provide the source- and target-oriented translation solutions and range of scores for each subgroup of novice translators. The first table shows the findings of the group of novice translators with the lower number of translation problems, and the second table shows the findings of the group with the higher number of translation problems.

The first group of novice translators, with the lower number of translation problems—consisting of Anabela, Bárbara, Carolina, Dora, Elzira, Felícia, Graça, Iolanda, and Manuel—show a tendency to

opt for target-oriented solutions when writing down their interim versions (65%) and when making their final decisions in the target text (62%) (see Table 18 below).

Novice translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	36	37%	65%	2%	54%	62%	1%
<b>DEVIATION</b>	5	5	5	0	6	5	0

Table 19. Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the lower number of problems based on the mean of 43.

The second group of novice translators, with the higher number of translation problems—consisting of Hermínia, Julieta, Luísa, Nelson, Odete, and Pedro—shows a tendency to opt for source-oriented solutions in the final versions of the target text (68%). This group also shows a tendency to opt for target-oriented translation solutions in the interim versions (64%) (see Table 20 below).

Novice translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	53	60%	64%	17%	68%	58%	3%
<b>DEVIATION</b>	6	5	4	3	7	3	2

Table 20. Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the higher number of problems based on the mean of 43.

Similarly, Table 21 and Table 22 (on the next page) provide the source- and target-oriented translation solutions and range of scores for each subgroup of experienced translators. The first table shows the findings of the group of experienced translators with the lower number of translation problems and the second table shows the findings of the group with the higher number of translation problems.

The first group of experienced translators, with the lower number of translation problems—consisting of Amélia, Beatriz, Catarina, Débora, Eva, Filipa, Josélia, Maria, Nádia—show a tendency to opt for source-oriented solutions when writing down their interim versions (71%) and they show a tendency towards target orientation when making their final decisions in the target text (64%) (see Table 21).

Experienced translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	32	71%	57%	44%	58%	64%	1%
<b>DEVIATION</b>	6	5	2	9	6	4	0

Table 21. Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the lower number of problems based on the mean of 42.

Experienced translators	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	56	76%	39%	46%	73%	46%	1%
<b>DEVIATION</b>	10	12	7	14	13	4	1

Table 22. Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, group level. Group that faced the higher number of problems based on the mean of 42.

The second group of experienced translators, with the higher number of translation problems—consisting of Gonçalo, Helga, Ivone, Lúcio, Orlando, and Pilar—shows a tendency to opt for source-oriented solutions in the interim version and in the final version of the target text (76% and 73% respectively) (see Table 22 above).

### 5.2.2. Temporal aspects

Another possible relation was identified between the time spent on the translation task and source- and target-oriented translation solutions that may potentially explain the somewhat high standard deviation discussed in section 5.2.1.

The novice translators spent between 763 seconds and 7821 seconds translating the source text (in other words, between twelve minutes and forty-three seconds, and two hours, ten minutes and twenty-one seconds). The mean time is 3096 seconds (fifty-one minutes, thirty-six seconds), with an understandably high standard deviation of 1675. The experienced translators spent between 1105 and 9998 seconds translating the same source text. In other words, between eighteen minutes and twenty-five seconds and two hours, forty-six minutes and thirty-eight seconds. The mean time is 3317 seconds (fifty-five minutes and seventeen seconds), with an equally high standard deviation of 2030.



Given that the standard deviation is high and that there is a possible connection between total time spent on the translation task and source or target orientation, the findings were split in two subgroups for each group of translators: a first group consisting of the translators that spent less than the mean time translating the source text and a second group consisting of the translators that spent more than the mean time translating the source text.

Table 23 and Table 24 (below) provide the source- and target-oriented translation solutions and the range of scores for each group. The first table shows the findings of the group of novice translators with the least time spent and the second table shows the findings of the group with the most time spent.

The first group of novice translators, with the least time spent—consisting of Bárbara, Elzira, Iolanda, Julieta, Luísa, Manuel, Nelson, and Pedro—show a tendency to opt for source-oriented solutions in the final version (65%) and a slight tendency to opt for source-oriented translation solutions when writing down the interim versions (55%) (see Table 23 below). In the interim versions, the difference between source- and target-oriented translation solutions is not considered relevant for this discussion since it is very small (55% and 58% respectively).

Novice Translators	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	1968	55%	58%	7%	65%	57%	1%
<b>DEVIATION</b>	844	6	4	1	8	5	1

Table 23. Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions at group level (seconds). Group with least time spent based on the mean of 3096 seconds.

Novice Translators	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	4385	37%	72%	9%	52%	64%	3%
<b>DEVIATION</b>	1445	5	5	3	11	7	3

Table 24. Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level (seconds). Group with most time spent based on the mean of 3096 seconds.

The second group of novice translators, with the most time spent—consisting of Anabela, Carolina, Dora, Felícia, Graça, Hermínia, and Odete—show a tendency to opt for target-oriented solutions in both the interim (72%) and final versions of the target text (64%) (see Table 24, previous page).

Similarly, Table 25 and Table 26 (below) provide the source- and target-oriented translation solutions and the range of scores for each group of experienced translators. The first table shows the findings of the group of experienced translators with the least time spent and the second table shows the findings of the group with the most time spent.

The first group of experienced translators, with the least time spent—consisting of Beatriz, Catarina, Débora, Eva, Filipa, Gonçalo, Lúcio, Maria, Nádia, and Orlando—show a tendency to opt for source-oriented solutions in both the interim versions and in the target text (73% and 65%, respectively) (see Table 25 below).

Experienced Translators	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	2377	73%	50%	52%	65%	54%	1%
<b>DEVIATION</b>	734	12	5	13	16	4	0

Table 25. Time spent on the task and experienced translators' source-oriented, target-oriented and other solutions in interim and final versions at group level (seconds). Group with least time spent based on the mean of 3317 seconds.

The second group of experienced translators, with the most time spent—consisting of Amélia, Helga, Ivone, Josélia, and Pilar—show a tendency to opt for source-oriented solutions in the interim versions (74%) (see Table 26 below). In the final versions, the difference between source- and target-oriented translation solutions is not considered relevant for this discussion since it is very small (63% and 62% respectively).

Experienced Translators	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<b>MEAN</b>	5198	74%	49%	30%	63%	62%	1%
<b>DEVIATION</b>	2446	9	2	2	9	4	0

Table 26. Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions, group level (seconds). Group with most time spent based on the mean of 3317 seconds.

### 5.2.3. Source-oriented solution types

During the analysis, one group of source-oriented translation solutions stood out as more common than the others and therefore accounted for most of the source-oriented solutions used, i.e. literal translations, including syntactic or structural calque, lexical calque and false friends. The next section take a closer look at literal translations in both the interim versions and the target texts.

#### 5.2.3.1. Literal translations

When comparing only the literal translation solutions in the interim versions and target texts, the novice and experienced translators proceeded from less literal translations to more literal ones, i.e. on average, 26% of the interim translation solutions by novice translators were literal translations, and, on average, 40% of the final translation solutions were literal translations; while, on average, 54% of the interim translation solutions by experienced translators were literal translations, and, on average, 59% of the final translation solutions were literal translations.

	Interim 1	Target text
	Literal translations	Literal translations
<b>MEAN</b>	26%	40%
<b>DEVIATION</b>	13	11

Table 27. Novice translators' literal translations in the interim versions and target texts, group level.

	Interim 1	Target text
	Literal translations	Literal translations
<b>MEAN</b>	54%	59%
<b>DEVIATION</b>	15	15

Table 28. Experienced translators' literal translations in the interim versions and target texts, group level

### 5.2.4. Target-oriented solution types

During the analysis, one group of target-oriented translation solutions stood out as more common than the others and therefore accounted for most of the target-oriented solutions used. These are explicitation changes (including explicitation, implicitation, and hyponymy/hypernymy) and information changes (including addition, omission and other information changes). Table 29 and Table 30 (next page) show the percentage of explicitation and information changes in the interim versions and target texts of novice and experienced translators respectively at group level.

	Interim 1			Target text		
	Total	Explicitation changes	Information changes	Total	Explicitation changes	Information changes
<b>MEAN</b>	58%	16%	42%	43%	15%	26%
<b>DEVIATION</b>	3	2	3	7	3	6

Table 29. Novice translators' explicitation and information changes in the interim versions and target texts, group level.

	Interim 1			Target text		
	Total	Explicitation changes	Information changes	Total	Explicitation changes	Information changes
<b>MEAN</b>	61%	22%	39%	54%	25%	29%
<b>DEVIATION</b>	5	3	3	5	3	3

Table 30. Experienced translators' explicitation and information changes in the interim versions and target texts, group level.

In the interim versions, explicitation and information changes account for, on average, 58% of the target-oriented translation solutions among the novice translators, and, on average, 61% among the experienced translators. Information changes account for the majority of these changes, on average, 42% and 39% respectively.

In the target text, explicitation and information changes account for, on average, 43% and, on average, 54% of the target-oriented translation solutions identified among the novice and experienced translators respectively. Information changes account for the majority of these changes with, on average, 26% and, on average, 29% among the novice and experienced translators respectively. The standard deviation of the mean of both explicitation and information changes is lower in comparison to the standard deviation of the mean of all the target-oriented translation solutions (see Table 17 and Table 18 on § 5.2.). This indicates that, concerning explicitation and information changes, the behavior is more homogeneous.

The next two sections take a closer look at explicitation and implicitation changes in both the interim versions and the target texts.

#### 5.2.4.1. Explicitation changes

Table 31 and Table 32 (next page) show the average percentages of explicitation, implicitation, and hyponymy/hypernymy in the interim versions and target texts of the novice and experienced translators, as well as the standard deviation.

It can be seen from the data in these tables that the most common type of changes in the interim versions for novice and experienced translators is hyponymy/hypernymy<sup>1</sup>, with an average of 27% and 51% respectively. In the interim versions, the novice translators use more implicitation than explicitation in comparison with the experienced translators.

Translator	Interim 1			Target text		
	Explicitation	Implicitation	Hyponymy Hypernymy	Explicitation	Implicitation	Hyponymy Hypernymy
<b>MEAN</b>	4%	23%	27%	23%	50%	27%
<b>DEVIATION</b>	0	1	1	1	1	2

**Table 31. Novice translators' explicitation changes in the interim versions and target texts, group level.**

Translator	Interim 1			Target text		
	Explicitation	Implicitation	Hyponymy Hypernymy	Explicitation	Implicitation	Hyponymy Hypernymy
<b>MEAN</b>	26%	17%	51%	22%	18%	60%
<b>DEVIATION</b>	1	1	1	2	1	1

**Table 32. Experienced translators' explicitation changes in the interim versions and target texts, group level.**

In the target texts of the novice translators, implicitation is the most common translation solution type of this category, with an average of 50%, followed by hyponymy/hypernymy, with an average of 27%. Among the experienced translators, hyponymy/hypernymy is the most common, with an average of 60%, followed by explicitation, with an average of 22%. The difference, however, between the average percentages of explicitation and implicitation among the experienced translators is not considered significant.

Analysis of the uses of hyponymy/hypernymy in the corpus shows two types of shifts: the use of (i) hypernyms for simplification or (ii) hyponyms for terminologization<sup>2</sup> purposes.

<sup>1</sup> In the overall classification of the translation solutions, no differentiation was made between hyponymy and hypernymy.

<sup>2</sup> Terminologization is defined as the process "whereby an existing LGP [language for general purposes] word is used to designate a concept in a given LSP [language for special purposes] field" (Antia 2000, 2:212).

(1) Example of simplification:

ST: In vitro testing shows that the transparent **film** ...

TT: Testes in vitro comprovam que este **penso** transparente ... [Odete, NT]

[Gloss: In vitro tests prove that this transparent **dressings** ...]

In this unit, Odete opted for translating “transparent film” as “penso transparente” (gloss: transparent dressing). “Dressing” in this context is interpreted as a hypernym, since the dressing in question consisted of a transparent film and it is that transparent film which showed specific results in in vitro testing. Odete simplified the target text by using hypernymy. The change does not affect the function of the message: the dressing with the transparent film provides protection against viruses.

(1) Example of terminologization:

ST: **Stop** any bleeding at the site before applying the dressing.

TT: **Estanque** qualquer hemorragia no local antes de aplicar o penso. [Graça, NT]

[Gloss: **Staunch** any bleeding at the site before applying the dressing.]

Graça opted to translate “stop” as “estanque” (gloss: staunch). “Estancar” (to staunch) is a more specific term to convey the same action and is therefore a hyponym. “Stop any bleeding” or “Staunch any bleeding” does not imply a change in the function of the message. The reader knows what she/he has to do. However, the communicative value of choosing a familiar term or choosing an LSP term can be very different. Graça’s choice is closer to the language of the readers and users, i.e., health professionals.

Regarding implicitation, a closer look at these target-oriented translation solutions chosen by the novice translators reveals that this translation solution type is used in order to create a more natural-sounding target text, as in the next two examples.

ST: Press the dressing **into place**.

TT: Pressionar o penso. [Luísa, NT]

[Gloss: Press the dressing.]

In this example taken from the target text, novice translator Luísa opts for an implicitation translation solution, omitting “into place” in the target text (“Press the dressing”). If Luísa were to opt for a more source-oriented translation solution, for instance a literal translation at syntactic and lexical level, as Dora did, the source text would be translated as “Pressionar o penso **no lugar**” (gloss: Press the dressing **in place**) which is accurate but not natural-sounding.

ST: ... while the dressing remains intact **without leakage**.

TT: ... enquanto o penso permanecer intacto. [Manuel, NT]

[Gloss: ... while the dressing remains intact.]

In the above example of implicitation, novice translator Manuel chooses to omit “without leakage.” It is implicit that if the dressing is intact, it does not leak. If Manuel were to opt for a more source-oriented translation, like, for instance, Bárbara, this unit could be translated opting for a literal translation at syntactic level, such as “enquanto que o penso permanece intacto **sem vazamentos**” (gloss: while the dressing remains intact **without leakage/spillage**). As in the previous example, a more literal translation is accurate but unnatural.

#### 5.2.4.2. Information changes

Table 33 and Table 34 (below and next page) show the average percentages of addition, omission, and other information changes in the interim versions and target texts of the novice and experienced translators, as well as the standard deviation. It can be seen from the data in this table that in both the interim versions and the target texts, and for both the novice and experienced translators, the most common information change are “other” changes: the novice translators have an average of 60% in their interim versions and 53% in their target texts; the experienced translators have an average of 82% in their interim versions and 76% in their target texts.

Translator	Interim 1			Target text		
	Addition	Omission	Other information changes	Addition	Omission	Other information changes
<b>MEAN</b>	9%	25%	60%	14%	33%	53%
<b>DEVIATION</b>	1	1	2	1	6	2

Table 33. Novice translators' information changes in the interim versions and target texts, group level.

Translator	Interim 1			Target text		
	Addition	Omission	Other information changes	Addition	Omission	Other information changes
MEAN	3%	14%	82%	4%	13%	76%
DEVIATION	0	1	3	0	1	2

Table 34. Experienced translators' information changes in the interim versions and target texts, group level.

The second most used translation solutions of this type are omissions for both the novice and experienced translators in their interim versions and target texts: the novice translators have an average of 25% in their interim versions and 33% in their target texts; the experienced translators have an average of 14% in their interim versions and 13% in their target texts. Addition is the least used translation solution in the interim versions and target texts for both groups of participants.

Information changes are, as defined in section 4.2.6., related to information which is added, omitted, or changed in some other way. It is particularly interesting to observe that information changes account for an average of 42% of the target-oriented translation solutions in the interim versions and for an average of 39% of target-oriented translation solutions in the target texts (see Table 29 and Table 30 in § 5.2.4.). The number of these changes decreases from interim versions to target texts.

A closer look at these omissions and "other" information changes reveals that the meaning conveyed in the source is changed to some degree in these target texts.

Example of an "omission" and "other" information changes:

ST: This product **is not designed**, sold or intended for use except **as** indicated.

TT: Este produto não se destina à venda ou à utilização, exceto **quando** indicado. [Dora, NT]

[Gloss: This product is not intended for sale or use except **when** indicated.]

In this segment, Dora changed the information conveyed in two ways. First, by writing "this product is not intended for sale or use," Dora omitted "is not designed," which is present in the source text.



Second, by translating “as” as “when,” Dora slightly changed the meaning of the message. The target text conveys that the product is not intended for sale or use except when such sale or use is indicated. This sentence is very common in medical device manuals and is usually included for legal reasons. Medical devices should not be used in any way except specifically in the ways described in the documentation supplied with the device. If the medical device is used in any other way, the manufacturer is not liable for the consequences of such use. Therefore, any change in the information conveyed may have health consequences for the patient and legal consequences for the device manufacturer. In Dora’s target text, there is no reference, implied or otherwise, to the fact that the device should only be used in the specific way indicated in the documentation supplied. One way of translating this segment while conveying the same message as the source message could be, for instance, Nelson’s “Este produto não foi concebido, vendido nem destinado a outro uso **senão o indicado**” (gloss: This product was not designed, sold or intended for any use **other than that indicated**) or Elzira’s “Este produto não foi criado, vendido ou destinado **para usos aqui não indicados**” (gloss: This product was not created, sold or intended **for uses not indicated here**).

### 5.3. Novice and experienced translators’ belief statements

This section presents and discusses the results of the questionnaires conducted with the novice and experienced translators. Appendix 13 provides a detailed analysis of the findings of the questionnaires by question.

As discussed earlier (Chapter 4), belief statements were elicited regarding the beliefs, attitudes, and expectations of fifteen novice translators and fifteen experienced translators in order to ascertain which expectations novice and experienced translators prefer to follow and which normative attitudes and empirical and normative expectations motivate their actions. By gauging how the novice and experienced translators regard translational norms which govern their behavior and the behavior of their reference network,<sup>3</sup> it is hoped to better understand how expectations, norms, and values are conceptualized and put into practice from an internal or emic perspective. Measuring these belief statements will provide answers to research question T2, i.e., what are the perceived norms regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair?

Question T2 leads to a number of sub-questions:

T2.1. What are the personal normative beliefs of novice and experienced translators about themselves?

---

<sup>3</sup> For a definition of reference network, see section 1.4.2.

T2.2. What are the beliefs of novice and experienced translators about other translators, revisers, and readers (i.e., the translators' reference network)?

T2.3. Do novice and experienced translators prefer to follow the collective pattern of behavior interdependently or independently of what their reference network does?

Question T2.2., which is a reference network-related question, also has a number of sub-questions.

They are:

T2.2.a. What are the empirical expectations of novice and experienced translators about other translators, revisers, and readers?

T2.2.b. What are the normative attitudes of novice and experienced translators about other translators, revisers, and readers?

T2.2.c. What are the normative expectations of novice and experienced translators about other translators, revisers, and readers?

The data analysis begins with the personal normative beliefs of the novice and experienced translators, that is, what they as agents believe about what they themselves should do.

### **5.3.1. Belief statements about themselves**

#### **5.3.1.1. Personal normative beliefs**

When asked the question "How do you believe you *should* translate?", novice and experienced translators reported different personal normative beliefs. All the novice translators (n=15) agreed or strongly agreed that the translator's goal should be a faithful translation of the message as the author intended. In the case of the experienced translators, all participants (n=15) agreed or strongly agreed that the translator's job is to convey the full meaning of the source in the target language respecting its grammatical, syntactical and stylistic rules, while consistently following the client's terminology and the style guide. They also agreed that the main goal of a translator is to aim for the most natural-sounding translation conveying the meaning of the source text.

Interestingly, the other options also garnered two thirds or more of agreement on both groups of participants, suggesting that the belief statements offered do not contradict each other from the translators' point of view.

### **5.3.2. Belief statements about other translators**

This section of the questionnaire required respondents to give information on their beliefs about other translators with experience similar to their own.

### 5.3.2.1. Empirical expectations

The novice and experienced translators were asked about their beliefs regarding the work of other novice and experienced translators with similar experience in two separate questions.

Firstly, when asked in an open question about how they thought other translators with similar experience *actually do translate*, both groups of participants revealed different perceptions.

The novice translators' empirical expectations range from target- to source-oriented. On the one hand, almost two-thirds (n=9) of the novice translators believed that their peers (fellow novice translators) produce source-oriented, literal, faithful, accurate and not-natural-sounding translations. On the other hand, almost half (n=7) of the surveyed novice translators report that they think their peers produce fluent, non-literal, target-oriented translations that take into consideration the translation brief and aim for "Eugene Nida's dynamic equivalence"<sup>4</sup> (Odete), resorting to theoretical terms.

Odete's answer, in particular, by using the term "Eugene Nida's dynamic equivalence," suggests that she has theoretical knowledge; this is not a stand-alone example, as will be seen in the answers to other questions. This finding is actually to be expected since all but two of the novice translators have formal translation training.

Focusing specifically on the most common empirical expectations and how they are expressed by the novice translators, the novice translators believe their peers produce source-oriented translations. For instance, Graça stated that "it is usual for the translation to be very source-oriented, not intentionally, but because the text was not fully understood. This leads to a translation that does not sound very natural." With this statement, she associates source orientation with a lack of linguistic competency. Looking at how the expectation of accuracy<sup>5</sup> is communicated—an expectation referred to as much as target orientation—the novice translators refer to "convey[ing] the meaning of the source text message" (Julieta). One translator in particular, Iolanda, believes that her peers "probably [translate] more accurately" than her, thereby expressing the value of accuracy and, at the same time, insecurity regarding her own translations.

The experienced translators' empirical expectations were, for the most part (n=11), negative. Positive statements about their colleagues were scarce and were made by only two translators. One

---

<sup>4</sup> Nida and Taber define dynamic equivalence as the "quality of a translation in which the message of the original text has been so transported into the receptor language that the response of the receptor is essentially like that of the original receptors" (E. Nida and Taber 1969, 200).

<sup>5</sup> The notion of accuracy is understood by these translators as a source-oriented expectation.

experienced translator wrote, for example, "I'm pretty sure a lot of colleagues accept jobs that don't match their qualifications, delivering bad quality work" (Eva); another said that others translate faster, adding that "often there's a decrease in quality due to tight deadlines" (Pilar); and another respondent commented that "other translators with the same experience should be performing better than they are" (Amélia). Amélia also said her colleagues do not follow guidelines and another translator, Filipa, said that they make grammar and spelling mistakes. Amélia and Gonçalo reported that their colleagues do not perform self-revision or that revision is very superficial. Débora expressed the belief that "others do not care that much about the target" and Filipa commented that "unfortunately, there are many translations that are not done by professional translators and so translations don't sound natural."

Comparing novice with experienced translators, the experienced translators clearly have a more negative view about their colleagues. In addition, both groups of participants stated that their colleagues should not translate literally but sometimes do. Target-oriented criteria are, therefore, associated with professionalism and translation competency. In one case, an experienced translator thought that "in general, translations (from English) tend to be mostly literal, maintaining the use of possessives of the English language and other specific traits that do not exist in European Portuguese. This may be due to a lack of familiarity with their own language, lack of reflection on the work of translation, or a simple reflection of the cultural power of the English language" (Ivone). On this topic, a novice translator commented that "we tend to attribute great value to the role of the target text, and we are actively encouraged to alter the structure of the source text as much as necessary" (Dora). Dora's comment probably expresses what she has learnt from translation teachers at university.

Also, both the novice and the experienced translators expressed that a natural-sounding target-oriented translation represents higher quality translation work. For example, one experienced translator commented that "there are fantastic translators, translating in a way that is perfectly adapted to the content of the documents and to their target" (Débora).

Secondly, respondents were also asked to indicate in a closed question which of the statements presented best described how other translators with similar experience *actually* translate.

The majority of the novice and experienced translators (n=16) consider that their peers convey the meaning of the source text faithfully as the author intended, opting for the most natural-sounding text. Comparing the two groups of respondents, while most of the novice translators (n=12) believe their colleagues with similar experience faithfully translate the message as the author intended, the

majority of the experienced translators believe that their colleagues produce the most natural-sounding text that conveys the meaning of the source text, taking the English text just as a starting point (n=7 and n=6 respectively). They translate so that the text seems to have been originally written in Portuguese. Based on this comparison, it is possible to say that the novice translators believe their peers opt for (more) source-oriented options and that the experienced translators believe that their colleagues opt for (more) target-oriented options.

#### 5.3.2.2. Normative expectations

The novice and experienced translators were also asked “how do other translators with the same experience as you think you *should* translate?” Opinions were divided.

On the one hand, *literal translation, faithfulness, intention, source tone, accuracy, and full meaning*, usually associated with source orientation, were mentioned thirteen times in total (out of the thirty beliefs expressed by the thirty translators). On the other hand, *target-oriented, purpose, reader's expectations, fluency, natural-sounding translation, translation brief, consistency, and localization*, frequently associated with target orientation or functionalism, were referred to sixteen times (out of the thirty beliefs expressed by the thirty translators). Given that the difference between source- and target-oriented beliefs is not strong, taken together, the results indicate that these translators believe that other translators think they should produce source- and target-oriented translations or, in other words, their normative expectations regarding translators are source- and target-oriented, with a slight inclination towards the latter. The most common theme among both groups was accuracy (mentioned five times).

Looking at the two groups separately, while the novice translators expressed more target-oriented than source-oriented themes (ten vs. seven), the experienced translators expressed the same number of source- and target-oriented themes (six vs. six).

### 5.3.3. Belief statements about revisers

This section of the questionnaire required respondents to give information on their beliefs about revisers.

#### 5.3.3.1. Normative attitudes

The novice and experienced translators were asked how they thought revisers should judge the quality of translations in two separate questions.

Firstly, in response to “In general, what criteria do you think revisers *should* use to judge the quality of a translation?”, novice and experienced translators revealed a mixed tendency towards source- and target-oriented themes, with a clearer preference for the latter.

The novice and experienced translators identified fifteen criteria which ranged between source and target orientation. Revisers should assess the relationship between the source and target (con)texts, taking into consideration the *expectations of the target reader and the client, the target text function, how natural-sounding the target text is and to what extent it reads as if it was written originally in the target language, its tone, style and register, its readability, fluency, and the correct use of linguistic correctness (including grammar and spelling), compliance with the reference material, and terminological accuracy and consistency*. In total, forty-nine references were made to target-oriented criteria, thirty by novice translators and nineteen by experienced translators. The most common of these criteria was, by far, the correct use of *linguistic correctness* (mentioned eighteen times), followed by *terminological accuracy and consistency* (mentioned nine times).

Source-oriented themes were also expressed, however. In those statements, *faithfulness, accuracy, and reproduction of the full meaning of the “original”* were the criteria mentioned for the assessment of translations. In total, there were twenty-two references to source-oriented criteria, ten by novice translators and twelve by experienced translators. One novice translator, Bárbara, made reference to a middle ground: “a balance between conveying faithful meaning and fulfilling the client’s requests.” The most common source-oriented criterion mentioned was *accuracy* (mentioned fourteen times).

Looking more closely at how the novice and experienced translators communicate their beliefs about revisers, *accuracy* is used by participants to express the belief that revisers should assess a translation based on “whether or not it conveys the message of the source text” (NT—Pedro), “properly” (NT—Iolanda), considering whether or not it conveys the “correct message” (ET—Eva) and the “accuracy of the information” (NT—Carolina). On the other hand, *readability*—referred to four times by the novice translators—indicates the belief that these translators expect revisers to pay special attention to the “intelligibility of the target text” (NT—Dora), “comprehension of the text (meaning)” (NT—Odete) and “how well [the translation] reads” (NT—Pedro).

Secondly, the novice and experienced translators were asked to rate two statements on a Likert-type scale regarding how they thought revisers *should* assess the appropriateness of a translation. The two statements were (i) Revisers should consider a translation appropriate if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic

rules; consistently following the client's terminology and the style guide, and (ii) Revisers should consider a translation appropriate if it conveys the meaning faithfully. The majority of the novice and experienced translators surveyed agreed or strongly agreed with both statements. Only a small number of the participants disagreed with the statements: three novice translators and one experienced translator. None strongly disagreed with the statements.

#### 5.3.3.2. Empirical expectations

The novice and experienced translators were asked about their empirical expectations regarding revisers in three separate questions.

Firstly, in response to the open question "In general, how do you think revisers *assess* a translation?", both groups of translators revealed source- and target-oriented themes, with a clear tendency towards target orientation.

Twelve different topics were identified which range between source and target orientation. The novice and experienced translators expected revisers to assess the relationship between the source and target (con)texts taking into consideration *style*, *readability*, whether or not the target text *sounds natural*, and its *fluency* and compliance with not only *linguistic correctness* but *standards in general*, including *reference material compliance* and *terminological accuracy and consistency*. In total, there were thirty-seven references to target-oriented criteria, twenty-two by the novice translators and fifteen by the experienced translators.

The novice and experienced translators also believed, however, that a translation is assessed according to its *faithfulness*, *accuracy* and *layout* in comparison with the "original." In total, there were fifteen references to source-oriented criteria, ten by novice translators and five by experienced translators. One novice translator, Anabela, commented that the reviser "focuses as much on the source as on the target text." This middle ground was mentioned by different translators in previous questions.

The most common expectations mentioned in general were compliance with *linguistic correctness* (mentioned thirteen times), followed by *accuracy* (mentioned twelve times); these were also common criteria mentioned in previous questions. The most recurrent topic, *linguistic correctness*, is described by the translators surveyed as the expectation that revisers assess their translations by their "spelling, syntax, and grammar errors" (NT—Bárbara). Twelve of the thirty translators also expected revisers to look for *accuracy*. "They [revisers] compare the meaning conveyed in both texts

to see if it matches,” reported Carolina (NT). Or, as Pilar (ET) explains: “they assess the ability to convey the same meaning/concepts from the source to the target language.”

Secondly, the translators were asked how they thought revisers *actually* assess the appropriateness of a translation and were requested to select the statement which best described their practices. The two statements were (i) Revisers actually consider a translation appropriate if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client’s terminology and the style guide, and (ii) Revisers actually consider a translation appropriate if it conveys the meaning faithfully. Twenty-five of the novice and experienced translators surveyed (n=30) selected the first statement.

Thirdly, when asked “How do revisers assess a faithful, literal translation?”, twenty-four of the thirty translators surveyed said that they thought revisers would see a faithful, literal translation as being of good or medium quality. None of the translators reported this translation to be of very good quality for revisers.

#### 5.3.3.3. Normative expectations

In response to the open question “In general, what expectations do you think revisers *have* of your work?”, the novice and experienced translators identified thirteen different topics ranging between source and target orientation. As in previous answers, target-oriented themes were the most common.

There were some novice and experienced translators who believe revisers expect them to produce *literal, faithful* and *accurate* translations (eleven mentions of source-oriented expectations).

There were others, however, who believe revisers expect them to produce translations which follow target-oriented expectations, namely *linguistic correctness, fluency, and readability*, a target text that reads *as if it was written originally in the target language, appropriate style and register, cohesion, client’s instructions, text-type constraints, guideline compliance*,<sup>6</sup> *terminological accuracy and consistency* (thirty-five mentions of target-oriented expectations).

Even though the number of target-oriented criteria is significantly higher in comparison with source-oriented criteria (thirty-five vs. eleven), the most frequent normative expectations were

---

<sup>6</sup> Client’s instructions and guideline compliance are target-oriented themes: these instructional texts produced by the commissioner of the translation or by translation companies dictate how the text should be translated. However, these instructional texts may require a source-oriented translation. Nevertheless, they are products of the target context and therefore, for the purpose of this analysis, these themes are considered target-oriented.



*literal translation and faithfulness* (eight mentions), together with *linguistic correctness* (eight mentions).

It is the novice translators in particular who believe revisers expect literal, faithful translations. One third of the novice translators surveyed clearly state that they are expected to produce translations that are “faithful to the source text.” Concerns are also expressed regarding *readability* and *linguistic correctness*. These novice translators believe that it is expected of them to write a “clear and understandable” text (Dora) “with no grammar, syntax and/or terminology mistakes” (Elzira). Three of the experienced translators also share this perspective, writing that “the target text should not deviate too much in wording and phrasing from the source unless there are explicit instructions from the client for it to do so” (Lúcio). Another experienced translator also comments, when reflecting about revisers’ expectations: “I prefer to translate literally so as not to run so many risks” (Nádia).

#### **5.3.4. Belief statements about readers**

This section of the questionnaire asked respondents to give information on their beliefs about readers.

##### **5.3.4.1. Normative attitudes**

The novice and experienced translators were asked about their normative attitudes towards readers in two separate questions. One of the experienced translators did not answer these questions.

Firstly, when asked “What criteria do you think the reader of the translation should use to judge the quality of a translation?”, the two groups of translators, as in previous answers, identified a higher number of target-oriented criteria.

On the one hand, the translators believe readers should judge the quality of a translation on the basis of *faithfulness* and *accuracy* (mentioned twelve times). On the other hand, translators also believe health professionals should base their assessment on a text’s target orientation, naming eleven criteria that are mentioned forty-eight times: that the translation should read *as if it was written originally in the target language*, *clarity*, *cohesion*, *cultural approach and constraints*, *fluency*, *natural-sounding text*, *target text function*, *readability* and *the reader’s needs*, *terminological accuracy*, and *linguistic correctness*. The most commonly mentioned criteria were *accuracy* and *clarity* (with eight mentions each), followed by *the translation should read as if it was written originally in the target language* (seven mentions).

However, the novice translators believe readers should judge the quality of a translation based primarily on its *accuracy* and *clarity*. Commenting on *accuracy*, one of the novice participants, Bárbara, said that the readers “should bear in mind that faithfulness to the text and conveying the meaning don’t always go hand-in-hand and what should be judged is whether or not the best choice to convey the meaning of the original text was made.” For Anabela (NT), *accuracy* is assessed in comparison with the source text and to what extent “it maintains the meaning of the source.” *Clarity* is also considered a highly valued criterion. One novice participant, Elzira, even stated that “the reader of a translation should, in my opinion, find value in the translator’s ability to present a clear text.” Other respondents, such as Hermínia, Julieta, Luísa, and Manuel, alluded to the notion of understanding the translated text or the message of the text.

The experienced translators, on the other hand, believe *linguistic correctness* (mentioned six times) and the *target text function* (mentioned five times) to be the main criteria. These participants believe that readers should judge the quality of a translation based on whether it is “fit for purpose,” as Catarina comments. As another experienced translator explains: “Readers should assess translations according to the reason why they are reading the text. If, for example, they cannot do what they need to do with that text, they may wonder whether the translation has a problem. The next step should be to check whether the source text has the same problem” (Orlando).

Secondly, novice and experienced translators were asked to what extent they agree or disagree with two statements which describe how readers should assess the appropriateness of a translation. The majority of the surveyed participants agreed or strongly agreed with both statements: *the readers of a translation should consider it appropriate if it faithfully conveys the message of the author* and *if the target text was translated as if the text was written originally in Portuguese, taking the English text just as a starting point*. Twenty-seven translators agreed with the first statement (out of thirty), and twenty-five translators agreed with the second statement (out of thirty).

#### 5.3.4.2. Empirical expectations

The novice and experienced translators were asked about their empirical expectations towards readers in three separate questions. One of the experienced translators did not answer these questions.

Firstly, translators were asked: “How do you think readers of the translation assess a translation?” Both groups of translators, as in previous answers, identified a higher number of target-oriented themes than source-oriented themes.

Sixteen different themes were identified which range between source and target orientation. On the one hand, the novice and experienced translators expected readers to assess the relationship between the source and target (con)texts taking into consideration compliance with *linguistic correctness, coherence, style and register*, whether or not the target text is *transparent, fluent, natural-sounding*, and taking into consideration the *function* of the target text. *Clarity, readability* and the translation reading *as if it was written originally in the target language* are also highly valued criteria, as well as *terminological accuracy*. In sum, as Graça, one of the novice translators, puts it “I don't think that a faithful or source-oriented translation is the reader's main focus.” In total, there were thirty-six references to target-oriented criteria, nineteen by novice translators and seventeen by experienced translators. The most common target-oriented themes were *readability* and *fluency* (mentioned seven times each).

However, on the other hand, the novice and experienced translators also believed that a translation is positively assessed for being *literal and faithful, as the author intended, and accurate*. As simply put by Nelson, one of the novice translators, some readers “like it to be close to the original as long as it keeps the meaning.” In total, there were ten references to source-oriented criteria, six by novice translators and four by experienced translators. The most common source-oriented theme mentioned by the translators was *literal translation and faithfulness* (mentioned five times).

Focusing on the key criteria that were mentioned most often, almost half of the translators (n=7) believe readers focus on “the flow” of the target text (NT—Felícia and Nelson) and on how *fluently* the text reads (NT—Anabela and Carolina). *Readability*, a criterion closely related to *fluency*, also comes up as one of the most common empirical expectations (n=7). “I would guess that the readers assess a translation by how understandable ... it is,” comments Graça, one of the novice translators.

Secondly, opinions are divided equally when translators were asked when the readers of the translation actually consider a translation appropriate. Fourteen translators (seven novice and seven experienced) believe that readers consider a translation appropriate if it is faithful in comparison with the “original” message as the author intended and another fourteen translators (seven novice and seven experienced) believe that readers prefer translations that appear not to be translations or, in other words, as if the text was written originally in Portuguese, taking the English text just as a starting point. The remaining translators either did not answer or gave alternative statements.

In another question, translators were asked: “How do readers assess a faithful, literal translation?” In their answers, the majority of the translators (n=22) believe that readers consider a faithful, literal

translation to be of good or medium quality. Interestingly, none of the translators believes readers think these translations to be of very good quality or of very low quality.

#### 5.3.4.3. Normative expectations

In response to the open question “In general, what expectations do you think translation readers have of your work?”, the novice and experienced translators identified ten different themes ranging between source and target orientation. As in previous answers, target-oriented themes were the most common. One of the experienced translators did not answer these questions.

There are some novice and experienced translators who believe readers expect them to produce translations according to *fidelity* and *accuracy* criteria (seventeen mentions of source-oriented expectations).

On the other hand, there are some who believe readers expect them to produce translations which follow target-oriented expectations, namely *linguistic correctness*, *readability*, *clarity*, *invisibility*, *natural-sounding text*, and *transparency*, reading as if it was written originally in the target language, *terminological accuracy and consistency*, and *target text function* (twenty-nine mentions of target-oriented expectations).

The most frequent normative expectations were *accuracy*, *readability and clarity*, *invisibility*, and *transparency* (eight mentions each).

*Accuracy* and *readability*, common beliefs seen in the answers to this questionnaire, are considered here to be the novice and experienced translators' normative expectations about readers. The translators believe readers expect translations which clearly convey the “original text,” as Amélia explains (ET), or, as Pilar adds (ET), they expect the “translated text not to mislead them about the meaning of their statements.” The translators also believe readers expect translations to be “totally understandable” (NT—Hermínia), “not strange [in the] target language” (NT—Iolanda), and “[written] in a way that they understand” (NT—Luísa).

There are some who believe that it is expected of them to produce *invisible*, *transparent*, and *clear* target texts. The experienced translator Maria welcomed the opportunity to focus on the invisibility of the technical translator. She wrote: “I am almost certain that most of the (final) readers of my work don't even think about the people (translators, revisers, project managers, etc.) involved in producing the text they are reading. I work with technical translations. In literary translation, the situation is probably different, and the translator has more visibility.” This transparency is also

clearly identified by Lúcio, another experienced translator: "They want it to have as little 'noise' as possible, i.e., they want to understand the core message without much effort."

Examining the differences between novice and experienced translators more closely, while the novice translators believe readers' main focus is on *readability* (seven mentions) and *faithfulness* (five mentions), the experienced translators think that readers are more concerned with the *accuracy* of content (six mentions) and *clarity, invisibility, and transparency* (six mentions).

### **5.3.5. Impact of beliefs**

When the novice and experienced translators were asked if they would translate freely if they knew revisers evaluated non-faithful translations positively, most of the translators (n=18) reported that they would not change their behavior. While the experienced translators clearly believe they would not change their behavior regardless of what revisers think (eleven answered no and three answered yes), the novice translators surveyed are divided: eight said they would change their behavior and seven said they would not. One of the experienced translators did not answer this question.

## **5.4. Summary and conclusions**

This chapter set out to study the translational norms of translators regarding source and target orientation of translators with different levels of experience (novice and experienced translators). For this purpose, the source and target orientation of the translation solutions employed by these thirty translators was presented in the first half of the chapter. The two groups of participants were compared in various aspects, namely the source and target orientation of the translation solutions in interim versions and target texts, the possible relation between source and target orientation and the number of problems faced by these translators while translating the same source text, the possible relation between source and target orientation and the time taken to translate the same source text, and the high frequency of literal translations (source-oriented), and explicitation and information changes (target-oriented) in both interim and final versions of the translation. In the second half of the chapter, the source and target orientation of the belief statements of the thirty translators were also presented and discussed. Regarding the belief statements, both groups of participants were compared regarding their personal normative beliefs, their normative and empirical expectations about other translators, their normative attitudes, and their normative and empirical expectations about revisers and readers. An attempt was made at the end to assess the impact of their beliefs. These findings suggest that the beliefs elicited are at the core of the motivations behind the novice and experienced translators' translation behavior.

Next, the results are summarized.

### **Textual regularities (question T1)**

During the translation process, the novice and experienced translators used both source- and target-oriented translation solutions in the target texts. On average, 59% of the novice translators' translation solutions were source-oriented and 61% were target-oriented (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time). On average, 64% of the experienced translators' translation solutions were source-oriented and 57% were target-oriented (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time).

When comparing interim versions and target texts, the novice translators proceeded from less source-oriented versions to more source-oriented ones: an increase in source-oriented translation solutions was observed among the novice translators from an average of 46% to 59%, and target-oriented translation solutions also decreased from an average of 65% to 61%. The experienced translators proceeded from more source-oriented versions to less source-oriented ones: a decrease in source-oriented translation solutions was observed from an average of 73% to 64%, and an increase in target-oriented translation solutions from an average of 50% to 57%.

The novice translators that faced the higher number of problems opted for source-oriented translation solutions in the target text in an average of 68% of the cases. The novice translators that faced the lower number of problems opted for target-oriented translation solutions in the target text in an average of 62% of the cases. Both subgroups of novice translators proceeded from less source-oriented versions to more source-oriented ones. The experienced translators that faced a higher number of problems also opted for source-oriented translation solutions in the interim versions and target texts on more occasions: an average of 76% in the interim versions and an average of 68% in target texts.

In the case of the novice translators, there also seems to be a possible relation between the time spent on the task and source and target orientation. The group of novice translators that spent less time on the task show a tendency to opt for source-oriented translation solutions and the group of novice translators that spent more time on the task show a tendency to opt for target-oriented translation solutions.

Literal translation solutions represent a significant percentage (on average) if the translation solutions of novice and experienced translators. The novice and experienced translators proceeded from less literal translations to more literal ones: on average 26% of the interim translation solutions by novice translators were literal translations, and on average 40% of the final translation solutions were literal translations; while on average 54% of the interim translation solutions by experienced translators were literal translations, and on average 59% of the final translation solutions were literal translations.

Explicitation and information changes in the interim versions and target texts account for a significant percentage of the target-oriented translation solutions of the novice and experienced translators. The most common types of explicitation changes are hyponymy and hypernymy, used for simplification and terminologization respectively, and implicitation to create a more natural-sounding target text. The most common types of information changes in both the interim versions and target texts of the novice and experienced translators are "other" changes and omissions. From the versions, it was concluded that these translation solutions contribute to a change in meaning in comparison with the source text.

#### **Belief statements: overview**

Accuracy is the most common theme across all open questions and covering all the beliefs under study for the novice translators, and the second most common for the experienced translators, in response to questions 5, 6, 9, 10, 11, 16, 17, and 18. Other common themes are linguistic correctness, faithfulness, fluency and natural-sounding text, readability and reader's expectations, terminological accuracy and consistency, and target text function (see Table 35, below).

	Accuracy	Faithfulness	Fluent, natural-sounding text	Linguistic correctness	Readability and reader's expectations	Target text function	Terminological accuracy and consistency
<b>Novice</b>	15%	10%	10%	14%	13%	0%	6%
<b>Experienced</b>	14%	10%	9%	19%	5%	7%	11%

Table 35. Percentage of novice and experienced translators' most commonly mentioned criteria to describe translation appropriateness, global level.

#### **Personal normative beliefs (question T2.1.)**

All of the novice translators believe that they should aim for a faithful translation of the message as the author intended, thus describing how a translation should be done using the most source-

oriented statement among the available options. The more experienced translators believe that they should convey the full meaning of the source in the target language respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide and aiming for the most natural-sounding translation conveying the meaning of the source text. Nonetheless, to describe the way they believe they should translate, the novice and experienced translators selected source- and target-oriented statements, suggesting that they believe that their translations should share both source and target characteristics.

However, even though both groups of translators agree that a translation should be both source- and target-oriented, the majority of the novice translators think that the translator's goal should be a faithful translation of the message as the author intended, and the majority of the experienced translators think that they should render the full meaning of the source in a natural-sounding text following language norms and clients' rules. This difference, while perhaps appearing slight at first glance, marks a distinction between the novice and more experienced translators. Both groups of translators therefore agree with the most source-oriented statements and the novice translators' personal normative beliefs are more source-oriented than those of the experienced translators.

#### **Empirical expectations about other translators with similar experience (question T2.2.a.)**

The novice translators expect translators with similar experience to predominantly produce translations which convey the meaning of the source text faithfully, as the author intended, thus selecting the most source-oriented option. Faithfulness and accuracy are their main empirical expectations. The experienced translators think that their colleagues produce the most natural-sounding text that conveys the meaning of the source text, taking the English text just as a starting point. However, when asked about their empirical expectations in an open question, their beliefs were mainly negative, expressing that their peers translate literally.

#### **Empirical expectations about revisers (question T2.2.a.)**

Most of the novice and experienced translators agree. Revisers are mainly focused on target-oriented themes, and they believe translations should convey the full meaning of the source, following language norms and clients' rules, and the main criteria by which translations are assessed are linguistic correctness and accuracy. Nonetheless, both groups believe revisers consider a faithful, literal translation to be of good/medium quality.

Based on this analysis, and like the empirical expectations about other translators, the novice and experienced translators believe that revisers expect accurate translations, nonetheless following the target language norms and the client's and readers' expectations.



**Empirical expectations about readers (question T2.2.a.)**

The novice and experienced translators' empirical expectations do not significantly vary regardless of whether the beliefs concern translators, revisers, or readers. These participants think that the readers of their translations believe that a translation is considered appropriate if it faithfully conveys the message as the author intended and if the target text was translated as if the text was written originally in Portuguese, taking the English text just as a starting point.

From the translators' answers, it could also be gathered that while revisers are more concerned with accuracy and linguistic rules, readers are more focused on readability and whether or not the translation is fluent. The novice and experienced professionals also think that a faithful, literal translation is assessed as being a good or medium quality translation.

Taken together, these empirical expectations do not differ significantly from the empirical expectations about revisers. The translators expect revisers to assess the translation based on source-oriented criteria, such as accurately rendering the full meaning of the source text in a linguistically correct target text, and they expect readers to also focus on the faithful rendering of the source message as the author intended in a text that reads as if it was written originally in the target language.

**Normative expectations (question T2.2.c.)**

The novice and experienced translators believe other translators expect them to produce target-oriented translations, especially focused on accuracy. This is referred to by some translators as "balance" or a "middle ground."

The novice and experienced translators believe revisers and readers expect them to produce translations that are (source-oriented) accurate, and (target-oriented) clear, transparent translations, creating a translated text that is linguistically correct. Looking more closely at the differences between the novice and experienced translators, the novice translators expressed more source-oriented beliefs than the experienced translators, with a higher number of the novice translators referring to the need to produce literal, faithful translations.

**Normative attitudes (question T2.2.b.)**

The analysis of the normative attitudes about revisers and readers corroborates the previous conclusions. Both novice and experienced translators believe revisers and readers should use mainly target-oriented criteria to assess translations. The majority of novice and experienced translators believe revisers and readers should consider a translation appropriate if it shares both source- and

target-oriented characteristics. The main criteria by which a translation should be assessed are accuracy, clarity, target language norms, and the target text function, such as whether it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide, and if it conveys the meaning faithfully. The majority of the novice and experienced translators surveyed agreed or strongly agreed with both statements.

**Independent behavior (question T2.3.)**

The majority of the translators reported that they would not change their behavior if they knew revisers evaluated non-faithful translations positively. This may suggest that, at least from the translators' perspective, their beliefs are unconditional. That is, the translators' beliefs are stated to be independent of what they believe revisers do or what they believe revisers think they should do. In cases like this, empirical and normative expectations are said not to matter or motivate individuals' behavior, only their personal normative beliefs.

**In summary**

The overall findings for the question "Considering English to European Portuguese biomedical translation in the contemporary Portuguese market, what are the translational norms of novice and experienced translators regarding source and target orientation?" (T) show that the novice and experienced translators opted for both source- and target-oriented translation solutions and that their beliefs, attitudes, and expectations express that they also value both source and target orientation. Chapter 7 discusses these findings in more detail.

The next chapter moves on to present the findings related to the readers and health professionals.

## **CHAPTER 6 — REVISERS' AND HEALTH PROFESSIONALS' NORMS**

### **6.1. Introduction**

This chapter presents the findings related to the process- and product-oriented data of the fifteen revisers and fifteen health professionals and the related research questions. Thus, the main aim of this chapter is to present an analysis of the data collected and address each of the questions in turn.

The first question, regarding the revisers' norms, is answered in the first section of the chapter (§ 6.2.). In this section, the findings of the questionnaire stage of the research regarding the revisers are presented. This part of the analysis intends to understand what the preferred textual regularities of the revisers are and identify the revisers' personal normative beliefs, empirical and normative expectations, and normative attitudes. It also aims to understand whether the revisers prefer to follow the collective pattern of behavior interdependently or independently of what their reference network does (§ 6.2.6.). Section 6.2.1. reports on the results of this analysis regarding the preferred textual regularities of revisers, section 6.2.2. presents the revisers' beliefs about themselves, section 6.2.3. focuses on the revisers' beliefs about other revisers, section 6.2.4. on the revisers' beliefs about translators, and section 6.2.5. on the revisers' beliefs about readers.

The second question, regarding the readers' norms, is answered in the second section of the chapter (§ 6.3.). In this section, the findings of the questionnaire stage of the research regarding the health professionals are presented. This part of the analysis intends to understand what the preferred textual regularities of the health professionals are and identify the health professionals' personal normative beliefs, empirical and normative expectations, and normative attitudes. Section 6.3.1. reports on the results of this analysis regarding the health professionals' preferred textual regularities, section 6.3.2. presents the health professionals' beliefs about themselves, section 6.3.3. focuses on the health professionals' beliefs about other health professionals, and section 6.3.4. on the health professionals' beliefs about translators.

The purpose of the final section is to summarize overall findings and correlate them with the novice and experienced translators' textual regularities and beliefs (§ 6.4.).

## 6.2. Revisers' belief statements

This section presents the results of the questionnaires conducted with the fifteen revisers, also focusing on the differences between their beliefs and the beliefs of the novice and experienced translators surveyed. Appendix 13 provides a detailed analysis of the findings of the questionnaires by question.

As explained previously, belief statements were elicited regarding the textual preferences, beliefs, attitudes, and expectations of fifteen revisers in order to ascertain what expectations these agents prefer to follow and what normative attitudes and empirical and normative expectations motivate their actions. By gauging how revisers regard the translational norms which govern their behavior and the behavior of their reference network, it is hoped to better understand how expectations, norms, and values are conceptualized and put into practice from an internal or emic perspective. Measuring these belief statements about textual options and beliefs will provide answers to two research questions, specifically:

RV. What are the translational norms regarding source and target orientation of revisers in the English to European Portuguese language pair?

MISP1. Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of revisers and the observed and perceived norms of revisers?

Question RV has two sub-questions:

RV1. What are the textual regularities expressed by preference regarding source and target orientation of revisers in the English to European Portuguese language pair?

RV2. What are the perceived norms regarding source and target orientation of revisers in the English to European Portuguese language pair?

Question RV2 leads to two sub-questions:

RV2.1. What are the personal normative beliefs of revisers about themselves?

RV2.2. What are the beliefs of revisers about other revisers, translators, and readers (i.e., the revisers' reference network)?

Question RV2.2., which is a reference network-related question, also has a number of sub-questions. They are:

RV2.2.a. What are the empirical expectations of revisers about other revisers, translators, and readers?

RV2.2.b. What are the normative attitudes of revisers about other revisers, translators, and readers?

RV2.2.c. What are the normative expectations of revisers about other revisers, translators, and readers?

The data analysis begins with these surveyed revisers' beliefs about textual options.

### **6.2.1. Belief statements about textual preferences**

After the demographics section of the questionnaire, the revisers were asked to select, on two different occasions, the most appropriate translations of two excerpts from a list of translation options. If they did not consider either of the translation options to be appropriate, the revisers could provide their own translations. The excerpts that the revisers were asked to assess, as explained in Chapter 4, came from the source text given to the novice and experienced translators to translate.

In both questions, the majority of the revisers (eleven in the first question and twelve in the second) selected the most target-oriented option as the most appropriate. Interestingly, none of the revisers selected any of the other options provided. The remaining revisers offered different translations, ranging between source- and target-oriented translation solution types. There is clearly a consensus regarding what the most appropriate translation options are.

### **6.2.2. Belief statements about themselves**

#### **6.2.2.1. Personal empirical beliefs**

The revisers were asked about their personal empirical beliefs on two separate occasions.

Firstly, in responding to the open question "How do *you* assess translations?", the majority of themes reported by revisers were target-oriented themes (thirty-seven mentions against thirteen mentions).

In spite of the high topic frequency of target-oriented themes, *accuracy and faithfulness* were the most mentioned criteria for translation assessment (mentioned thirteen times). For example, Eduardo said: "The message should be faithfully conveyed, transmitting every meaning the source text has, not saying anything it does not say." Another reviser, Guilhermina, also stressed that *accuracy* is of particular importance in these types of texts, saying that: "I believe that, in health, the most important function of a translation is to clearly convey the original message."

The remaining most common themes which have emerged from the analysis are target-oriented, including:

- the need to follow the grammar, spelling, and style rules of the target language (mentioned seven times);
- the importance of complying with the client's instructions and expectations (mentioned six times); and
- the accuracy and correctness of the terminology used (mentioned five times).

Secondly, respondents were also asked to indicate which of the statements presented best described how revisers *actually* assess translations. The majority of the revisers surveyed believed that they assess a translation on the basis of the faithful rendering of the meaning of the source text as the author intended, respecting linguistic correctness (including grammar, syntax, and style), complying consistently with the client's terminology and style guide, to form the most natural-sounding target text. The statement that gathered the lowest number of answers was the most target-oriented statement: "You consider a translation appropriate if the target text was translated as if the text was written originally in Portuguese" (seven mentions).

#### 6.2.2.2. Personal normative beliefs

In responding to the closed question regarding how *should* revisers assess translations, there is consensus among the revisers. They agree or strongly agree that they should assess a translation on the basis of its faithfulness to the source message as the author intended (n=15). The majority of the revisers also agree with the remaining statements.

### 6.2.3. Belief statements about other revisers

#### 6.2.3.1. Empirical expectations

When asked about how they thought other revisers assess a translation, the most common themes among the revisers were *accuracy and faithfulness* and *linguistic correctness* (both mentioned seven times), followed by *readability* issues (mentioned four times). Two of the revisers did not answer, reporting they did not know how their colleagues work.

The revisers were also asked to choose the statements that best described how other revisers with similar experience revise and two statements collected the highest response rates: (i) Other revisers convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide; and (ii) For

other revisers, the English text is just a starting point. They revise as if the text was written originally in Portuguese.

#### 6.2.3.2. Normative expectations

The revisers were also asked in an open question "What expectations do you think they have of your work?" They answered that other revisers, project managers, and leads expect them to be accurate and precise (Mário and Joana) and to respond to the client's needs and parameters (Dália and Octávio) in a high-quality manner (Bernardo).

### 6.2.4. Belief statements about translators

#### 6.2.4.1. Normative attitudes

The revisers were asked about their normative attitudes towards translators on three separate occasions. Unlike the third question, the majority of themes reported were target-oriented in the first two questions, although the most common theme was *accuracy*, traditionally interpreted as source-oriented.

Firstly, when asked "In general, what are the essential characteristics of a good translation?", most revisers reported an extensive list of mainly target-oriented criteria. The most common theme reported was *accuracy*, commonly identified as source-oriented (mentioned fourteen times), followed by a group of thirteen target-oriented characteristics (mentioned in total forty-seven times). According to these revisers, that the translation should:

— *sound natural, as if originally written in the target language* (mentioned eight times). For example, one reviser reported: "that it doesn't feel like a translation, i.e., when you read it, you feel like you are reading the original text" (Dália). Another commented: "not sounding like a translation" (Eduardo).

— be *linguistically correct*, following the grammar, spelling, and style rules of the target language (mentioned seven times).

— be *fluent* (mentioned six times).

— be *clear* (mentioned six times), *reader-oriented* and *target-oriented* (mentioned four times each).

One of the participants said "the goal should be to have a fluent/understandable text in the target language and for the target audience (even if this involves changing the structure of the original sentences or using localization)" (Isaura).

— be *terminologically correct* (mentioned four times). One reviser in particular specified what he means by this: "Terminology is also critical. Most terms should be translated for their equivalents,

but sometimes a more detailed translation of the terms is required, i.e., the translation should provide a short description instead of a word-for-word translation" (Mário).

- be *consistent and cohesive* (mentioned three times).
- be *concise* (mentioned twice). One participant commented: "some texts may require a more succinct structure and phrasing choices" (Octávio).
- be *guideline and glossary compliant* (mentioned twice).
- be *purposeful* (mentioned once).

Secondly, in responding to the question "In general, how do you think translators *should* translate?", the main theme reported by the revisers surveyed was *accuracy* (mentioned nine times), followed by *compliance with the client's instructions and glossaries* (mentioned five times), *linguistic correctness* (mentioned four times) and that translations should be *reader-oriented* (mentioned four times).

Thirdly, the revisers were asked to rate two statements on a Likert-type scale regarding how they thought translators should translate in general. The two statements were (i) The translator is required to convey the meaning faithfully, and (ii) The translator's job is to convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide. The majority of the revisers surveyed agreed or strongly agreed with both statements. Only a small number of the participants disagreed or strongly disagreed: two for each of the statements. These results are similar to the normative attitudes elicited from the novice and experienced translators.

#### 6.2.4.2. Empirical expectations

The revisers were asked about their empirical expectations towards translators on two separate occasions.

First, in response to the open question "In general, how do you think translators *actually* translate?", the majority of the revisers reported negative empirical expectations (mentioned thirteen times), among which the most common themes were literal translations (mentioned four times), inaccurate renditions of the source message (mentioned three times), the use of incorrect terminology (mentioned twice) and translations that are not reader-oriented (mentioned twice).

Examining how the revisers communicated their beliefs about translators more closely, literality expresses the belief that "literal translations immediately give it away as a translation and not the original text. This makes it hard to read and means that, most of the time, we need to read the text



several times to understand it. As well as this, it provides leeway for errors (false friends, etc.)” (Dália). Another reviser (Isaura) expressed similar negative expectations regarding literal translations, saying: “Sometimes I find that translators/revisers want to convey the message faithfully, even if it does not sound natural in the target language and/or maintains too many terms/expressions from the source (this especially applies to the EN-PT pair).”

Secondly, the revisers were asked how they thought translators actually translate, and were requested to select the statement which best described their practices. The two statements (parallel to previous statements) were (i) Translators convey the meaning faithfully, and (ii) Translators convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide. Seven of the revisers surveyed selected the first statement. Five revisers selected the second statement and five revisers used the “Other” option to express negative empirical expectations related to lack of accuracy, self-revision, and preciseness or literality, leading to readability issues.

Thirdly, when asked “How do translators consider a faithful, literal translation?”, the majority of the revisers believe translators consider that a faithful, literal translation is of good or very good quality. It is important to note that one of the revisers, Bernardo, commented the following: “I would say translators consider a faithful, literal translation to be of ‘good quality’ (provided it conveys the meaning); readers consider a faithful, literal translation to be of ‘medium quality.’ As an extra, some translators improve the speech to sound less literal, and that is the bonus that makes the difference between good and very good quality.”

#### 6.2.4.3. Normative expectations

The revisers were also asked in an open question about their normative expectations about translators, i.e., “What expectations do you think translators have of your work?” Opinions were divided. While two revisers said that there was no feedback between translators and revisers or, in Joana's words, “most of the translators I work with are not at all interested in feedback or in the final result of the proofreading,” the remaining three revisers who answered this question said that translators' expectations were high “i.e., work that is researched, revised and QC'd” (Dália).

### 6.2.5. Belief statements about readers

#### 6.2.5.1. Normative attitudes

The revisers were asked about their normative attitudes towards readers on two separate occasions.

Firstly, when asked “What criteria do you think the reader of a translation *should* use to judge its quality?”, two main themes emerged, as before, i.e., source-oriented (twelve mentions) and target-oriented criteria (thirty-nine mentions). Revisers believe readers should judge the quality of a translation based on its *accuracy* (mentioned seven times) and *faithfulness* to the “original” message (mentioned five times). On the other hand, revisers believe that readers should use a combination of nine target-oriented criteria, including *linguistic correctness* (mentioned nine times), *readability* (mentioned seven times), *industry standard terminology*<sup>1</sup> (mentioned five times); the reader should also not notice that she/he is reading a translation and, therefore, the text should be translated *as if it was written originally in the target language* (mentioned four times); it should *sound natural* (mentioned four times), be *clear* (mentioned three times), *fluent* (mentioned three times), *coherent* (mentioned twice), and *purposeful* (mentioned twice). *Linguistic correctness* was the most common theme mentioned by the revisers in response to this question.

Secondly, like the novice and experienced translators, when the revisers were asked to what extent they agree or disagree with two statements which describe how readers should assess the appropriateness of a translation, the majority agreed or strongly agreed with both statements: *readers should consider a translation appropriate if it faithfully conveys the author's message and if the target text was translated as if the text was written originally in Portuguese, taking the English text just as a starting point*. Only three of the participants disagreed with these statements.

#### 6.2.5.2. Empirical expectations

Revisers were asked about their empirical expectations towards readers in three separate questions.

First of all, like the novice and experienced translators, the revisers were also asked “In general, how do you think the readers of a translation *actually* assess it?” The most common themes among the revisers were *clarity* (mentioned seven times), *readability* (mentioned four times), and *linguistic correctness* (mentioned three times). Interestingly, one of the revisers did not answer this question, commenting that readers lack the awareness necessary to assess a translation. The reviser said: “I do not think they are aware of it (unless it's a subtitled film, in which case everybody has an opinion and ‘could do a better job’).” (Fábia)

---

<sup>1</sup> Industry standard terminology is a widely used concept in the language industry to refer to the generally accepted terminology in the industry to which the product translated belongs to (cf. Dunne 2006). In the case of biomedical translation, it is the medical and biomedical industry.

Secondly, in response to the closed question regarding how the readers of a translation *actually* consider it to be appropriate, the revisers believe that readers consider a translation appropriate if it is faithful in comparison with the “original” message as the author intended it and that readers prefer translations that appear not to be translations or, in other words, as if the text was written originally in Portuguese, taking the English text just as a starting point. The difference in agreement between both statements is not significant enough to claim that one statement is really favored over the other. Two of the revisers offered different statements that, in their view, best described how the readers of a translation *actually* consider it appropriate, namely “most readers don’t have access to the source, so they only evaluate the text written in Portuguese. This is why it should be understandable, natural-sounding and clear” (Isaura) and “whether it is comprehensible or not” (Joana).

Thirdly, when asked “And how do translation readers view a faithful, literal translation?”, one of revisers answered that readers consider this type of translation to be of very low quality and the other four answered that it would be of medium or good quality.

#### 6.2.5.3. Normative expectations

The revisers were asked to report on their beliefs about readers’ normative expectations. In the question “In general, what expectations do you think the readers of the translation *have* of your work?”, the surveyed revisers listed nine expectations of which the most common were *reader orientation* (seven mentions), *accuracy* (four mentions), and *clarity* (four mentions).

#### 6.2.6. Impact of beliefs

When the revisers were asked if they would positively assess non-faithful translations if they knew other revisers, project managers, or leads positively evaluated non-faithful translations, four revisers reported that they would not change their behavior and one said that she would. The revisers’ comments on this question are also worthy of attention. One of the revisers, Octávio, commented that it would “depend on the client and purpose of the content” and added that “if other revisers or project managers positively assessed non-faithful translations, the translation market could impose these professionals’ preferences or set them aside.” Another reviser, Dália, said that “this highly depends on the text in question. In what way is it not faithful? If it is because it doesn’t convey the same meaning, then absolutely not. If it’s a matter of style, then it depends on the target audience and the type of text,” reinforcing the view that accuracy is of paramount importance. Bernardo also commented that “ultimately, from a business standpoint, the client’s goal, procedure, and style would be above revisers’, PMs’ and leads’ opinions. There is a place for faithful translations and

there is a place for non-faithful translations—and that is something to be determined beforehand, and the best common sense also has to be taken into account,” putting the onus on the client.

### **6.3. Readers' belief statements**

This section presents the results of the questionnaires conducted with the fifteen health professionals, also focusing on the differences between the beliefs of these professionals in comparison and the beliefs of the translators and revisers surveyed. Appendix 13 provides a detailed analysis of the findings of the questionnaires by question.

As explained earlier, belief statements were elicited regarding the textual options, beliefs, attitudes, and expectations of fifteen health professionals in order to ascertain what expectations these agents prefer to follow and what normative attitudes and empirical and normative expectations motivate their actions. By gauging how health professionals regard the translational norms which govern their behavior and the behavior of their reference network, we hope to better understand how expectations, norms, and values are conceptualized and put into practice from the health professionals' perspective. Measuring these belief statements about textual preferences and beliefs will provide answers to two research questions, specifically:

HP. What are the translational norms regarding source and target orientation of readers in the English to European Portuguese language pair?

MISP2. Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of readers and the observed and perceived norms of readers?

Question HP has two sub-questions:

HP1. What are the textual regularities expressed by preference regarding source and target orientation of readers in the English to European Portuguese language pair?

HP2. What are the perceived norms regarding source and target orientation of readers in the English to European Portuguese language pair?

Question HP2 leads to a number of sub-questions:

HP2.1. What are the personal normative beliefs of readers about themselves?

HP2.2. What are the beliefs of readers about other readers, and translators (i.e., the readers' reference network)?

HP2.3. Do readers prefer to follow the collective pattern of behavior interdependently or independently of what their reference network does?

Question HP2.2., which is a reference network-related question, also has two sub-questions. They are:

HP2.2.a. What are the empirical expectations of readers about other readers and translators?

HP2.2.b. What are the normative attitudes of readers about other readers and translators?

The data analysis begins with these surveyed readers' beliefs about textual preferences.

### **6.3.1. Belief statements about textual preferences**

As with the revisers, the health professionals were asked to select, on two different occasions, the most appropriate translations for two excerpts from a list of translation options. If they did not consider either of the translation options to be appropriate, the health professionals could provide their own translations. In both questions, the majority of the health professionals (nine in the first question and thirteen in the second) selected the most target-oriented option as the most appropriate.

While none of the revisers selected the option "Other" in order to present an alternative translation of their own making, a minority of the health professionals selected that option and provided alternative statements.

### **6.3.2. Belief statements about themselves**

#### **6.3.2.1. Personal empirical beliefs**

The health professionals were asked about their personal empirical beliefs in two separate questions.

Firstly, as with the revisers, in responding to the open question "How do you assess translations?", the majority of themes reported by the health professionals were target-oriented themes (six against three mentions). In spite of the high topic frequency of target-oriented themes, *accuracy* (source-oriented) continues to be the most mentioned criteria for assessment of translations (mentioned three times). The other most common theme which emerging from the analysis is target-oriented, i.e., the importance of *scientific rigor*.

Secondly, respondents were also asked to indicate which of the statements presented best described how readers assess translations. Just like the revisers, the health professionals surveyed

believed that they assess a translation based on the faithful rendering of the meaning of the source text as the author intended, according to linguistic correctness (including grammar, syntax, and style), complying consistently with the client's terminology and style guide. The difference is that while the revisers also believe that translators should create the most natural-sounding target text, as if the target text was written originally in Portuguese, none of the health professionals surveyed selected this option.

#### 6.3.2.2. Personal normative beliefs

In responding to the closed question about how readers should assess translations, there is a consensus among the readers. Like the revisers, they partly agree or strongly agree that they should assess a translation on the basis of its faithfulness to the source message as the author intended (n=15). The majority of the readers also agree with the remaining statements.

### 6.3.3. Belief statements about other readers

#### 6.3.3.1. Empirical expectations

When asked about how they thought other health professionals assess a translation, seven of the health professionals skipped the question or said that they did not know; three others provided statements that do not answer the question. Among the remaining five, *accuracy* was the most common theme (mentioned three times).

### 6.3.4. Belief statements about translators

#### 6.3.4.1. Normative attitudes

Health professionals were asked about their normative attitudes towards translators on three separate occasions. Opinions were divided on source and target orientation depending on the question.

Firstly, when asked "In general, what are the essential characteristics of a good translation?", the majority of themes reported by the health professionals were target-oriented (thirty-two mentions against five mentions). Only one health professional skipped this question.

Despite the high topic frequency of target-oriented themes, *accuracy* continues to be one of the most mentioned criteria for translation assessment (mentioned four times). However, unlike the revisers, the most frequent topic is target-oriented, namely *clear language* (mentioned seven times).

The remaining most common themes emerging from the analysis are target-oriented, including:

- the need to opt for *concise language* (mentioned three times);
- the importance of *readability* (mentioned three times); and
- the focus on the use of *accurate, consistent terminology and language of the medical and biomedical industry* (mentioned four times).

Secondly, in responding to the question “In general, how do you think translators should translate?”, the main theme reported by the health professionals surveyed was *accuracy* (mentioned five times), followed by *faithfulness* (mentioned four times), and *linguistic correctness* (also mentioned four times).

Thirdly, the health professionals were asked to rate two statements on a Likert-type scale regarding how they thought translators should translate in general. The two statements were (i) The translator is required to convey the meaning faithfully, and (ii) The translator's job is to convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide. The majority of the health professionals surveyed agreed (partly or strongly) with both statements. Only one of the participants partly disagreed with the second statement. These results are similar to the elicited normative attitudes of revisers and novice and experienced translators.

#### 6.3.4.2. Empirical expectations

The health professionals were asked about their empirical expectations towards translators and translations in two separate questions and there were differing views in both.

First, in response to the open question “In general, how do you think translators actually translate?”, the beliefs of the health professionals, unlike the revisers, were mixed: eleven of the reported themes were negative empirical expectations and twelve were positive empirical expectations. Among the most common themes was *accuracy* (in total mentioned six times), while three health professionals indicated that translators translate accurately and three said they translate inaccurately. For example, one of the nurses surveyed, Lara, reported that translators “adulterate a little bit, conveying a different meaning.” *Linguistic correctness* also emerged as a common theme (mentioned four times in total), and two health professionals indicated that translators follow the language norms while two said they do not. This was followed by *scientific rigor* (mentioned three times in total), with two believing that translations are scientifically rigorous and one thinking they are not. Health professionals also reported that translators translate *word-for-word* in a negative way (two mentions), and one mentioned, in a positive way, that translators adapt the “original” text.

For instance, biomedical engineer Bruno said: "They translate too 'word-for-word' and the context can be lost or convey a different idea."

Secondly, the health professionals were asked how they thought translators actually translate, and were requested to select the statement which best described their practices. The two statements (parallel to previous statements) were (i) Translators convey the meaning faithfully, and (ii) Translators convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide. Ten of the health professionals surveyed selected the first statement and nine the second.

#### **6.4. Summary and conclusions**

This chapter set out to study the translational norms of revisers and health professionals, regarding source and target orientation. To this end, the source- and target orientation of the belief statements of the fifteen revisers and fifteen health professionals have been presented. These findings suggest that the beliefs elicited from the revisers are at the core of the motivations behind revisers' translation behavior, and that the belief statements elicited regarding source and target orientation of health professionals are at the core of the expectations of health professionals, as the intended readers of the biomedical instructional materials.

Next, the results are summarized and discussed.

##### **6.4.1. Revisers' norms**

###### **Beliefs about textual preferences (question RV1)**

The majority of the revisers believe the most target-oriented options to be the most appropriate. That is, in the translation of these excerpts from a biomedical text, the majority of the revisers believed the most appropriate translation for the first excerpt was the most target-oriented option. These translations result from target-oriented translation solution types, namely, in the first excerpt, explicitation, omission and addition, dictionary-equivalent translation, and distribution change; and in the second excerpt, hyponymy, dictionary-equivalent translation, paraphrase, distribution change, and lexical calque (this last one, the only source-oriented translation solution type).

###### **Belief statements: overview**

The most frequent themes are target-oriented, namely linguistic correctness, readability and reader-orientation, fluency and natural-sounding text, clear language, terminological accuracy and



consistency, as if originally written in target language, client's expectations, and faithfulness (see Table 36, next page). Nevertheless, like novice translators, accuracy is the most common theme across all open questions and covering all the beliefs under study for revisers.

	Accuracy	As if originally written in TL	Clear language	Client's expectations	Faithfulness	Fluent, natural-sounding text	Linguistic correction	Readability and reader-oriented	Terminological accuracy and consistency
%	20%	6%	8%	5%	3%	9%	14%	13%	7%

**Table 36.** Percentage of revisers' most commonly mentioned criteria to describe translation appropriateness, global level.

### Personal empirical beliefs

The revisers believe that they themselves mainly favor target-oriented themes, i.e., the revisers named more target-oriented than source-oriented criteria (thirty-seven mentions against thirteen mentions). Nevertheless, accuracy and faithfulness are the most common criteria in response to this question. From the statements selected, the majority of the revisers surveyed believed that they assess a translation on the basis of the faithful rendering of the meaning of the source text as the author intended, respecting linguistic correctness (including grammar, syntax and style), complying consistently with the client's terminology and style guide. They also believe (or at least the majority do) that a target text should not be translated as if the text was written originally in Portuguese.

### Personal normative beliefs (question RV2.1.)

These revisers believe that they should assess translations based on their faithfulness to the source message as the author intended. To describe their personal normative beliefs, the revisers selected the most source-oriented option. However, similarly to the novice and experienced translators, the analysis suggests that these revisers believe that target texts should share source and target characteristics. Hence, the translation should balance a faithful rendering of the source message as the author intended with the grammatically correct use of the target language. It should also take into consideration the client's guidelines with respect to style and terminology and, last but not least, it should not appear to be a translation.

**Empirical expectations about translators (question RV2.2.a.)**

The revisers expect translators predominantly not to follow what revisers consider to be the translational norms and to produce literal and inaccurate translations. Some experienced translators had already expressed this expectation about their fellow translators. For instance, Ivone explained that “in general, translations (from English) tend to be mostly literal, maintaining the use of possessives of the English language and other specific traits that do not exist in European Portuguese. This may be due to a lack of familiarity with their own language, lack of reflection on the work of translation, or a simple reflection of the cultural power of the English language.” Based on the analysis of the revisers' empirical expectations, it is possible to say that revisers consider that translators opt for or favor (more) source-oriented options (especially literal translations) and that revisers consider this to go against the translational norm, favoring natural-sounding, accurate translations.

**Empirical expectations about other revisers with similar experience and about readers (question RV2.2.a.)**

The revisers expect other revisers with similar experience to predominantly favor accurate, faithful and linguistically correct translations. The revisers' empirical expectations do not significantly vary regardless of whether the beliefs concern other revisers or readers. These participants think that the readers of their translations believe that a translation is considered appropriate if it is faithful in comparison with the “original” message as the author intended it and that readers prefer translations that appear not to be translations. The main themes were clarity and readability. Taken together, these empirical expectations do not differ significantly from the empirical expectations of the translators about revisers and readers. The translators expect revisers to assess translations based on source-oriented criteria, such as accurately rendering the full meaning of the source text in a linguistically correct target text, and they expect readers to also focus on the faithful rendering of the source message as the author intended in a text that reads as if it was written originally in the target language.

**Normative expectations (question RV2.2.c.)**

The revisers believe other revisers, project managers, leads, and translators expect them to assess translations based on high standards of quality, accuracy and following the client's needs and parameters. The revisers believe readers expect them to contribute to the production of reader-oriented, clear and accurate translations.

### **Normative attitudes (question RV2.2.b.)**

The analysis of the normative attitudes about translators and readers corroborates the previous findings. The revisers believe translators and readers should use mainly target-oriented criteria to produce or assess translations. The majority of the revisers believe translators and readers should consider a translation appropriate if it is target-oriented, especially concerning linguistic correctness and clients' expectations regarding terminology and the style guide, but never forgetting that it should be accurate in comparison with the source text, a criterion usually described as source-oriented.

### **Interdependent or independent behavior (question RV2.3.)**

Four of the revisers reported that they would not change their behavior if they knew revisers, project managers, or leads evaluated non-faithful translations positively, and one said he would. The low response rate to this question (n=5) does not enable us to draw meaningful conclusions regarding the nature of the revisers' behavior. For four of the revisers, this answer suggests that their beliefs are unconditional, like the novice and experienced translators.

### **Observed and perceived norms (question RV1 and RV2)**

In summary, when asked to assess translations of two excerpts, revisers opted for the most target-oriented translation, and, quantitatively speaking, the predominant, most commonly valued criteria for a translation are target-oriented. These translations should be correct from a linguistic point of view, readable and reader-oriented, fluent and natural-sounding, using a clear language, terminological accurate and consistent, as if originally written in target language, taking into consideration the client's expectations. These are not only their beliefs about what they as revisers do, but also their beliefs about what they as revisers should do and what other revisers, translators, and readers expect them to do. Nevertheless, the source-oriented criteria of accuracy is the most mentioned criteria to describe the appropriateness of a translation.

## **6.4.2. Health professionals' norms**

### **Beliefs about textual preferences (question HP1)**

The majority of the health professionals, like the revisers, believe the most target-oriented options to be the most appropriate. That is, in the translation of these excerpts from a biomedical text, the

majority of the revisers believed the most appropriate translations were the most target-oriented. These translations result from target-oriented translation solution types, namely, in the first excerpt, explicitation, omission and addition, dictionary-equivalent translation, and distribution change; and in the second excerpt, hyponymy, dictionary-equivalent translation, paraphrase, distribution change, and lexical calque (the last one, the only source-oriented translation solution type).

**Belief statements: overview**

Like the revisers, the most common themes for the readers are target-oriented, namely clear language, concise language, fluent, natural-sounding texts, linguistic correctness, plain, accessible language, readability and reader orientation, scientific rigor, and terminological accuracy and consistency (see Table 37 below). These are not only their beliefs about what they as readers favor, but also their beliefs about what they as readers should favor, and about what translators should do. Nevertheless, accuracy is the most common theme across all open questions and covering all the beliefs under study for readers.

	Accuracy	Clear language	Concise language	Fluent, natural-sounding text	Linguistic correctness	Plain, accessible language	Readability and reader-oriented	Scientific rigor	Terminological accuracy and consistency
%	18%	12%	5%	4%	11%	4%	8%	11%	7%

Table 37. Percentage of readers' most commonly mentioned criteria to describe translation appropriateness, global level.

**Personal empirical beliefs**

The health professionals, just like the revisers, believe they themselves mainly favor target-oriented themes, i.e., the health professionals named more target-oriented criteria than source-oriented (six mentions against three mentions). Nevertheless, the criterion which is most frequently mentioned by most health professionals is source-oriented, i.e., accuracy. It should be noted that although these findings are practically the same as those for the revisers, while revisers favor accuracy and faithfulness, readers favor accuracy.

The health professionals, again just like the revisers, believe that they assess a translation on the basis of the faithful rendering of the meaning of the source text as the author intended, respecting linguistic correctness (including grammar, syntax, and style), complying consistently with the client's terminology and style guide. The difference is that while the revisers also believe that translators should create the most natural-sounding target text as if the target text was written originally in

Portuguese, none of the health professionals surveyed selected this option when asked about their personal empirical beliefs.

#### **Personal normative beliefs (question HP2.1.)**

These health professionals believe that they ought to consider the appropriateness of a translation by comparing the target text with the source text and evaluate it on the basis of faithfulness to the source message as the author intended. The health professionals, just like the revisers, selected the most source-oriented option when asked to describe their personal normative beliefs. Nonetheless, just as with the novice and experienced translators and with the revisers, the analysis also suggests that these readers believe that target texts should share source and target features. In other words, a translation, according to the health professionals, should convey a faithful rendering of the source message as the author intended with the grammatically correct use of the target language, complying with the client's guidelines. It should also not seem to be a translation.

#### **Empirical expectations about other readers and about translators (question HP2.2.a.)**

The majority of the health professionals who answered this question (seven) indicated that they did not know how other health professionals assess a translation. Such a high non-response rate is not unexpected. Even though health professionals deal with translated texts on a daily basis, it was not expected for them to be aware of their colleagues' opinions about translation. In spite of this, five health professionals indicated their empirical expectations about other health professionals, accuracy being the most common of those expectations.

The most important, common characteristics in a translation reported by this group of participants were its accuracy, followed by observance of target language norms and scientific rigor. From the statements selected to describe how they thought translators actually translate, it is possible to conclude that the health professionals believe that translators convey the meaning faithfully and convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.

#### **Normative attitudes about translators (question HP2.2.b.)**

The health professionals believe translators should use mainly target-oriented criteria to produce translations. Regarding normative attitudes, the health professionals' most mentioned topics were *clear language* and *accuracy*. From the statements selected to describe how they thought translators actually translate, it is possible to conclude that the health professionals believe that the translator is required to convey the meaning accurately and that the translator's job is to convey the

full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.

**Observed and perceived norms (question HP1 and HP2)**

In summary, when asked to assess translations of two excerpts, health professionals opted for the most target-oriented translation, and, quantitatively speaking, the predominant, most commonly valued criteria in a translation are target-oriented. These translations should be clear, concise, fluent, natural-sounding, linguistically correct, with plain and accessible language, taking into account readability and reader orientation, scientific rigor and terminological accuracy and consistency. These are not only their beliefs about what they as revisers do, but also their beliefs about what they as revisers should do, and what other revisers, translators, and readers expect them to do. Nevertheless, the source-oriented criteria of accuracy is the most mentioned criteria to describe the appropriateness of a translation.

The next chapter summarizes and discusses the overall conclusions regarding the translational norms of translators, revisers and health professionals, and translators' perceptions and misperceptions about revisers' and health professionals' norms. The chapter also identifies the main limitations and suggestions for future research and the implications of the findings.

## CHAPTER 7 — DISCUSSION AND CONCLUDING REMARKS

### 7.1. Summary

Initially this dissertation aimed to describe and explain the biomedical translational norms of novice and experienced translators, revisers and health professionals, searching for similarities, differences and potential misperceptions in the data collected. As the research progressed, it zoomed in on biomedical translational norms of novice and experienced translators and their perceptions and potential misperceptions about revisers' and health professionals' norms in the English to European Portuguese language in contemporary Portugal.

Regarding the methods and data adopted, given that one of the aims of this dissertation was to explore for the first time biomedical translation in the English to European Portuguese language pair in contemporary Portugal, this study first set out to further understand who the agents involved in biomedical translation are, what they do, what for, in what text-types, with what function and for whom. In order to collect information on the subject, an exploratory and preliminary case study approach was adopted, due to the lack of available information. An analysis was carried out on a corpus of 700,000 words of different text-types of medical and biomedical content translated from English to European Portuguese submitted to me, including e-mail exchanges between translators and project managers.

In a second phase, a mixed methodology based on quantitative and qualitative product- and process-oriented approaches was employed to study (i) how the novice and experienced translators translated an instructional text about a medical device intended for health professionals, (ii) what were the translational preferences of the fifteen revisers and fifteen health professionals regarding the same instructional text, and (iii) the expectations of these translators, revisers, and health professionals about biomedical translation, the translated text, and translation agents.

Quantitative and qualitative research designs were adopted to provide data to address these questions. Data for this study were elicited, analyzed, and triangulated mainly using keylogging and screen-recording data, interim and target texts, and questionnaires.

In particular, to collect data on textual regularities regarding source and target orientation expressed in the translation solutions of the novice and experienced translators, an experiment was designed to study **thirty translations of a 244-word instructional text** about a medical device intended for health professionals. The data elicited from fifteen novice translators with **up to two years of experience** in translation and fifteen experienced translators with **eleven to twenty-nine years of**

**experience** included keylogging and screen-recording data, interim versions, and target texts. These data were triangulated and analyzed to describe (i) the observed translation solutions in response to problematic translation units, and (ii) the source and target orientation of the solution types.

To collect data on beliefs, attitudes, and expectations regarding source and target orientation of translators, the two groups of translators (novice and experienced) were asked to answer questionnaires designed to elicit a number of different types of beliefs in order to analyze: (i) how translators believe they should translate (personal normative beliefs); (ii) how translators believe other translators should translate (normative attitudes); (iii) what translators believe are other translators', revisers' and health professionals' expectations about translators, translation and the translated text in the biomedical context (normative expectations); (iv) how translators believe revisers and health professionals assess translations and how translators believe other translators translate (empirical expectations); and (v) if translators' decisions are influenced by what they believe other agents do or think they should do (interdependent behavior).

In addition, **fifteen experienced revisers (with a minimum of four years of experience)** and **fifteen health professionals (from biomedical engineers and medical information specialists to doctors and nurses)** were asked to answer a questionnaire designed to elicit data on (i) their translational preferences, and (ii) their expectations about biomedical translation and translators regarding source and target orientation.

The first part of the questionnaire aimed at identifying their translational preferences regarding source and target orientation asked them to choose the most appropriate translations for two excerpts from the same instructional text of a medical device that the thirty translators had already translated. The second part of the questionnaire elicited their beliefs about: (i) how revisers and health professionals believe they should assess a translation (personal normative beliefs); (ii) how revisers and health professionals believe translators should translate (normative attitudes); (iii) what they believe translators', revisers' and health professionals' expectations are about translation agents, translation and the translated text in the biomedical context (normative expectations); (iv) how revisers and health professionals believe translators translate and how revisers and health professionals believe other agents assess a translation (empirical expectations); and (v) if revisers' decisions are influenced by what they believe other agents do or think they should do (interdependent behavior).

To analyze data on textual regularities regarding source and target orientation expressed in the translation solutions, a definition of translation problem based on Toury (2011, 2012) was adopted.



The translation problems identified in keylogging and screen-recording data were not implied or assumed, but accessed by the researcher by observing the gradual development of the translation process. To identify the problematic translation units a nuanced classification of translation units, based on primary and secondary indicators of translation problems was proposed (building on Krings 1986; and Göpferich 2010b). These indicators allowed for a distinction between (i) non-problematic units and problematic units, and (ii) interim solutions and consciously postponed decisions. After the problematic units of translation had been identified, these were matched with the translation solutions found in the interim versions and target texts. The translation solutions were then classified adopting and adapting Chesterman's (2016b) proposal of syntactic, semantic and pragmatic translation solution types. These solution types were further interpreted as source- or target-oriented. An "other" category was also proposed to classify typos found in the interim versions and target texts.

To analyze data on beliefs, attitudes and expectations regarding source and target orientation, this study first proposed a definition of translational norms that took into account the role of agents' expectations as potential motivators of norm-governed behavior, connoting what is considered appropriate and inappropriate (adapted from Bicchieri 2017a). In addition, a detailed taxonomy of beliefs, attitudes, and expectations was also proposed for the study of translational norms (adapted from Bicchieri 2017a). These beliefs, attitudes, and expectations were analyzed, compared and discussed by coding the unstructured and structured data produced by the open and closed questions of the questionnaires. These data were organized around the emerging themes, by (i) identifying the relevant units of analysis, (ii) applying labels to group together similar belief statements, and (iii) discovering patterns using a computer-assisted qualitative data analysis software tool (NVivo).

Data provided by these sixty translation agents were elicited and analyzed to answer the following research question: considering English to European Portuguese biomedical translation in the contemporary Portuguese market, are the observed translational norms and perceived translational norms of translators, revisers, and readers similar or different regarding source and target orientation?

The relevance of studying translational norms in general and in the biomedical context in particular were described throughout this research project. It is worth highlighting the following four relevant aspects at this point.

Firstly, this research project is the first to conduct a descriptive, empirical, experimental and target-oriented study focusing especially on source and target orientation in biomedical translation in the English to European Portuguese language pair in contemporary Portugal.

Secondly, translation has been identified of particular interest in healthcare settings. In addition, the increasingly important role of medical devices for the provision of healthcare and the economic weight of this industry in the European context makes the field of biomedical translation especially valuable within scientific-technical translation.

Thirdly, the power negotiation in translation makes it relevant: to study how translators translate (their translation processes and products); to observe their beliefs about translation and the translated text in biomedical translation; and to analyze and compare these aspects with the translational preferences of translators, revisers, and readers, and their expectations about translators, translation, and the translated text regarding source and target orientation. In this context, translational norms and expectations emerge as key descriptive instruments to analyze these power exchanges, particularly when translating from a hypercentral language and culture to a peripheral one, as in the case of English to European Portuguese in contemporary Portugal.

Finally, the formulation of translational norms—by describing regularities in the behavior as well as beliefs, attitudes, and expectations of translation agents with different roles (translators, revisers, and readers) and different levels of experience (in the case of translators, novice and experienced)—is considered (i) professionally relevant as the norms extracted by this study may be used as recommendations to the practice of translation, (ii) didactically relevant as the descriptive-explanatory study reveals findings which can be applied in the training of students and translation trainees, but also (ii) theoretically relevant because it contributes to the body of literature on norms to generalize and formulate probabilistic laws in future research. To describe existing relations between the translation agents, this research project considered new variables relevant for scientific-technical translation—different types of observed and perceived beliefs, attitudes, and expectations—, proposed an innovative conceptual framework for the study of translational norms, and described a complexity of beliefs and expectations assumed to influence decision-making processes in translation as norm-governed behavior.

The purpose of this final chapter is to summarize the key findings and formulate answers to the research question and sub-questions. The chapter therefore begins with a summary and discussion of the translators' norms, followed by the revisers' and health professionals' translational norms regarding source and target orientation; it then addresses the translators' perceptions and

misperceptions of the revisers' and health professionals' translational norms regarding source and target orientation. After this, the limitations of the study are discussed, and suggestions for future research are presented. The last section includes a discussion of the potential implications of the findings of this research project.

## 7.2. Observed and perceived norms

### 7.2.1. Translators' norms

#### Observed norm: what translators do

The answer to the question "What are the textual regularities regarding source and target orientation of novice and experienced translators?" (T1) is that both novice and experienced translators opted for both source- and target-oriented translation solutions. On average, 59% of the novice translation solutions were source-oriented and 61% were target-oriented translation solutions (allowing for some of the problematic translation units to be translated using both source- and target-oriented translation solutions at the same time). In comparison, those figures for the experienced translators were 64% and 57% respectively.

The findings show that the novice and experienced translators' source-oriented translation solutions make up more than 51%, supporting the descriptive hypothesis that the initial norm of **source orientation** motivates 51% or more of the translation solution types identified in the novice and experienced translators' problematic translation units analyzed. The findings also show that the novice and experienced translators' target-oriented translation solutions make up more than 50%, which contradicts the descriptive hypothesis that the initial norm of **target orientation** motivates less than 50% of the translation solution types identified in the novice and experienced translators' problematic translation units analyzed. For the translators (both novice and experienced), both source- and target-oriented translation solution types fall under the category of secondary norms (i.e., secondary norms are those norms which motivate/drive 51% to 90% of the translation solution types identified in the problematic translation units analyzed). In addition, the findings show that novice translators employed on average more target-oriented translation solutions than source-oriented ones, which contradicts the descriptive hypothesis that novice translators employ on average more source-oriented translation solutions than target-oriented translation solutions. However, the difference between the average of the novice translators' translations solutions that were source-oriented and the average of those that were target-oriented was not significant enough to draw conclusions, and the standard deviation was considered somewhat high.

The higher-than-expected average percentage of translation solutions by novice translators that were target-oriented may also be related to translator training. The majority of the translators selected for this study had formal translation training at post-graduate level. It can be safely assumed that students in Portuguese translation classes are informed of the law of interference and that source-oriented translations, particularly literal translations and false friends, are considered common errors to avoid and are associated with lack of competence (see Płońska 2016, 289). This is a potential explanatory hypothesis for these findings. However, more research on this topic needs to be undertaken before the possible link between target orientation and translator training can be more clearly understood. For instance, a further study that compares the textual data and extratextual data on source and target orientation for novice and experienced translators with and without formal university training in translation is suggested.

**Perceived norm: what translators believe they should do, what they believe others should do, what they believe others do, what they believe others think they should do**

The balance between source- and target-oriented translation solutions in the textual regularities can be explained by the translators' elicited beliefs and expectations. The novice and experienced translators, when answering the open questions, described the appropriateness of a translation based on their personal normative beliefs, normative attitudes, and empirical and normative expectations about other translators, revisers, and readers, using both source-oriented and target-oriented criteria. Hence, the answer to the question "What are the perceived norms regarding source and target orientation of novice and experienced translators in the English to European Portuguese language pair?" (T2.) is consistent with the textual regularities, i.e., the perceived norms are both source- and target-oriented. These findings do not contradict the descriptive hypothesis that novice and experienced translators believe that they ought to produce source-oriented translations and, therefore, the translators value source-oriented criteria of appropriateness that guide the relationship between source and target texts, expressing beliefs of fidelity and loyalty towards the "original" text and the message as the author intended, including valuation of literal translation. However, the formulated descriptive hypothesis did not account for the fact translators also value target-oriented criteria.

One of the novice translators expressed this belief of a balanced source and target orientation clearly. Bárbara expressed the belief that the criteria revisers should use when assessing a translation involve "a balance between conveying faithful meaning and fulfilling the client's requests," calling this a "middle ground." In this context, it is plausible to argue that novice and

experienced translators, instead of conceiving of source- and target-oriented translation solutions as a binary opposition, examine the range of translation solutions in their “tool kit”<sup>1</sup> and choose between source- and target-oriented translation solutions. This choice is potentially based on (i) how they, as translators, think they, as translators, should translate (personal normative beliefs), (ii) on how they, as translators, think their reference network (other translators, revisers and health professionals) should translate or assess a translation (normative attitudes), (iii) on how they, as translators, think their reference network translate or assess a translation (empirical expectations), and (iv) on how they, as translators believe their reference network should translate (normative expectations).

In addition, a slight difference is found between the novice translators’ and experienced translators’ beliefs. When asked in closed questions which statement best described their beliefs, the novice translators expressed a more source-oriented preference than experienced translators. The majority of novice translators expressed that the best statement to describe translation appropriateness is: if it faithfully conveys the message as the author intended. The statement which best described the experienced translators’ beliefs is more target-oriented in comparison with the previous one: that it conveys the full meaning of the source in the target language in a natural-sounding translation, respecting its grammatical, syntactic and stylistic rules; consistently following the client’s terminology and the style guide. So even though, in open questions, the novice and experienced translators referred to both source- and target-oriented criteria to describe the appropriateness of a translation, in closed questions, the novice translators opted for the most source-oriented statement, and the experienced translators opted for a more target-oriented statement than novice translators. This finding motivated the formulation of a new descriptive hypothesis which had not been considered initially, namely that even though novice and experienced translators believe that translations should share both source- and target-oriented criteria, novice translators tend to describe translation appropriateness based on more source-oriented beliefs than experienced translators.

#### **Observed norm: what translators do and redo**

#### **From less source-oriented versions to more source-oriented ones, and vice-versa**

The comparison of interim versions and target texts reveals opposing tendencies by the novice and experienced translators regarding source and target orientation.

---

<sup>1</sup> See Swidler’s (1986, 273) definition of culture in Chapter 1.

Remarkably, the novice translators proceeded from **less source-oriented translations to more source-oriented ones**, i.e., on average 46% of the interim translation solutions by novice translators were **source-oriented** and on average 59% of the final translation solutions were source-oriented; in contrast, on average 65% of the interim translation solutions by novice translators were **target-oriented** and on average 61% of the final translation solutions were target-oriented.

In contrast, the experienced translators proceeded **from more source-oriented versions to less source-oriented ones**, i.e., on average 73% of the interim translation solutions by experienced translators were **source-oriented** and on average 64% of the final translation solutions were source-oriented; while on average 50% of the interim translation solutions by experienced translators were **target-oriented** and on average 57% of the final translation solutions were target-oriented.

Additional data collected in this study regarding the groups of novice and experienced translators that (i) faced a lower-than-average and higher-than-average number of translation problems, and (ii) spent less-than-average and more-than-average time on the translation task shed more light on the conditions under which novice translators tend to proceed from less source-oriented versions to more source-oriented ones.

First, both the novice and experienced translators faced a similar number of translation problems (a mean of 42 in the case of the novice translators and a mean of 43 in the case of the experienced translators). Therefore, for the translators in this study, the experienced translators on average did not face fewer problems than the novice translators.

Second, the group of **novice translators** that had the **higher number of translation problems**, on average, (i) proceeded from less source-oriented to more source-oriented versions (from 60% SO to 68% SO), and (ii) opted for more target-oriented than source-oriented translation solutions in interim versions (64% TO vs. 60% TO), and for translation solutions that were more source-oriented than target-oriented in the target texts (68% SO vs. 58% TO). The group of novice translators that had the **lower number of translation problems**, on average, (i) proceeded from less source-oriented to more source-oriented versions (from 37% SO to 54% SO), and (ii) opted for translation solutions that were more target-oriented than source-oriented in the interim versions (65% TO vs. 37% SO) and target texts (62% TO vs. 54% SO).

The group of **experienced translators** that had the **higher number of translation problems**, on average, (i) proceeded from more source-oriented versions to less source-oriented ones (from 76% SO to 73% SO), and (ii) opted for more source-oriented than target-oriented translation solutions in

the interim versions (76% SO vs. 39% TO) and target texts (73% SO vs. 46% TO). In comparison, the group of experienced translators that had the **lower number of translation problems**, on average, (i) proceeded from more source-oriented versions to less source-oriented ones (from 71% SO to 58% TO), and (ii) opted for more target-oriented than source-oriented translation solutions in the target texts (64% TO vs. 58% SO), but not in the interim versions (57% TO vs. 71% SO).

Additionally, the novice translators that spent **less time** on the task opted, **on average, for more source-oriented translation solutions** in the target texts (65% SO vs. 57% TO), while the group of novice translators that spent more time on the task opted, on average, for more target-oriented translation solutions in the interim versions (37% SO vs. 72% TO) and target texts (52% SO vs. 64% TO).

Therefore, there may be a relation between source orientation, text difficulty (expressed by the number of translation problems), time and experience:

(i) The novice translators and experienced translators that faced a higher number of translation problems opted for translation solutions that were more source-oriented than target-oriented in the target texts, revealing that the **number of translations problems** may have an impact on **source orientation**.

(ii) The novice translators that faced a higher number of translation problems proceeded from less source-oriented versions to more source-oriented ones, but the experienced translators under the same conditions proceeded from more source-oriented versions to less source-oriented ones. This reveals that **experience** may have an impact on proceeding **from more source-oriented translations to less source-oriented translations** when facing a higher number of translation problems.

(iii) The **number of translation problems** seemed to be **more relevant for the novice translators' processes** than for the experienced translators, since the novice translators that faced the lower number of translation problems opted for more target-oriented solutions when writing down their interim versions and when making their final decisions in the target text, while the experienced translators that faced the lower number of translation problems showed the same tendency as the experienced translators that faced the higher number of translation problems and proceeded from more literal versions to less literal ones. Putting it simply, the novice translators that faced more problems and the novice translators that faced fewer problems displayed differing behavior. The experienced translators, on the other hand, displayed on average the same tendency, regardless of whether they faced more or fewer problems.

(iv) For the novice translators, **time** seems to be a factor in reaching **target orientation**. However, this is not the case for the experienced translators, for whom time does not seem to be a factor. The experienced translators that spent less time and those that spent more time on the task exhibit similar behavior regarding source and target orientation (they proceed from less source-oriented to more target-oriented translations), suggesting that these experienced translators did not seem to need more time to activate target-oriented translation solutions. This might have happened because the target-oriented solutions have become internalized and are therefore easier to access in a shorter amount of time. Nevertheless, further studies that take these variables (time and experience) into account need to be undertaken in order to better understand the phenomena and apply the results to achieve more efficient and effective translator training.

Finally, it is further suggested that (i) when facing texts or segments that are more difficult or have a higher number of problems, and (ii) when spending less time on the translation task, novice translators may tend to proceed from less source-oriented versions to more source-oriented ones due to the complexity of the text or segments or due to the risk involved in translating texts that can influence patients' health. This regularity motivated the formulation of a new descriptive hypothesis which had not been considered initially and which has a potential impact on translator training, namely that when facing segments with a higher number of problems (in comparison with segments with a lower number), novice translators tend to proceed from less source-oriented translation solutions to more source-oriented translation solutions.

#### **From less literal versions to more literal ones**

The comparison of interim versions and target texts also revealed that the novice and experienced translators **proceeded from less literal versions to more literal ones**: on average 26% of the interim translation solutions by novice translators were literal translations, and on average 40% of the final translation solutions were literal translations; while on average 54% of the interim translation solutions by novice translators were literal translations, and on average 59% of the final translation solutions were literal translations. Therefore, the data suggests a **literalization phenomenon** (progression from less literal versions to more literal ones) in the novice and experienced translators' processes. The data also suggests that the tendency to proceed from less literal versions to more literal ones is more pronounced in novice translators (from 26% to 40%) than in experienced translators (from 54% to 59%).

This literalization phenomenon suggested by the data is inconsistent with the findings found in the literature. There are several scholars who have argued that translators tend to deliteralize (move



from more literal to less literal). Toury (1995, 191) quotes Ivir (1981, 58)<sup>2</sup> to explain this “monitor model”:

The translator begins his search for translation equivalence from formal correspondence, and it is only when the identical-meaning formal correspondence is either not available or not able to ensure equivalence that he resorts to formal correspondents with not-quite-identical meanings or to structural and semantic shifts which destroy formal correspondence altogether.

This hypothesis, the *literal translation hypothesis*, has been tested directly or indirectly by several scholars, such as Englund Dimitrova (2005), Tirkkonen-Condit (2005), and Tirkkonen-Condit, Mäkisalo, and Immonen (2008). According to this hypothesis, “during the translation process, translators tend to proceed from more literal versions to less literal ones” (Chesterman 2011, 26). The assumption is that, as Chesterman (2011, 26) clarified, the cognitive process tends to be influenced on the first stages by the formal features of the source text. Tirkkonen-Condit (2005, 407–8), for instance, referring to the “monitor model,” describes literal translation as a default procedure in the following way: “It looks as if literal translation is a default rendering procedure, which goes on until it is interrupted by a monitor that alerts about a problem in the outcome. The monitor’s function is to trigger off conscious decision-making to solve the problem.” She has found evidence in keyboard loggings (2005, 411) “of the literal translation automaton and its monitor.”

Englund Dimitrova also found, in her study on expertise and explicitation from Russian into Swedish, that “during the writing phase, there was a tendency for syntactic revisions to result in structures that were more distant from the structure in the ST than the first version chosen, both overall and especially in the revisions made by the four professionals and by Fredrik (TS)” (2005, 121). She concludes that the way translators use literal translation is a matter of expertise, since it seems there is a tendency for professionals to use literal translation as a processing strategy, moving from more literal to less literal solutions in their target texts (in comparison with their interim versions). Literal translation is an “important part of the translation process, often as the first version,” functioning “as an intermediate step in their process. This can be assumed to have an important role in actually allowing them to process larger units, since writing down a part of a sentence in the TL liberates STM capacity for the processing of further parts of the sentence” (2005, 232–33). This author found that an important aspect of professional competence and expertise is the way in which translators deal with literal translations: “in order to minimize cognitive effort, but also to apply appropriate procedures for evaluation and, if necessary, revision” (2005, 234).

---

<sup>2</sup> Also quoted by Chesterman (2011, 27).

Building on these findings, and considering that the tendency to proceed from less literal versions to more literal ones is more pronounced in novice translators than in experienced translators, it is relevant to consider that novice translators in comparison with experienced ones may lack monolingual self-revision competence and/or lack confidence to proceed from more literal translations to less literal ones. Literal translation is assumed to be a processing strategy in the translation process of experienced translators, as suggested by Englund Dimitrova (2005, 232–33). Some of the Portuguese experienced translators that participated in the main study assessed their interim versions in order to determine the appropriateness of the translation solutions and opted to change certain interim versions from more literal to less literal. On the contrary all of the novice translators, when assessing their interim versions, opted to change some of their interim versions from less literal to more literal. It is suggested that this literalization phenomenon may be linked to lack of experience and competence in monolingual self-revision and/or lack of confidence. The domain of biomedical texts may also be a relevant variable that explains why in some cases translators may proceed from less literal versions to more literal ones. The difficulty of the subject matter together with the potential impact on patients' health may be behind the move from less literal to more literal in an attempt to avoid the risk of changing the source message.

### **Target-oriented translation solutions**

Zooming in on the target-oriented translation solutions produced by the novice and experienced translators, it was found that explicitation changes (explicitation, implicitation, and hyponymy/hypernymy) and information changes (addition, omission, and “other”) were the most common when translating the biomedical text.

### **Explicitation and implicitation**

In the classification of translation solutions, explicitation and implicitation were considered target-oriented, given that (i) target texts that are more explicit or implicit than source texts display a higher or lower degree of aspects such as encodedness, informativity, specificity, emphasis, and focus and topicality (Murtisari 2016, 65), and (ii) the translators opt to explicitate or implicitate based on their beliefs of what the normative and empirical expectations and normative attitudes of the revisers and prospective readers are, according to the corpus analysis of the translations by the experienced and novice translators and the analysis of their expressed beliefs.

The novice and experienced translators evidenced opposing solutions: while, on average, the novice translators opted more frequently for implicitation, on average, the experienced translators opted

more frequently for explicitation. Explicitation represented an average of 4% of the interim target-oriented translation solutions used by the **novice translators**, and an average of 23% of their final target-oriented translation solutions, while implicitation represented an average of 23% of the interim target-oriented translation solutions used by the novice translators and an average of 50% of their final target-oriented translation solutions. Explicitation represented an average of 26% of the interim target-oriented translation solutions used by the **experienced translators** and an average of 22% of the final target-oriented translation solutions, while implicitation represented an average of 17% of the interim target-oriented translation solutions used by the experienced translators and an average of 18% of the final target-oriented translation solutions.

Based on the analysis of the target texts, implicitation was used by the novice translators as a tactic to create more natural-sounding target texts. In fact, achieving a more *natural-sounding* target text was also one of the criteria identified in the beliefs of the novice translators, and it was particularly associated with normative expectations about readers (i.e., when asked “How do you think the readers of the translation assess a translation?”), empirical expectations about revisers (i.e., when asked “How do you think revisers assess a translation?”) and normative attitudes about readers (i.e., when asked “What criteria do you think the reader of the translation should use to judge the quality of a translation?”).

Also based on the analysis of the target texts, explicitation was used by the experienced translators as a tactic to create clearer texts, and is thus associated with the belief of *clarity* (a target-oriented criterion) expressed by experienced translators in connection to translators’ normative attitudes and normative expectations about readers.

Regarding the novice translators’ data, the most surprising aspect is that it seems that both the interim versions and the target texts of the novice translators resort less to explicitation than to implicitation translation solution types. This finding is contrary to previous studies which have suggested that translations tend to be more explicit than source texts and that explicitation is a potential translation universal (e.g., Blum-Kulka 1986, 304). Therefore, there might be a connection between explicitation/implicitation and experience and/or translation competence, namely that experienced translators, favoring clearer target texts, opt for explicitation as a translation solution more than novice translators.

The data on beliefs were analyzed to search for this relation and it was found in the preferences expressed by the revisers and health professionals. When asked to assess different translation options for two excerpts from the same biomedical text translated by the novice and experienced

translators, the revisers and health professionals considered the most target-oriented translations to be the most appropriate. These more target-oriented translations were characterized by explicitation (among other solutions). Hence, it seems to be that experienced translators, revisers and readers prefer more explicit translations. This finding may be important for the training of novice translators.

However, further studies on the translation of biomedical texts are needed to explore this phenomenon of explicitation. First, it is suggested that implicitation/explicitation should be studied for novice and experienced translators in order to further understand whether experience is a relevant variable for this phenomenon. Second, Englund Dimitrova's distinction between explicitation as norm-governed and as a strategy to deal with translation problems could guide further studies on biomedical translation (see Englund Dimitrova 2005, 236) in order to better understand the nature of explicitation/implicitation and its connection to source and target orientation.

### **Hyponymy/hypernymy**

In the classification of translation solutions, hyponymy/hypernymy<sup>3</sup> is considered target-oriented, given that (i) target texts that use hyponyms and hypernyms show a lower degree or a higher degree of specificity in comparison with the source texts, making the target unit more concrete and less abstract or less concrete and more abstract and (ii) the translators opt to move from less concrete/more abstract to more concrete/less abstract or vice-versa based on their beliefs of what the normative and empirical expectations and normative attitudes of the revisers and prospective readers are, according to the corpus analysis by the translations of the experienced and novice translators and the analysis of their expressed beliefs.

Hyponymy as a terminologization tactic and hypernymy as a simplification tactic were found to be among the translation solutions most frequently used by both the novice and the experienced translators in the target texts. Hyponymy/hypernymy represented an average of 27% of the interim target-oriented translation solutions used by the **novice translators** and an average of 27% of the final target-oriented translation solutions, while it represented an average of 51% of the interim target-oriented translation solutions used by the **experienced translators** and an average of 60% of the final target-oriented translation solutions.

---

<sup>3</sup> Hyponymy and hypernymy were not considered separately in the analysis of translation solutions. Hence, the numbers presented refer to the use of hypernyms and hyponyms. In retrospect, it is suggested that in future research this distinction is taken into consideration in the analysis of translation solutions.

Regarding simplification, this finding is consistent with research on potential universals. Simplification, as the tendency that target texts are simpler than non-translated texts, has been hypothesized, for example, by Laviosa (2002). In Laviosa's study using Manchester's comparable corpus of translated English, she concluded that translated texts demonstrate lower lexical variety, lower lexical density and a higher proportion of high-frequency items. The use of hypernymy as a form of simplification in the translation of biomedical texts should be further explored in future research in order to confirm or deny these findings.

Turning now to terminologization, the findings are not consistent with the literature on medical translation. Jiménez-Crespo and Tercedor Sánchez (2017, 405) have shown evidence that "US medical websites translated into Spanish show lower frequencies of LG terms and higher frequencies of reformulation strategies than similar non-translated ones." These authors suggest that terminologization in medical translation should be further studied in order to question "whether this lower register level might contribute to lay-friendliness and usability, or whether it might undercut the authority of the text" (2017, 423). In this case, the corpus shows us examples of terminologization. This may be explained by the normative expectations of the novice and experienced translators (i.e., what the novice and experienced translators believe the readers expect of them). The translators expect the readers of biomedical texts to expect a translation that is terminologically accurate. For instance, Graça (one of the translators who opted for a terminologization tactic), when asked "What expectations do you think the readers of the translation have of your work?", said that "the translation needs to be a solid work, with consistent terminology..." Additional studies that focus on hyponymy/hypernymy in parallel and comparable corpora will be needed in order to develop a fuller picture of terminologization and determinologization in expert-to-expert communication in the translation of biomedical texts. Again, this finding may be important for the training of novice translators.

### **Information changes: omission and content change**

The information changes found in the translation processes of the novice and experienced translators seem to be inconsistent with the beliefs and expectations they express. In the questionnaires, one of the most common themes across all open questions covering all the beliefs under study was accuracy. Therefore, it would be expected that translators who state that translations should be accurate do not produce translations that omit information or change the content of the message in any other way. However, information changes represent 42% of the novice translators' interim target-oriented translation solutions and 26% of their final target-

oriented translation solutions; in the case of the experienced translators, information changes represent 39% and 29% respectively.

This belief-behavior mismatch may be due to different factors (or a combination of factors), including the following. First, belief-behavior mismatch can occur when people consciously try to mislead another person. In a card game, for example, if I have a winning hand, I may behave as if I do not so as to mislead my opponent. However, it is difficult to believe this applies in this study, since there is no logical reason for the participant to mislead the researcher and it is unlikely, although possible, for the majority of the participants to have done so. So far, and as far as could be ascertained, there has been no attempt to directly research deliberate deception or misrepresentation by participants in empirical research in the field of Translation Studies. There is an increasing number, however, of research ethics-related studies outside Translation Studies on deliberate deception from researchers (e.g., Hertwig and Ortmann 2008), but they do not provide any relevant contributions in this particular case.

Second, the belief-behavior mismatch could also be the result of the social desirability bias. The participants could have been influenced by what they think the cultural values (cultural characteristics) and social standards (personality characteristics) are and by what they believe the researcher is looking for (collection method/researcher characteristics) (see § 4.3.2.2.).

Third, there are also several examples of discrepancies between behavior and reported beliefs in studies about moral practices. For instance, studies on implicit or unconscious bias highly publicized in social media have suggested that people may be prejudiced and discriminating against others based on race, for example, while not being aware of their prejudice (Payne, Niemi, and Doris 2018, para. 3). At the heart of this is a lack of awareness about what we truly believe. This could be the basis of the translators' belief-behavior mismatch and lead to the expression of common values shared by the community, general or clichéd statements, or translation memes (Chesterman 2016b, 17–48).

Fourth, another possible explanation could be related to a change in norms. When rules and norms are repeatedly broken, changes can occur. Hypothetically, it could be possible for that change to be first seen in behavior and afterwards in beliefs, even if there have been no empirically published accounts of change occurring first in translation behavior. If this were the case, translators would express old values and norms in their belief statements and signal change in their behavior. However, further research is needed to fully understand how change occurs in translational norms. Deviation from a norm, however, does not prove that the norms do not exist or that they have

ceased to be in place. It could also be the case that the normative force of the accuracy principle is not as strong as the readability and reader orientation principle, and when these norms are in competition, it is deemed more important to follow one than the other, depending on the translators' personal normative beliefs and the translators' normative attitudes and empirical and normative expectations about other translators, revisers, and readers.

Fifth, another potential reason for this belief-behavior mismatch may be related to the term and concept of accuracy. The interpretation of what is meant by accuracy, for the surveyed translators, appears to be compatible with changes to the meaning of the source text. It is rather the extent of these changes that determines what is deemed acceptable and correct. Therefore, it is further suggested that the accuracy belief and its meaning for different agents should be studied in future research.

Sixth, if, as expressed by the translators, accuracy is of the utmost importance when translating biomedical texts, these translators may be unaware that they are introducing changes in meaning. When asked about their empirical expectations about other translators' performance some translators expressed beliefs that corroborate this view and link awareness and competence. They pointed that: (i) some translators lack the qualifications to perform the translation tasks they accept; (ii) some translators do not perform self-revision or perform very superficial self-revision; and (iii) quality decreases due to fast turnarounds or tight deadlines. It may well be (or it is at least very plausible) that translators in fact believe that translations should be accurate and that no additions, omissions, or other changes in meaning should be performed when translating. Their behavior may be a consequence of lack of competence, although not performing ("adequate") self-revision may also be due to fast turnarounds or tight deadlines.

In summary, the findings for the question "What are the translational norms of novice and experienced translators regarding source and target orientation?" (T) show that novice and experienced translators opted for both source- and target-oriented translation solutions and that their beliefs, attitudes, and expectations express that they value both source and target orientation.

The analysis of the data resulted in the conclusion that the novice translators proceeded from less source-oriented translations to more source-oriented ones, while the experienced translators proceeded from more source-oriented versions to less source-oriented ones. Based on the analysis of the data, it was discussed that (i) the number of translation problems may have an impact on source orientation for both novice and experienced translators, (ii) experience may have an impact on proceeding from more literal to less literal translations when facing a higher number of

translation problems, and (iii) time may have an impact on source orientation for the novice translators.

The analysis of the data also resulted in the conclusion that the novice and experienced translators proceeded from less literal translations to more literal ones. It was suggested that this literalization phenomenon may be connected to the difficulty of the text, lack of experience in monolingual self-revision and to avoid taking risks and deviating from the source message given the subject matter.

Regarding the most common target-oriented translation solutions, (i) the novice translators favor implicitation while the experienced translators favor explicitation, which seems to be in consonance with their expressed beliefs, attitudes, and expectations, and (ii) both the novice and experienced translators use hypernymy as simplification tactic and hyponymy as a terminologization tactic respectively, which also seems to be in consonance with their beliefs, attitudes, and expectations. There seems to be, however, a discrepancy between favoring the use of omission and content change (target-oriented) in their translation solutions and valuing accuracy (source-oriented) in their beliefs, attitudes, and expectations.

### **7.2.2. Revisers' and health professionals' norms**

#### **Observed norm: what revisers and health professionals do**

The answer to the questions "What are the textual regularities expressed by preference regarding source and target orientation of **revisers**?" (RV1) and "What are the textual regularities expressed by preference regarding source and target orientation of **readers**?" (HP1) is that the revisers and health professionals opted for the most target-oriented translations when asked to assess different translation options for two excerpts from the biomedical text translated by the novice and experienced translators. These textual regularities expressed by preference when considering alternative solutions suggest that the revisers and health professionals favor target-oriented translation solution types (such as explicitation, hyponymy, information changes, both omission and addition, paraphrase, distribution change, and dictionary-equivalent translation). These findings support the descriptive hypothesis that revisers and health professionals prefer the initial norm of target-orientation, which motivates more than 91% of the translation solution types identified. This reveals that the revisers and health professionals prioritize the target culture, language, and prospective reader when choosing translation solutions, whereas the novice and experienced translators prioritize both the source and target culture and language, what they perceive to be the author's intended message, and the prospective reader's expectations.



**Perceived norm: what revisers and health professionals believe they should do, what they believe others should do, what they believe others do, what they believe others think they should do**

The answer to the questions “What are the perceived norms regarding source and target orientation of **revisers?**” (RV2) and “What are the perceived norms regarding source and target orientation of **readers?**” (HP2) is that, overall, the revisers’ and health professionals’ textual preferences are consistent with the most common criteria they value, i.e., target orientation. In other words, the majority of the revisers and health professionals not only displayed a preference for target-oriented translation solutions, but also reported target-oriented criteria as the most important for describing the appropriateness of a translation.

The revisers’ beliefs provide useful information for understanding not only their translation preferences, but also their expectations regarding translators’ work. When asked about their expectations regarding translators’ performance, the revisers expressed that the target text should be clear, terminologically correct, and concise. This explains why the revisers favored translations that are more explicit (and therefore clearer), that resort to hyponymy as a tactic for terminologization (and are therefore terminologically correct), and that omit some information (and are therefore concise). On this, reviser Isaura wrote that “the goal should be to have a fluent/understandable text (...) (even if this involves changing the structure of the original sentences or using localization)”; reviser Mário reported that “most terms should be translated for their equivalents, but sometimes a more detailed translation of the terms is required, i.e., the translation should provide a short description instead of a word-for-word translation,” therefore justifying the addition of information in the target texts, and reviser Octávio stated that “some texts may require a more succinct structure and phrasing choices,” arguing in favor of omissions.

The analysis of the data showed then that the revisers and health professionals prefer target-oriented criteria. The only exception was accuracy. This was the criterion most frequently mentioned by the revisers and the second most frequently mentioned by the health professionals. So, although the revisers and health professionals described the appropriateness of a translation as being predominantly based on target-oriented criteria, there is still dependence on the source text—and therefore the source language and culture. This preference for accuracy is not consistent with explicitation changes, information changes, and hyponymy, among others. As with the translators, there seems to be a discrepancy between favoring target-oriented translation solutions (such as omission and addition) when asked to assess different translation options and valuing accuracy (source-oriented) in their beliefs, attitudes, and expectations.

The data analysis supports the following descriptive hypotheses:

(i) The **revisers and health professionals** believe that they should value **target-oriented translations** and, therefore, these revisers and readers value target-oriented criteria of appropriateness that guide the relationship between source and target texts to address the readers' expectations and needs, prioritizing (target-oriented) fluency and natural-sounding solutions, as well as linguistic correctness. Some of the revisers and readers also express the (target-oriented) belief that literal translations should be avoided. However, revisers and readers also referred to the belief that a translated text should be accurate in comparison with the source text, thus expressing a source-oriented belief.

(i) The **revisers and health professionals** believe translators, other revisers, and other readers believe the same as they do and that they ought to value **target-oriented translations**, not disregarding, nevertheless, that translations should be accurate in comparison to the source text message (source-oriented belief). Thus, the revisers and readers perceive that translators and other revisers produce and should produce translations that are target-oriented, and that revisers and readers positively evaluate these types of translations, whilst emphasizing the importance of accuracy (a source-oriented belief).

### **7.3. Translators' perceptions and misperceptions**

The findings of this study suggest that both the novice and experienced translators believe revisers and health professionals prefer source- and target-oriented translations, with a focus on (source-oriented) accurate, faithful and literal translations, on the one hand, and on (target-oriented) transparency and invisibility, on the other.

On accurate, faithful and literal translations, the translators expressed the belief that revisers and health professionals expect that (i) they, translators, should produce accurate and faithful translations, conveying the full meaning of the source text, and (ii) revisers consider a faithful, literal translation to be of good or medium quality (source-oriented). In this regard, it is also important to note that some of the translators believe that fellow translators translate literally, some of the translators believe that they themselves should translate literally, and some of the translators believe that revisers and health professionals expect them, translators, to translate literally.

On clarity, transparency and invisibility, the translators expressed the belief that readers expect that they, translators, should produce (target-oriented) clear, transparent and invisible translations that do not appear to be translations.

The revisers and health professionals, in turn, believe that translators should be guided by target-oriented criteria, the only exception being the principle of accuracy (source-oriented). Some of the revisers and health professionals consider literal translations to be of poor quality and associate them with inaccurate and difficult-to-read translations, signaling a lack of competence. No mention was made by the health professionals regarding invisibility.

The answer to the questions “Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of revisers and the observed and perceived norms of **revisers?**” (MISP1) and “Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of readers and the observed and perceived norms of **readers?**” (MISP2) is that, overall, it seems that the translators’ perception of revisers’ and health professionals’ initial norm is **not consistent** with the observed and perceived norms of revisers and health professionals.

The revisers and health professionals expressed, through their translational preferences, that they predominantly prefer target-oriented translation solutions. They also expressed the belief that translations should be target-oriented, prioritizing fluency, natural-sounding text, readability, linguistic correctness and scientific rigor. Nevertheless, the importance of accuracy (a source-oriented belief) is emphasized by both the revisers and readers. On the other hand, the novice and experienced translators believe that revisers and readers both prefer and contribute to the production of translations that share both source- and target-oriented criteria, and that revisers and readers express the belief that translations should share both source- and target-oriented criteria. They express source-oriented beliefs—such as fidelity and loyalty towards the “original” message as the author intended, with some prioritizing literal translation—, as well as target-oriented beliefs—such as fluency and natural-sounding texts, linguistic correctness, readability and readers’ expectations, and target-oriented terminological accuracy and consistency.

Regarding accuracy, the novice translators, experienced translators, revisers and health professionals agree that it is of utmost importance in biomedical translation. When most translators, revisers, and health professionals think about biomedical translation, they associate it almost immediately with accuracy.

The shared belief that translations should be accurate is not surprising in a scientific-technical translation, as in the case of biomedical translation (see Chesterman 2016b, 158). Given that the main function of the biomedical text translated in this study is to instruct on how to apply a medical device, readers and users ought to be able to perform the task based on the translated text. This is

consistent with Angelone and Marín García's (2017, 131) conclusions regarding general expertise in translation, where accuracy and linguistic proficiency were among the must-haves identified by the surveyed translators. There is also literature regarding another text-type within biomedical translation that supports this view. Bolaños-Medina (2012, 24) reports that, regarding clinical trial protocols, a high-quality translation does not present "inconsistencies between the original text and the translated, inaccuracy, (...) and omission of text."

The (source-oriented) beliefs of accuracy and the (target-oriented) beliefs of fluency and natural-sounding texts, linguistic correction, readability and readers' expectations, and terminological accuracy and consistency expressed by the translators, revisers and health professionals are not only shared among the participants surveyed in this dissertation, but are also reflected in the quality control parameters of the language industry (e.g., SDL 2011). It is thus plausible to consider them common among practitioners beyond biomedical translation in the English to European Portuguese language combination.

Source-oriented accuracy, but also target-oriented fluency and natural-sounding texts, linguistic correctness, readability and readers' expectations, and terminological accuracy and consistency are stated as beliefs and implemented in practice. There seem to be only two inconsistencies or misperceptions. The first one is the value attributed to literal translations and the second is the association between transparency and invisibility.

### **Literal translations**

The value attached to literal translations by some translators seems to be inconsistent with the revisers' and health professionals' beliefs: while some translators consider a faithful, literal translation to be of good or medium quality, no reviser or health professional stated that translations should be *literal* in any of the questions. On the contrary, some revisers and health professionals expressed the belief that (some) translators translate literally and that this contributes to inaccuracy and readability issues.

Mossop's (2014, 136) clarification about the relation between source orientation and accuracy may be useful in this matter. When discussing the parameters of revision, Mossop advocates that "an accurate translation does not have to be a close translation" and "accurate does not mean source-oriented," explaining that "a translation in which you have replaced or eliminated a metaphor, added a cultural explanation or used a functional equivalent of a cultural feature (sports, cuisine)

can still be considered accurate.” This is expressed in the revisers’ and health professionals’ belief statements.

For the revisers and health professionals, a literal translation is associated with an unnatural rendering, a translation which readers know to be a translation, that is difficult to understand and is inaccurate. This is true for the reviser Dália, for instance, when she reports that “literal translations immediately give it away as a translation and not the original text. This makes it hard to read and means that, most of the time, we need to read the text several times to understand it. As well as this, it provides leeway for errors (false friends, etc.).” On this matter, biomedical engineer Bruno wrote: “They translate too ‘word-for-word’ and the context can be lost or convey a different idea.” Here, we find revisers and health professionals associating literal translations with inaccuracy or, in the case of one particular reviser, associating non-literal translations with higher quality (“As an extra, some translators improve the speech to sound less literal, and that is the bonus that makes the difference between good and very good quality,” wrote Bernardo.)

### **Transparency and invisibility**

The second inconsistency or misperception is related to the value of transparency and invisibility. The translators believe readers expect transparent, invisible translations. In contrast, the health professionals did not express this expectation. The health professionals did, nevertheless, express the belief that a translation ought to be clear, but never associated this clarity, or clarity of language, with transparency or invisibility. The data suggests that the translators may have misperceived readers’ beliefs on this aspect.

Hence, invisibility and transparency have surfaced in the translators’ beliefs, especially connected with what translators believe to be readers’ expectations. The translators’ recurrent themes of *natural-sounding* translations, *clarity* and *as if the texts were originally written in Portuguese*, which emerged during the coding and analysis, are related to invisibility and transparency. For instance, the experienced translator Maria, who has fifteen years of experience, when asked about readers’ expectations, said that: “The best thing would be for the reader not to know/notice that she/he is actually reading a translation, but that also depends on the reader’s profile—whether or not she/he is an expert on the topic.” Maria welcomed the opportunity to focus on the invisibility of technical translators. She said that: “I am almost certain that most of the (final) readers of my work don’t even think about the people (translators, revisers, project managers, etc.) involved in producing the text they are reading.” Maria’s statements are illustrative of the novice and experienced translators’ beliefs regarding transparency and invisibility.

## **Potential motivations**

### **Poor communication**

As for the possible or potential motivations for these inconsistencies or misperceptions, the first one is poor communication (as already mentioned by Bicchieri 2017a, Kindle locations 759-760). As reported by the surveyed participants, the translators and revisers do not have many opportunities for dialogue, particularly in their working environments (most are freelancers). The translators (mainly the experienced translators) and revisers reported that they do not exchange feedback and added the perception that the other party is not interested in their feedback. Joana (reviser), for example, stated that “most of the translators I work with are not at all interested in feedback or in the final result of the proofreading.” In addition, publications that explore readers’ preferences and expectations about medical instructional texts are scarce and there are no public forums where translators, revisers, and health professionals communicate about translations in these settings.

Poor communication justifies, for instance, why the translators would misperceive revisers’ and health professionals’ beliefs regarding literal translation. On this matter, one of the revisers raised an issue in her questionnaire that may help shed some light on this matter: Dália asked “In what way is it not faithful?” This suggests that the meaning of “faithful” is not shared by translation agents. It is reasonable to ask the same about literal translation: “In what way is a translation not literal? To what extent it is not literal? What is a non-literal translation?” As such, the reviser’s comment reflects a lack terminological consensus regarding the meaning of literal translation among translation scholars (Chesterman 2011, 234), and this is likely to be found among practitioners, too. For some, a literal translation might mean a word-for-word rendition approaching something ungrammatical and unnatural. For others, it might mean not deviating from the message of the source text. The data hence suggests that translators may have misperceived revisers and readers preferences, by thinking that they value literal translation, due to this terminological confusion, and one of the reasons for this is poor communication.

### **Power relations**

A second motivation may be the role of power relations constraining communication between translators and revisers. Since revisers potentially have more power because they edit, correct, and/or assess translators’ work, communication between translators and revisers may be difficult. Translators, more often than not, are dependent on the positive feedback of revisers. Even in a translation workflow where more and more translated texts are the result of collaborative work

between different agents with different functions (e.g., translators, revisers, editors, quality control specialists), it is sometimes difficult to deal with these power relations. This becomes clear in the way some beliefs are worded such as, “Some revisers assess a translation negatively ... because they feel that their obligation is to change the translation,” and “they do not know how to be revisers” (Amélia), “[they] even mess up good translations” (Orlando).

This is especially true when revisers represent the authority and prestige of the client (the holder of the proprietary rights of the medical device), a prestige associated with the source culture. As Hermans (1999b, 95) states, “It would be only a mild exaggeration to claim that translations tell us more about those who translate and their clients than about the corresponding source texts.”

### **Lack of confidence**

A third potential motivation for the inconsistencies or misperceptions between the translators’ beliefs about revisers’ and health professionals’ initial norms and the observed and perceived norms of the latter two groups could also be related to a lack of confidence felt by translators regarding their proficiency. The translators’ belief that a translation should be literal, transparent and that translators’ work should be invisible may be linked to insecurity about one’s own translation competence.

Some statements of belief made by the translators can be connected to this insecurity, which is interpreted as being expressed in the expectation to produce a literal text. Supporting this view are several of the translators’ belief statements, of which the following are worth highlighting. For instance, the experienced translator Gonçalo said that “translators tend to follow the original closely when in doubt” and Lúcio, another experienced translator, said that “the target text should not deviate too much in wording and phrasing from the source unless there are explicit instructions from the client to do so.” Another experienced translator also commented that: “I prefer to translate literally so as not to run so many risks” (Nádia). Amélia, a translator with sixteen years of professional experience, adds on this topic that she believes that readers are “Biased, most of the time. Not trusting the translator’s decisions/work and expecting mistakes—a translation is not to be trusted, the original is always better.” These statements are illustrative of the beliefs shared by the translators in general, supporting the claim that (some) translators believe that translations should be source-oriented and some explicitly associate the choice of source orientation with avoiding taking risks.

The translators' beliefs that readers expect transparent and invisible translations can also be associated with a lack of confidence. By producing a target text "which resembles a text originally written in Portuguese," the translator focuses her/his efforts on erasing or "self-annihilating" her/his own presence from the target text (Venuti 1995, 8). This fluent, transparent and clear target text, a text with "as little 'noise' as possible," according to the experienced translator Lúcio, creates the "illusion of authorial presence," Venuti explains (1995, 6), signals the invisibility of translation and the translator, and ultimately reflects the peripheral position of translation. In this context, "original" texts are interpreted as transparent and clear pictures of the author's genius and translations, limited to reproducing the originality of the author, are "derivative, fake, potentially a false copy" (1995, 6). Neutrality and transparency are the attributes of this tradition of invisibility. These beliefs signal that the invisibility of the translation and of the translator is advisable and they reflect the peripheral position of translation as a product, but also as an activity.

#### **Portuguese codes of ethics of translators**

The argument that translations should be close to the source, transparent and invisible is also supported by Portuguese codes of ethics of translators. By signing the "Code of Ethics" of APT, Portuguese translators undertake to "make an accurate and faithful translation of the original content, upholding impartiality and neutrality in all circumstances" (APT 2017). According to this association, "a good translation is one that sounds like an original, without [the reader] noticing the existence of an intermediary" (APT 2017). As van Wyke (2010) explains: "Regardless of which side on the opposition translators position themselves, generally speaking, they justify their position in terms of an ethics of fidelity and invisibility."

#### **Peripheral position of translation**

The translators' beliefs about literal translations, invisibility, and transparency can be further understood in the context of the peripheral position of translation from a hypercentral to a peripheral language and culture.

It was indeed based on the law of interference that it was hypothesized that the translational norms of translators and the perceived norms of translation agents differ regarding source and target orientation. Based on the findings, it is further hypothesized that the translators misperceive the initial norm favored by readers. In particular, the findings show that the translators misperceive readers' preferences when they expect the latter to value transparency. As the translators expect readers to value transparency and translator invisibility, they feel insecure about their own



translation competence and, thus, feel professional insecurity. As a consequence, the translators—especially less experienced translators—may opt for source-oriented translation solutions, namely literal translations.

Misperception and insecurity, too, may motivate the literalization phenomena (progression from less literal to more literal) found in the translators' processes. The literalization found in the data from the translators may be a pre-emptive strike, a defensive stance by the translators who believe they are safer when they stay closer to the authority of the source text by means of a literal translation. In the face of power frictions between translators and revisers, the translators expect that their translations (i) will be (heavily) changed and (ii) will receive bad feedback. Therefore, the translators moved by this belief opt to proceed from less literal to more literal translations in order to shield themselves with the authority and prestige associated with the source text, language, and culture.

This complex network of translation agents (translators, revisers, and readers) involved in the decision-making processes affecting the translation process and product is especially important for scientific-technical translation in general and for biomedical translation in particular. As a result, studying this context to understand how the relationships and interactions between translators, revisers, and readers help define the relation between source and target texts is equally important. It is particularly important when this relation is assumed to be potentially different from that found in literary texts. Given the complex network of beliefs, attitudes, and expectations affecting the translators' decision-making processes, it is suggested that translators' decision-making processes are influenced by their interaction with revisers and readers. In addition, the friction reported by some of the translators surveyed may result from the power relations between these agents. "Norms and rules are social realities," explains Hermans (1996, 34), "involving not just individuals, groups and communities but also the power relations within these communities, whether these relations are material (economic, legal, political) or 'symbolic.'"

### **Interdependent behavior**

Most translators, when asked if they would translate freely if they knew revisers evaluated non-faithful translations positively, reported that they would not change their behavior regardless of what revisers think. The surveyed revisers and health professionals did not in fact report that non-faithful translations are considered appropriate or inappropriate, "correct" or "incorrect," but, as discussed above, several did report that literal translations are inaccurate and difficult to read. There are four possible explanations for this.

First, the surveyed translators might not see revisers as belonging to their reference network. A reference network means the group of people that matter to translators when making particular decisions (Bicchieri 2017a, Kindle location 371-372, 2017b). Revisers' expectations and behavior, for these surveyed translators, might not be important for their decision-making. If proven, this is an unexpected finding, since revisers are an integral part of the translation process and their assessment and feedback on translators' work is considered paramount to the quality of the end product. After all, revisers' work in the post-translation phase is an indispensable step in the quality control process, not only in the task of revision proper but also as quality control specialists (see Chapter 3).

It was posited in the first chapter, based on the literature review, that the translator acts on the basis of her/his beliefs of what the community expects from her/his work and, more specifically, that decisions about the intended communicative function of the translation are extensively based on her/his beliefs about the expectations of revisers, readers, and clients. It is thus important to understand to what the extent translators' beliefs about revisers influence translators' actions and if the power relations between translators and revisers affect this influence. One aspect which has not been explored in this study (since it did not contribute to the main objectives of this research) deals with the positive or negative attitudes of translators towards revisers. Nevertheless, throughout the questionnaires, the translators, and the experienced translators in particular, demonstrated a negative stance towards revisers' work. In fact, the most common empirical expectations were negative. The experienced translators believe that revisers are primarily error-oriented: "I receive comments from revisers who are too focused on assessment," says one translator (Orlando); "Some revisers assess a translation negatively ... because they feel that their obligation is to change the translation," says another (Amélia). The expectation that revisers are, in fact, not properly equipped to perform their jobs is not limited to one translator: "[they] even mess up good translations" (Orlando); "they do not know how to be revisers" (Amélia). There are also translators who highlight that revisers "assess a translation comparing it with the translation they would have done themselves" (Gonçalo), thus introducing preferential changes instead of focusing on objective parameters, or that revisers "tend to change words to synonyms (and not always the right ones)" (Beatriz). This takes a heavy toll on translators, so much so that one of the experienced translators says "I already know that the reviser is going to change the text a lot, which is rather unpleasant from an emotional point of view, but tough luck" (Nádia). Power relations between translators and revisers should therefore be further explored and understood since there may be a power struggle between translators and revisers, which can have implications for the translation process. For instance, if translators do not believe they should implement revisers' feedback and believe they, as

translators, should not change their own translation behavior in conformity, this has an impact on the quality control process and job satisfaction. The lack of more data, however, makes it difficult to interpret these results with confidence. It would be interesting to (i) compare the beliefs of these thirty translators with a larger group of participants, and (ii) assess, in a controlled experiment, the effects of different scenarios on translators' behavior. For instance, to assess the effects of specific feedback from revisers on translators' behavior to see if their feedback has an impact on translators' beliefs.

Second, these answers can be interpreted as a matter of translators' agency or translators' voices. In the hypothetical case presented to the surveyed translators, in which revisers evaluate non-faithful translations positively, the majority answered they would not change their behavior. By exerting their personal preference and, therefore, agency, these translators opt to not comply with revisers' perspectives on what is "appropriate." As a deviation from a norm, this can have several consequences, for instance, in the form of sanctions on the translator. Revisers can share negative feedback based on this unwillingness to change behavior when it is stressed that it is inappropriate in a given context. It would be important therefore to continue studying this matter in future investigations.

Third, as discussed previously in Chapter 4, there is a risk that participants provided what they think to be a socially desirable answer instead of their "actual" belief (Bicchieri 2017a, Kindle location 980). Since the question "If you knew revisers positively evaluated non-faithful translations, would you translate freely?" might convey that non-faithful translations are usually evaluated negatively by revisers, there is the possibility that translators were influenced by the item characteristics (Callegaro 2008, 825–26). However, self-administered methods of data collection, such as the online questionnaire in this experiment, may result in answers that reveal the respondents' beliefs and attitudes more clearly, according to the literature (Callegaro 2008, 826). Nevertheless, given that most of the participants know the researcher, this could also have had an unavoidable impact on the answers. Therefore, the possibility that the answers collected were biased cannot be discarded. These findings therefore should be interpreted with caution, as in any study which attempts to collect beliefs. It is thus important to continue studying these beliefs using other methods of data collection and other participants in order to further determine the validity of these findings.

Fourth, extratextual sources of translation behavior are, as discussed in Chapter 1 and Chapter 4, "partial and biased" evidence of norms (Toury 2012, 87–88). What translators actually believe to be the proper and correct way of translating and what they say they believe may be different, due to

several reasons, including lack of sufficient insight about their own beliefs. Therefore, it is important to take with a grain of salt these translators' beliefs expressing behavior that is unconditional and independent from what they believe revisers expect them to do and continue to gather evidence.

Irrespective of translators' willingness (or lack thereof) to change their behavior and the reasons for this willingness, different and conflicting norms sometimes coexist at the same time, even regarding the same object (in this case, biomedical translation). This apparent contradiction, already discussed in section 1.5.2., can be understood as a matter of translation competence in the following context: "The need to choose between alternatives is built into the very system, so that socialization *re* translating often includes the acquisition not only of the alternatives themselves as a list of options, but the ability to manoeuvre meaningfully among them as well" (Toury 2012, 76). Translation competence is interpreted, in this light, as the ability to understand the current translational norms for a given field and choose those applicable to the context at hand. If, in a given situation, translators do not follow the behavior considered most appropriate for the context, their competence may be called into question. This is what some revisers claimed in the questionnaires. Therefore, one of the possible consequences of these misperceptions may be a somewhat generalized perception that translators' work is poor. Another may be sanctions. Translators may receive negative feedback from revisers and clients and may even not be contacted for future translation jobs.

### **In summary**

Returning to the research questions "Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of revisers and the observed and perceived norms of revisers?" (MISP1) and "Is there a distinction, in terms of source and target orientation, between what translators believe to be the norms of readers and the observed and perceived norms of readers?" (MISP2), the study finds that what the translators believe to be the norms of revisers and health professionals and the observed and perceived norms of the revisers and health professionals do not coincide.

The data support the descriptive hypothesis that translators' perceptions are distinct from the translational preferences and the expectations of revisers and health professionals. The translators think that revisers and health professionals value translations that are both source- and target-oriented, based on (source-oriented) beliefs such as accuracy and fidelity towards the author's intended message, and (target-oriented) beliefs regarding the desirability of fluent and natural-sounding texts that are linguistically correct and terminologically accurate and consistent. However,

the revisers and health professionals value target-oriented translations, based on beliefs prioritizing fluent, clear and natural-sounding texts that are linguistically correct and terminologically accurate and consistent. In addition, the desirability of accuracy is a shared source-oriented belief among all the translation agents. However, there are beliefs that are not shared: some translators believe that translations should be literal, transparent and invisible, whereas revisers and health professionals did not express those beliefs.

#### **7.4. Limitations and suggestions for future research**

In retrospect, this study has several limitations that may be considered as further avenues for research into scientific-technical translation, translational norms, and observed and perceived translational norms.

A first limitation regards the reduced number of participants and the size of the data under analysis. In process-oriented studies, large amounts of data are produced by empirical, experimental studies. There is also a lack of professional translators available to participate in research projects. Together, these constraints limited the number of participants, the number and the size of source texts. For this study, only one source text, of 244-words was translated by only 30 translators, considering one language pair and in one direction (English to European Portuguese) (see Chapter 4).

However, it must be stated that, when compared with other process-oriented translation studies, both the total number of participants (sixty), and the number of variables under consideration—different translation agents (translators, revisers, and readers), different levels of experience for translators (novice and experienced)—are unusually high and unprecedented for a single study. This adds to the fact that both translation practice and beliefs are considered, as well as process- and product-related data. As a consequence, this can be considered a large study to be conducted by a single researcher. Despite this, it is recommended that further research be undertaken.

A second limitation has to do with the representativeness of the source text and the participants. It is not possible to identify the extent to which the source text represents biomedical translation or to what extent the number of the translation agents (translators, revisers, and readers) represents the population of agents in biomedical translation (as discussed in Chapter 4). As a consequence, this does not enable generalization and extrapolation.

A third limitation is that this research was, to a certain extent, exploratory in nature. On the one hand, it was oriented by theory-driven and data-driven research questions which were the basis for the formulation of a set of descriptive hypotheses. On the other hand, it explored new data, enabled

new insights, studied the research questions from these participants' perspectives, and contributed to the formulation of further descriptive and explanatory hypotheses based on the findings. It thus laid the foundations for future empirical, experimental, descriptive studies with different and/or larger groups of participants, source texts, language pairs, and translation directions.

A fourth limitation is that the translational norms researched in biomedical translation were limited to the initial norm and to the data produced by the translation of a package insert for a specific medical device, i.e., a biomedical text, from English to European Portuguese in contemporary Portugal. It would be of particular interest to understand whether the findings related to the observed and perceived norms of the translators, revisers and health professionals are found in other biomedical text-types, other language combinations, and other translation directions, particularly from non-peripheral languages/cultures to peripheral ones. The study of how norms are negotiated from peripheral to non-peripheral and from non-peripheral to peripheral cultures and languages would broaden the body of knowledge on how translation contributes to the negotiation of power relations between languages and cultures in a network of asymmetrical power relations.

Even though the analysis took as many factors into consideration as possible, due to time constraints and the aim of this study, not all the lines of investigation were followed. Based on this limitation, in conjunction with the exploratory nature of this study, it is suggested that further research be undertaken so that the findings can be tested and/or so that the data can be further explored, including the further lines of research mentioned below.

First, the data show that there are specific target-oriented translation solutions types that deserve more attention in the study of biomedical translation, namely implicitation, explicitation, hypernymy, and information changes (e.g., omission and addition). Therefore, studies that focus on these phenomena are recommended.

Second, the analysis of the textual regularities of the novice and experienced translators conducted in this study concentrated on problematic translation units. The question remains as to how non-problematic units are translated and if those findings differ regarding source and target orientation.

Third, the analysis of the process-oriented data focused on the interim and final versions. No further research was conducted regarding process-oriented data that could provide further insights into decision-making processes, including the use of external resources. It would thus be important to

understand if the type of external resources used by the translators is one of the reasons why certain translation solutions types are chosen.

Fourth, the process-oriented data analyzed did not include data from think-aloud protocols. It would therefore be interesting to ascertain if translators', revisers' and readers' verbalizations regarding the same translated text show similar or different insights regarding observed and perceived norms (see Chesterman 2011, 24; Englund Dimitrova 2005).

Fifth, the keystroke data analysis focused on the translators' processes. Another line of research that could be explored following this study would be a keystroke data analysis of revisions conducted by revisers with different levels of experience to further contribute to the body of knowledge on revisers' textual preferences.

Sixth, the analysis performed on the data regarding interim versions and postponed decisions was restricted to addressing the question of source and target orientation. It would be interesting nevertheless in future studies to better understand how translators (especially experienced ones) monitor, evaluate, and self-revise both interim versions and postponed decisions, addressing the literal translation hypothesis (see Chesterman 2011, 24; Toury 1995, 191).

Seventh, one of the variables that was not studied was the norms of the companies and institutions in which these translators, revisers, and readers work and to what extent these might affect the translators', revisers' and readers' textual regularities and beliefs (see Chesterman 2011, 33).

Eighth, given that the translators expressed negative beliefs regarding revisers and vice-versa, it would be important to further explore these beliefs in a controlled experiment, for instance, to assess the impact of revisers' feedback (and of different types of feedback) on translators' beliefs. One important line of inquiry for future research is to understand to what extent translators' beliefs about revisers influence translators' actions and how and to what extent the power relations between translators and revisers affect this influence.

When assessing the findings of this study, it could be argued that some regularities regarding the most frequent translation solutions types employed by the translators during the experiment may be language dependent. In other words, it could be disputed that these regularities are characteristic of the translation process in general and suggested that they are instead specific to this language pair and translation direction and therefore linguistic rather than translational. Further research involving more language pairs and translation directions would be welcomed to clarify this.

It is hoped that this study provides evidence that the translators', revisers' and health professionals' beliefs are at the core of the motivations behind novice and experienced translators' behavior, largely supported by the intricate web of beliefs and expectations elicited by means of questionnaires. Nevertheless, this study does not claim to have discussed *the translational norms* in this language combination in scientific-technical communication. It has been made clear that the findings relate to the text, language pair, and participants in question. The aim of this dissertation was not to identify the translational norms and perceived translational norms in scientific-technical translation in contemporary Portugal, but to approach the topic of observed and perceived norms in biomedical translation for the first time and to propose a methodology for analyzing the observed norms and perceived norms of different participants, text-types, and language combinations.

As discussed (see Introduction), it is by mapping regularities in a specific language pair, translation direction, and corresponding source and target cultures at a particular time and regarding a certain text-type, that translational norms can be extracted. It is by collecting several of these patterns covering different language combinations, translation directions, source and target cultures, historical periods and text-types that it becomes possible to formulate probabilistic translational laws. This is the type of research that I would like to develop in the future.

### **7.5. Implications of the findings**

The findings of this study have a number of theoretical and methodological, practical and didactic implications. This section presents and discusses a selection of such implications.

#### **Theoretical and methodological**

Translational norms can be studied not only through the analysis of textual regularities, but also through the study of "semi-theoretical or critical formulations" of different translation agents (e.g., translators, editors, publishers), as suggested by Toury when referring to sources of data for the extraction of norms (Toury 2012, 87). However, this study goes further by proposing that translational norms may also be studied by eliciting personal normative beliefs, normative attitudes, empirical and normative expectations about the translated text, translation and translation agents in biomedical translation and their comparative analyses, and comparing them with observed textual regularities (adapted from Bicchieri 2017a). Therefore, the addition of an analysis of elicited statements of beliefs, attitudes and expectations to understand translational norms aimed to fill a gap in the literature.



The four subcategories proposed—personal empirical beliefs, normative attitudes, empirical expectations, and normative expectations—offered more sophisticated theoretical tools for identifying an intricate web of beliefs, attitudes, and expectations held by translation agents with different roles and degrees of experience (in the case of translators). These subcategories provide theoretical tools to enhance the descriptive and explanatory power of the operationalization of the norm concept. It is further hypothesized that these beliefs are at the core of the motivations behind novice and experienced translators' behavior.

The implications of this study include the identification of the main following guiding principles for an investigation into the beliefs motivating norm-governed behavior regarding source and target orientation for future studies.

Firstly, from a theoretical point of view, initial norms are often formulated as binary. However, translation agents do not consider them as one-or-the-other choices. Even if target and source orientation is, for methodological purposes, considered as a binary opposition on a single axis, in the translation process it is more accurate to understand normative behavior as the result of the interaction of a varied array of constraints. As the translators, revisers and readers expressed in their belief statements, translation should follow different criteria (e.g., accuracy, fluency, naturalness, linguistic correctness, transparency) that result from various constraints (e.g., translators', revisers', and readers' beliefs, attitudes, and expectations). Translators' decision-making is affected by a multitude of beliefs that have different normative forces.

Secondly, to account for the intricate web of beliefs that guide norm-governed behavior, it is suggested that the researcher should first identify the reference network of the group of translators the study focuses on by conducting a case study or through interviews or focus groups.

Thirdly, it is further considered essential to understand that there are people within the translators' reference network whose behavior is not influenced by the translators even though translators' behavior is influenced by these people (unidirectional vs. multilateral expectations). For instance, in this study, perceived readers' beliefs affect translators' behavior—and it is even hypothesized that it is those perceived beliefs that result in specific inconsistent behaviors. However, it was assumed that readers' expectations are not strongly influenced by translators. Questionnaires should reflect these differences regarding interdependent actions and beliefs.

Fourthly, distinctions between attitudes, beliefs, and expectations are often missed in research and questions are usually too vague to elicit more than nonspecific personal normative beliefs. This

important distinction between attitudes, beliefs, and expectations is achieved by defining the attitudes, beliefs, and expectations the researcher aims to elicit and designing methods for eliciting them.

Fifthly, it is also essential to differentiate between regularities and norms themselves. To this end, distinguishing norms at object-level and meta-level is also central to studies of translational norms, as suggested by Toury (2012, 65) and Rosa (2016c, s.l.).

This study has also proposed a classification of problematic units of translation based on a distinction between primary and secondary indicators. This classification was applied to keylogging data and allowed problems to be identified. This study considered not only a differentiation in the log files between a final solution (target text) and a non-final solution (provisional decision that was later changed), but also additionally proposed a nuanced analysis of the translators' processes based on a methodological distinction between: (i) an interim solution, which is a solution that the translator found to be the appropriate solution for a translation problem at some point in the translation process (even if she/he would change her/his mind afterwards); and (ii) a non-solution, which is when the translator is consciously aware that she/he has not found a solution and postpones the decision-making to a later stage. Non-solutions were identified based on the observation of the following indicators in the keylogging file. The translators:

- write down alternative translation solutions, (i.e., when the translator postpones her/his decision by writing several possible translation solutions often separated by a single slash);
- write down punctuation marks which signal doubt (such as question marks or suspension points);
- do not write anything (which may indicate omission as a conscious translation solution or a problematic area to be resolved at a later stage);
- write down the source text in the target version (which may indicate a loan or a non-translation as a conscious translation solution or a problematic area to be resolved at a later stage).

This study revealed that the prototypical case was for a translator to pause for at least one second and to insert one or more of the abovementioned problem indicators.

### **Implications for translator training**

The findings of this study may be successfully applied to translator training. The following implications are worth mentioning. They are mainly related to the role of expectations, confidence, and eliciting, receiving, and integrating feedback.

According to Nord, students should be taught to plan their task in translation by establishing the intended communicative function of the translation beforehand (Nord 1991b, 144). It is suggested that the role of expectations be added to address the question of the function of the translation in the following formulation: “What message is being transmitted by whom and to whom, what for, and why, by which medium, in a text with what function, **and what and whose expectations is the translation answering to?**” By attempting to answer this question in the planning phase, it is suggested that students’ self-awareness about the norms that will govern their decision-making process will be improved, which will develop self-evaluation and monitoring strategies that can be activated during the translation process.

This study has also suggested that a lack of confidence in one’s translation competence may be at the root of the choice of source-oriented solutions, which are perceived by some revisers and health professionals as translations of a lesser quality (associated with inaccuracy and lack of naturalness). Following this line of thought, self-confidence should be encouraged and promoted among students as a psycho-physiological component, as already suggested by PACTE (in Hurtado Albir 2017, 127:40).

Part of being a successful translator and reviser is knowing the translational norms for a given field and knowing which norms to apply considering the context. “Acquiring a set of norms for determining what is appropriate translational behaviour in a given community,” as Baker and Saldanha (2009, 190) reiterate, “is a prerequisite for becoming a translator within that community.” One of the ways to acquire this set of norms is through socialization and feedback (Toury 1999, 26). It is therefore considered essential that students acquire the interpersonal skills needed to elicit and receive feedback, and the ability to understand it and apply it to one’s work at an early stage. It is thus recommended that this component should be explicitly added to models of translation competence<sup>4</sup> and translation curricula. Future translators and revisers should be taught how to give and receive, implement and interpret feedback as a constructive mechanism to learn what others consider to be “appropriate” and “inappropriate” behavior and, based on that, be able to understand the reasons why such behavior is considered “appropriate” or “inappropriate” (based, for instance, on Chesterman 2016b, Chapter 1). Group discussions in problem-based learning<sup>5</sup>

---

<sup>4</sup> This subcompetence is, for instance, missing from EMT’s model regarding competences for professional translators, experts in multilingual and multimedia communication (EMT 2009, 4–7) and PACTE’s model of translation competence (Hurtado Albir 2017, 127:39–41).

<sup>5</sup> The problem-based approach is defined in the following terms: “complex, real-world problems are used to motivate students to identify and research the concepts and principles they need to know to work through those problems. Students work in small learning teams, bringing together collective skill at acquiring, communicating, and integrating information” (Duch, Groh, and Allen 2001, 6).

settings, where revisers and readers are invited to share their perspectives, are also encouraged. By inviting practitioners, including professional translators, revisers, and readers, such settings have the potential to promote active feedback among students.

### **Implications for professional translation practice**

Since translators also act on the basis of their beliefs of what others expect from their work and the intended communicative function of the target text is based on expectations of expectations, it is paramount to promote good communication practices among translators and revisers. This is even more important when, as suggested, translators and revisers do not have many opportunities to communicate and, do so poorly when they do have the opportunity to communicate. A key policy priority should therefore be to promote communication among practitioners. Revisions should, at the very least, be shared with translators. The best scenario would be for translators and revisers to communicate directly to discuss their views about a specific translation product or quality control in general. Differences of opinion should be encouraged so as to enable the negotiation of final decisions. In this setting, differing interpretations of what is considered “appropriate” and “inappropriate” translation behavior in a given context could emerge and be discussed openly for the benefit of the quality of the resulting translation.

Time and budget constraints may probably be a deterrent to this type of dialogue. For this purpose, professional associations and higher education institutions can play an important part in setting the stage for these discussions.

Higher education institutions already promote discussions between practitioners and students through open lectures, open days, and round tables. It is recommended that professional associations should focus more on providing platforms for dialogue between translators, revisers, and readers of technical-scientific domains primarily aimed at professional translators and translation companies. It is also suggested that higher education institutions create platforms for dialogue between different professional groups through, for instance, lifelong training, which would not only help fill a gap in translation practice, but also bring universities and translation professionals and companies closer together.

### **To close**

The translation agents studied have displayed and expressed their socio-cultural notions of what they consider to be correct and appropriate in biomedical translation. Their expectations regarding other translation agents' behavior have been assumed to play a central role in defining their own

behavior and expectations. The translators' perceptions and misperceptions regarding what is expected of them bring to the forefront both the power frictions between translation agents and how translators negotiate power between different cultures and languages.

Going back to the initial story about popcorn, like what happens in movie theaters, translation agents have beliefs about how they should behave, how others should behave, and what is expected of them. Agents in both settings have a clear picture of what they consider to be correct and appropriate behavior, and what they think other peoples' expectations are regarding their own behavior. Their behavior, in general terms, is in consonance with their beliefs, attitudes, and expectations, and with the beliefs, attitudes, and expectations of others. When the behavior of some translation agents is not in agreement with the shared expectations of the translation community, agents express negative beliefs, referring to a lack of proficiency and quality. A similar situation happened in movie theaters. When moviegoers ate popcorn at a time when popcorn eating was not the norm, they risked being justifiably criticized. When a translation agent does not know what is expected of her/him or misperceives the expectations of others, she/he risks sanctions. One of the consequences may be a shared perception that translators' work is of poor quality, which is a widely known and shared belief among readers of translated texts in general, with serious consequences for translators' professional status. Another serious consequence is that by repeatedly receiving bad feedback, a particular translator may not be contacted again for future jobs. It is important to know what the expectations of revisers and readers are so that translators' translation solutions are not based on wrong assumptions. This is part of the basis for a successful translation career. It is therefore hoped that this reception-oriented line of research can contribute to the body of literature on translational norms (including expectations), to the training of translators and to translation practice so that translators can make better, more informed decisions.

## REFERENCES

- Abercrombie, Nicholas. 2006. *The Penguin Dictionary of Sociology*. Edited by Nicholas Abercrombie, Stephen Hill, and Bryan S. Turner. 5th ed. London: Penguin Books. doi:10.1007/BF02877418.
- Adam, Jean-Michel. 1992. *Les Textes. Types et Prototypes*. Paris: Nathan.
- Ahmed, Samira Amid. 2014. "Protecting Girls to Be Saleema in Sudan: An Expression of Accepting the Shift in the Norm of Cutting Girls." [https://www.unicef.org/crc/files/Article\\_for\\_Amman\\_11\\_Nov\\_2014.pdf](https://www.unicef.org/crc/files/Article_for_Amman_11_Nov_2014.pdf) (accessed on 20.06.2017).
- Ainaud, Jordi, Anna Espunya, and Dídac Pujol. 2003. *Manual de Traducció Anglès-Català*. Vic: Eumo Editorial.
- Akerlof, George A. 1976. "The Economics of Caste and of the Rat Race and Other Woeful Tales." *The Quarterly Journal of Economics* 90 (4): 599–617.
- Allaoui, Raoua. 2005. *Dolmetschen Im Krankenhaus: Rollenerwartungen Und Rollenverständnisse [Interpreting in the Hospital: Role Expectations and Role-Related Experiences]*. Göttingen: Cuvillier.
- Alves, Fabio, and Amparo Hurtado Albir. 2011. "Cognitive Approaches." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/cog1> (accessed on 01.07.2018).
- Alves, Fábio, Adriana Pagano, and Igor da Silva. 2010. "A New Window on Translators' Cognitive Activity: Methodological Issues in the Combined Use of Eye Tracking, Key-Logging and Retrospective Protocols." In *Methodology, Technology and Innovation in Translation Process Research*, edited by Inger M. Mees, Fábio Alves, and Susanne Göpferich, 267–91. Copenhagen: Samfundslitteratur.
- Alves, Fábio, and Daniel Vale. 2009. "Probing the Unit of Translation in Time: Aspects of the Design and Development of a Web Application for Storing, Annotating, and Querying Translation Process Data." *Across Languages and Cultures* 10 (2): 251–73. doi:10.1556/Acr.10.2009.2.5.
- Alvstad, Cecilia. 2001. "Normas Paratextuales En Traducciones: Un Modelo Descriptivo de Libros Para Niños y Jóvenes Orientado a La Cultura Meta." Unpublished BA diss., Göteborgs Universiteit.
- Alvstad, Cecilia, Adelina Hild, and Elisabet Tiselius, eds. 2011. *Methods and Strategies of Process Research. Integrative Approaches in Translation Studies*. Vol. 94. Benjamins Translation Library. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.94.
- Anderson, John R. 1983. *The Architecture of Cognition*. Cambridge: Harvard University Press.
- Angelelli, Claudia V., Niels Agger-Gupta, Carola E. Green, and Linda Okahara. 2007. "The California Standards for Healthcare Interpreters." In *The Critical Link 4: Professionalisation of Interpreting in the Community. Selected Papers from the 4th International Conference on Interpreting in Legal, Health and Social Service Settings, Stockholm, Sweden, 20-23 May 2004*, edited by Cecilia Wadensjö, Birgitta Englund Dimitrova, and Anna-Lena Nilsson, 167–77. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.70.19ang.
- Angelone, Erik, and Álvaro Marín García. 2017. "Expertise Acquisition through Deliberate Practice." *Translation Spaces* 6 (1): 122–58. doi:10.1075/ts.6.1.07ang.

- Antia, Bassey. 2000. *Terminology and Language Planning*. Vol. 2. Terminology and Lexicography Research and Practice. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/tlrp.2.
- APT, Association of Translators. n.d. "Code of Ethics." <https://www.apt.pt/detalhe/825> (accessed on 01.09.2018).
- Arrojo, Rosemary. 1998. "The Revision of the Traditional Gap Between Theory and Practice and the Empowerment of Translation in Modern Times." *The Translator* 4 (1): 25–48. doi:10.1080/13556509.1998.10799005.
- ATA. 2010. "American Translators Association Code of Ethics and Professional Practice." [https://www.atanet.org/governance/code\\_of\\_ethics\\_commentary.pdf](https://www.atanet.org/governance/code_of_ethics_commentary.pdf) (accessed on 01.09.2018).
- Baer, J S, A Stacy, and M Larimer. 1991. "Biases in the Perception of Drinking Norms among College Students." *Journal of Studies on Alcohol* 52 (6): 580–86. doi:10.15288/jsa.1991.52.580.
- Baker, Mona. 1992. *In Other Words: A Coursebook on Translation*. London and New York: Routledge.
- . 1998. "Norms." In *Routledge Encyclopedia of Translation Studies*, edited by Mona Baker and ed. assisted by Malmkjær, Kirsten, 163–65. London and New York: Routledge.
- . 2007. "Reframing Conflict in Translation." *Social Semiotics* 17 (2): 151–69. doi:10.1080/10350330701311454.
- Baker, Mona, and Kirsten Malmkjær, eds. 1998. *The Routledge Encyclopedia of Translation Studies*. London and New York: Routledge.
- Baker, Mona, and Gabriela Saldanha. 2009. "Norms." In *Routledge Encyclopedia of Translation Studies*, edited by Mona Baker and Gabriela Saldanha, 2nd ed., 189–93. London and New York: Routledge.
- Ballou, Janice. 2008. "Open-Ended Questions." In *Encyclopedia of Survey Research Methods*, edited by Paul Lavrakas, 548–49. California: SAGE Publications.
- Bartsch, Renate. 1987. *Norms of Language. Theoretical and Practical Aspects*. London and New York: Longman.
- Beaugrande, Robert De, and Wolfgang U. Dressler. 1981. *Introduction to Text Linguistics*. London: Longman.
- Becher, Viktor. 2010. "Abandoning the Notion of 'Translation-Inherent' Explicitation: Against a Dogma of Translation Studies." *Across Languages and Cultures* 11 (1): 1–28. doi:10.1556/Acr.11.2010.1.1.
- Bédard, Claude. 1986. *La Traduction Technique: Principes et Pratique*. Montreal: Linguattech.
- Bennett, Karen. 2014. "Discourses of Knowledge: Cultural Disjunctions and Their Implications for the Language Industries." *Iberica* 27: 35–50.
- Berkowitz, Alan. 2004. "The Social Norms Approach: Theory, Research and Annotated Bibliography." [http://www.alanberkowitz.com/articles/social\\_norms.pdf](http://www.alanberkowitz.com/articles/social_norms.pdf) (accessed on 20.06.2017).
- . 2005. "An Overview of the Social Norms Approach." In *Changing the Culture of College Drinking: A Socially Situated Prevention Campaign*, edited by Linda C. Lederman and Lea P. Stewart, 1–29. Cresskill: Hampton Press.

- Berkowitz, Alan, and H. Wesley Perkins. 1987. "Current Issues in Effective Alcohol Education Programming." In *Alcohol Policies and Practices on College and University Campuses*, edited by Joan Sherwood, 69–85. Columbus: National Association of Student Personnel Administrators Monograph Series.
- Bernal-Merino, Miguel Á. 2015. *Translation and Localisation in Video Games: Making Entertainment Software Global*. New York and London: Routledge. doi:10.4324/9781315752334.
- Bhabha, Homi. 1994. *The Location of Culture*. London and New York: Routledge.
- Biber, Douglas. 1993. "Representativeness in Corpus Design." *Literary and Linguistic Computing* 8 (4): 243–57. doi:10.1093/lc/8.4.243.
- Bicchieri, Cristina. 2000. "Words and Deeds: A Focus Theory of Norms." In *Rationality, Rules, and Structure*, 153–84. Dordrecht: Springer Netherlands. doi:10.1007/978-94-015-9616-9\_10.
- . 2006. *The Grammar of Society: The Nature and Dynamics of Social Norms*. Cambridge and New York: Cambridge University Press.
- . 2017a. *Norms in the Wild: How to Diagnose, Measure and Change Social Norms*. New York: Oxford University Press. Kindle edition.
- . 2017b. "Social Norms, Social Change." Lectures convened by the University of Pennsylvania/UNICEF, March. <https://www.coursera.org/learn/norms/home/welcome>.
- Bicchieri, Cristina, and Ryan Muldoon. 2014. "Social Norms." In *The Stanford Encyclopedia of Philosophy*, Spring 201. Stanford: Metaphysics Research Lab, Stanford University. doi:10.1111/1467-9973.00225.
- Biddle, Bruce J., and Edwin J. Thomas. 1966. *Role Theory: Concepts and Research*. New York: Wiley.
- Blum-Kulka, Shoshana. 1986. "Shifts of Cohesion and Coherence in Translation." In *Interlingual and Intercultural Communication: Discourse and Cognition in Translation and Second Language Acquisition Studies*, edited by Juliane House and Shoshana Blum-Kulka, 17–35. Tübingen: Narr.
- Bolaños-Medina, Alicia. 2012. "The Key Role of the Translation of Clinical Trial Protocols in the University Training of Medical Translators." *The Journal of Specialised Translation*, no. 17: 17–36. [http://www.jostrans.org/issue17/art\\_bolanos.pdf](http://www.jostrans.org/issue17/art_bolanos.pdf).
- Bolden, Galina B. 2000. "Toward Understanding Practices of Medical Interpreting: Interpreters' Involvement in History Taking." *Discourse Studies* 2 (4): 387–419. doi:10.1177/146144560002004001.
- Bom, João Carreira, and Mário José Costa. 2017. "Ciberdúvidas Da Língua Portuguesa." <https://ciberduvidas.iscte-iul.pt/> (accessed on 20.01.2018).
- Borg, Claudine. 2017. "Decision-Making and Alternative Translation Solutions in the Literary Translation Process: A Case Study." *Across Languages and Cultures* 18 (2): 279–304. doi:10.1556/084.2017.18.2.6.
- Bourdieu, Pierre. 1972. *Esquisse d'une Théorie de La Pratique*. Genève: Droz.
- . 1990. *The Logic of Practice*. Stanford: Stanford University Press.
- . 2008. "A Conservative Revolution in Publishing." *Translation Studies* 1 (2): 123–53. doi:10.1080/14781700802113465.



- Bowker, Lynne, and Shane Hawkins. 2006. "Variation in the Organization of Medical Terms: Exploring Some Motivations for Term Choice." *Terminology* 12 (1): 79–110. doi:10.1075/term.12.1.05bow.
- Brennan, Geoffrey, Lina Eriksson, Robert E. Goodin, and Nicholas Southwood. 2013. *Explaining Norms*. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780199654680.001.0001.
- Brill, Jonathan E. 2008. "Likert Scale." In *Encyclopedia of Survey Research Methods*, edited by Paul Lavrakas, 427–29. California: SAGE Publications.
- Brownlie, Siobhan. 1999. "Investigating Norms. In Translation and the (Re)Location of Meaning." In *Selected Papers of the CETRA Research Seminars in Translation Studies 1994-1996*, edited by Jeroen Vandaele, 1–18. Leuven: CETRA.
- . 2003a. "Distinguishing Some Approaches to Translation Research: The Issue of Interpretative Constraints." *Translator* 9 (1): 39–64. doi:10.1080/13556509.2003.10799145.
- . 2003b. "Investigating Explanations of Translational Phenomena: A Case for Multiple Causality." *Target* 15 (1): 111–52. doi:10.1075/target.15.1.06bro.
- . 2008. "Resistance and Non-Resistance to Boundary Crossing in Translation Research." *Target* 20 (2): 333–47. doi:10.1075/target.20.2.08bro.
- Bruce, Steve, and Steven Yearley, eds. 2006. *The SAGE Dictionary of Sociology*. London, Thousand Oaks, New Delhi: SAGE Publications.
- Butterworth, B. 1980. "Evidence from Pauses in Speech." In *Language Production, Vol. 1: Speech and Talk*, edited by B. Butterworth, 155–76. London: Academic Press.
- Buzelin, H el ene. 2011. "Agents of Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/age1> (accessed on 20.06.2017).
- Byrne, Jody. 2006. *Technical Translation: Usability Strategies for Translating Technical Documentation*. Edited by Jody Byrne. Dordrecht: Springer. doi:10.1007/1-4020-4653-7.
- . 2012. *Scientific and Technical Translation Explained. A Nuts and Bolts Guide for Beginners*. Manchester: St. Jerome.
- Cabr e Castellv i, M. Teresa, Rosa Estop a Bagot, and Chelo Vargas-Sierra. 2012. "Neology in Specialized Communication." *Terminology* 18 (1): 1–8. doi:10.1075/term.18.1.01int.
- Calhanas, Ant nio Bernardo. 2016. "A Inform tica Para a Tradu o: As Compet ncias Tecnol gicas Do Tradutor No Contexto Do Mercado Portugu s." Unpublished Master diss., School of Social Sciences and Humanities, Nova University.
- Callegaro, Mario. 2008. "Social Desirability." In *Encyclopedia of Survey Research Methods*, edited by Paul Lavrakas, 825–26. California: SAGE Publications.
- Cambridge, Jan, ed. 2010. *Interpreting in the Public Services. Special Issue of JoSTrans* 14. [http://www.jostrans.org/issue14/issue14\\_toc.php](http://www.jostrans.org/issue14/issue14_toc.php).
- Carl, Michael. 2012. "Translog-II: A Program for Recording User Activity Data for Empirical Reading and Writing Research." *The Eighth International Conference on Language Resources and Evaluation. 21-27 May 2012, Istanbul, Turkey*, 2–6.

- Carl, Michael, Srinivas Bangalore, and Moritz Schaeffer, eds. 2016. *New Directions in Empirical Translation Process Research: Exploring the CRITT TPR-DB*. New Frontiers in Translation Studies. Cham: Springer International Publishing. doi:10.1007/978-3-319-20358-4.
- Carlucci, Laura. 2007. "Translate in English, or Perish in Italian? La Traducción Biomédica En La Combinación Lingüística Español-Italiano: Aplicaciones Didácticas." *Panace@: Boletín de Medicina y Traducción* 8 (26): 204–12.
- Casagrande, Joseph B. 1954. "The Ends of Translation." *International Journal of American Linguistics* 20 (4): 335–40. doi:10.1086/464296.
- Catford, John C. 1965. *A Linguistic Theory of Translation*. Oxford: Oxford University Press.
- Cavaco Cruz, Luís. 2012. *Manual Prático e Fundamental de Tradução Técnica*. Independence, USA: Luis M. Cavaco-Cruz / Arkonte. <http://www.rdpc.uevora.pt/handle/10174/8664>.
- Cebrián Sevilla, Carmen. 2004. "Estudiantes de Medicina e Interpretación Social: Trabajo de Campo." *Puentes: Hacia Nuevas Investigaciones En La Mediación Intercultural*, no. 4: 17–30. [http://www.ugr.es/~greti/revista\\_puente\\_pdf.htm](http://www.ugr.es/~greti/revista_puente_pdf.htm).
- CEN. 1991. *EN 292-1: 1991. Safety of Machinery. Basic Concepts, General Principles for Design. Basic Terminology, Methodology*. Brussels: CEN.
- Cenk Çavuşoğlu, M. 2006. "Medical Robotics in Surgery." In *Wiley Encyclopedia of Biomedical Engineering*. Major Reference Works. Hoboken, NJ, USA: John Wiley & Sons, Inc. doi:10.1002/9780471740360.ebs0758.
- Chabás José, Gaser, and Joëlle Rolf & Rey. 2002. *Translating Science*. Barcelona: Universitat Pompeu Fabra.
- Chang, Nam Fung. 2011a. "Polysystem Theory and Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and New York: John Benjamins. <https://benjamins.com/online/hts/articles/pol2> (accessed on 20.06.2017).
- . 2011b. "In Defence of Polysystem Theory." *Target* 23 (2): 311–47. doi:10.1075/target.23.2.08cha.
- Chesterman, Andrew. 1993. "From 'Is' to 'Ought': Laws, Norms and Strategies in Translation Studies." *Target* 5 (1): 1–20. doi:10.1075/target.5.1.02che.
- . 1996. "Psst! Theory Can Be Useful!" *Kääntäjä* 10: 4–5.
- . 1997. *Memes of Translation: The Spread of Ideas in Translation Theory*. Amsterdam and Philadelphia: John Benjamins.
- . 1998. "On the Relevance of Translation Theory to Translator Training." In *Germanic and Baltic Linguistic Studies and Translation. Proceedings of the International Conference Held at the University of Vilnius*, edited by Aurelia Usonienò, 6–15. Vilnius: Homo Liber.
- . 1999. "Description, Explanation, Prediction: A Response to Gideon Toury and Theo Hermans." In *Translation and Norms*, edited by Christina Schäffner, 91–97. Clevedon: Multilingual Matters. doi:10.1080/13520529809615505.
- . 2002. "On the Interdisciplinarity of Translation Studies." *Logos and Language* III (1): 1–9.
- . 2005. "Norms of the Future?" In *Translation Norms. What Is 'Normal' in the Translation*

- Profession?*, edited by Ian Kemble, 1–9. Portsmouth: University of Portsmouth, School of Languages and Area Studies.
- . 2006. “A Note on Norms and Evidence.” In *Translation and Interpreting - Training and Research. Traduction et Interprétation - Formation et Recherche. Käytäminen Ja Tulkkaus - Koulutusta Ja Tutkimusta*, edited by Yves Gambier and Jorma Tommola, 13–19. Turku: University of Turku, Department of English Translation Studies.
- . 2011. “Reflections on the Literal Translation Hypothesis.” In *Methods and Strategies of Process Research: Integrative Approaches in Translation Studies*, edited by Cecilia Alvstad, Adelina Hild, and Elisabet Tiselius, 23–35. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.94.05che.
- . 2013. “Models of What Processes?” *Translation and Interpreting Studies* 8 (2): 155–68. doi:10.1075/tis.8.2.02che.
- . 2016a. “Models in Translation Studies.” In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/mod1> (accessed on 20.06.2017).
- . 2016b. *Memes of Translation*. Revised. Benjamins Translation Library. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.123.
- Chesterman, Andrew, and Rosemary Arrojo. 2000. “Forum: Shared Ground in Translation Studies.” *Target* 12 (1): 151–60. doi:10.1075/target.12.1.08che.
- Cohen, A. R. 1964. *Attitude Change and Social Influence*. New York: Basic Books.
- Coleman, James. 1990. *Foundations of Social Theory*. Cambridge: Belknap.
- Collier, Nigel, Chikashi Nobata, and Junichi Tsujii. 2001. “Automatic Acquisition and Classification of Terminology Using a Tagged Corpus in the Molecular Biology Domain.” *Terminology* 7 (2): 239–57. doi:10.1075/term.7.2.07col.
- Colman, Andrew, ed. 2003. *Oxford Dictionary of Psychology*. Oxford: Oxford University Press.
- Conrad, Frederick, and Frauke Kreuter. 2017. “Questionnaire Design for Social Surveys.” Lectures convened by the University of Michigan, August. <https://www.coursera.org/learn/questionnaire-design/home/welcome>.
- Corpas Pastor, Gloria, and Marina Roldán Juárez. 2014. “Análisis de Necesidades Documentales y Terminológicas de Médicos y Traductores Médicos Como Base Para El Diseño de Un Diccionario Multilingüe de Nueva Generación.” *MonTI. Monografías de Traducción e Interpretación*, no. 6. Universitat d’Alacant: 167–202. doi:10.6035/MonTI.2014.6.6.
- Corpas Pastos, Gloria. 2002. “La Publicidad de Productos Cosméticos y Farmacéuticos: Legislación, Política Lingüística y Consecuencias Para La Traducción (Advertising Cosmetics and Drugs: Regulations, Language Policy and Implications for Translation).” In *Traducción Subordinada (III): La Publicidad (Inglés-Español/Galego)*, edited by Lourdes Lorenzo García and Ana María Pereira Rodríguez, 137–72. Vigo: Universidade de Vigo.
- Correia, Margarida, Simone Ashby, and Maarten Janssen. 2015. “Acordo Ortográfico Da Língua Portuguesa de 1990.” *Portal Da Língua Portuguesa*. <http://www.portaldalinguaportuguesa.org/acordo.php?action=acordo&version=1990> (accessed on 12.11.2017).

- Council of the European Union. 1958. "Regulation No 1 Determining the Languages to Be Used by the European Economic Community." *Official Journal of the European Communities* 017: 385. <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31958R0001&from=EN>.
- . 1993a. "Council Directive 93/42/EEC of 14 June 1993 Concerning Medical Devices." *Official Journal of the European Communities* L 169: 1–43. <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31993L0042&from=EN>.
- . 1993b. "Council Directive 93/42/EEC of 14 June 1993 Concerning Medical Devices." *Official Journal of the European Union* L 169: 1–60. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1993L0042:20071011:en:PDF>.
- . 1998a. "Council Resolution of 17 December 1998 on Operating Instructions for Technical Consumer Goods." *Official Journal of the European Communities* C 411: 1–4. [http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998Y1231\(02\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998Y1231(02)&from=EN).
- . 1998b. "Directive 98/37/EC of the European Parliament and of the Council of 22 June 1998 on the Approximation of the Laws of the Member States Relating to Machinery." *Official Journal of the European Communities* L 207: 1–46. <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998L0037&from=HR>.
- Crezee, Ineke H.M., and Teruko Asano. 2016. *Introduction to Healthcare for Japanese-Speaking Interpreters and Translators*. Amsterdam: John Benjamins. doi:10.1075/z.205.
- Crisafulli, Edoardo. 2002. "The Quest for an Eclectic Methodology of Translation Description." In *Crosscultural Transgressions. Research Models in Translation Studies, II. Historical and Ideological Issues*, edited by Theo Hermans, 26–43. Manchester: St. Jerome Publishing.
- Cruz, Xénon. 2016. "A Ética Tradutória Em Contexto Jornalístico: Um Estudo de Caso No Observador (Ethics in Translation: Observador as a Case Study)." Unpublished Master Thesis, School of Social Sciences and Humanities, Nova University. <http://run.unl.pt/handle/10362/19985>.
- Cunha, Celso, and Lindley Cintra. 2000. *Nova Gramática Do Português Contemporâneo*. Lisboa: Edições João Sá da Costa.
- Daems, Joke. 2016. "A Translation Robot for Each Translator? A Comparative Study of Manual Translation and Post-Editing of Machine Translations: Process, Quality and Translator Attitude." Unpublished PhD diss., Universiteit Gent.
- Darity, William. 2008. *International Encyclopedia of the Social Sciences (Volume 1)*. 2nd ed. Detroit, New York, San Francisco, New Haven, Waterville, London: Macmillan.
- Davis, John. 1994. "Social Creativity." In *When History Accelerates: Essays on Rapid Social Change, Complexity and Creativity*, edited by Chris Hann, 95–110. London and Atlantic Highland: The Athlone Press.
- Dawkins, Richard. 1976. *The Selfish Gene*. Oxford: Oxford University Press.
- De-Vaus, David A. 2002. *Surveys in Social Research*. London: Routledge.
- Delabastita, Dirk. 2010. "Literary Studies and Translation Studies." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/lit1> (accessed on 18.01.2016).
- Delius, Juan D. 1989. "Of Mind Memes and Brain Bugs, a Natural History of Culture." In *The Nature*

*of Culture: Proceedings of the International and Interdisciplinary Symposium, October 7–11, 1986 in Bochum*, edited by Walter A. Koch, 26–79. Bochum: Studienverlag Brockmeyer.

- DGT. 2015. *Guia Do Tradutor*. Brussels: Direção-Geral da Tradução da Comissão Europeia. [https://ec.europa.eu/info/sites/info/files/styleguide\\_portuguese\\_dgt\\_pt.pdf](https://ec.europa.eu/info/sites/info/files/styleguide_portuguese_dgt_pt.pdf) (accessed on 18.09.2015).
- Díaz Fouces, Óscar. 1999. *Didáctica de La Traducción (Portugués-Español)*. Vigo: Universidade de Vigo.
- Doorslaer, Luc van. 2005. "The Indicative Power of A Key Word System. A Quantitative Analysis of the Key Words in the Translation Studies Bibliography." *Meta: Journal Des Traducteurs* 50 (4). doi:10.7202/019858ar.
- . 2009. "Risking Conceptual Maps: Mapping as a Keywords-Related Tool Underlying the Online Translation Studies Bibliography." In *The Metalanguage of Translation*, edited by Yves Gambier and Luc van Doorslaer, 19:217–33. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/bct.20.03doo.
- Dragsted, Barbara. 2004. *Segmentation in Translation and Translation Memory Systems. An Empirical Investigation of Cognitive Segmentation and Effects of Integrating a TM System into the Translation Process*. Ph.D. Thes. Copenhagen: Samfundslitteratur.
- Dranch, Konstantin, Tucker Johnson, and Renato Beninato. 2018. "The Nimdzi 100: The 2018 Ranking Of The Largest Language Services Providers In The World." <https://www.nimdzi.com/2018-nimdzi-100/#market-analysis> (accessed on 1.07.2018).
- Duch, Barbara J., Susana E. Groh, and Deborah E. Allen. 2001. "Why Problem-Based Learning?" In *The Power of Problem-Based Learning*, edited by Barbara J. Duch, Susana E. Groh, and Deborah E. Allen, 3–11. Sterling, Virginia: Stylus.
- Dunne, Keiran J., ed. 2006. *Perspectives on Localization*. Amsterdam and Philadelphia: John Benjamins.
- Durão, Maria Do Rosário Frade, ed. 2004. *Confluências: Revista de Tradução Científica e Técnica*. Lisboa: M.R. F. Durão.
- . 2007. "Tradução Científica e Técnica: Proposta Para a Formação de Tradutores Pluricompetentes Especializados Na Produção de Documentação Científica e Técnica Do Inglês Para o Português." Unpublished PhD diss., Universidade Aberta.
- Durieux, Christine. 1988. *Fondement Didactique de La Traduction Technique*. Paris: Didier Erudition.
- Durkheim, Emile. 1950. *The Rules of Sociological Method*. Glencoe: The Free Press.
- Eggertsson, Thráinn. 2001. "Norms in Economics: With Special Reference to Economic Development." In *Social Norms*, edited by Michael Hechter and Karl-Dieter Opp, 76–104. New York: Russell Sage Foundation.
- Eggs, Suzanne, and J.R. Martin. 1997. "Genres and Registers of Discourse." In *Discourse as Structure and Process: Discourse Studies: A Multidisciplinary Introduction*, 230–56. London: SAGE Publications Ltd. doi:10.4135/9781446221884.n9.
- Ehrensberger-Dow, Maureen, Birgitta Englund Dimitrova, and Séverine Hubscher-Davidson, eds. 2014. *The Development of Professional Competence. Special Issue of Translation and*

- Interpreting Studies*. Vol. 9. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/tis.9.1.
- Ehrensberger-Dow, Maureen, Birgitta Englund Dimitrova, Séverine Hubscher-Davidson, and Ulf Norberg, eds. 2013. *Describing Cognitive Processes in Translation: Acts and Events. Special Issue of Translation and Interpreting Studies*. Vol. 8. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/tis.8.2.
- Ehrensberger-Dow, Maureen, Susanne Göpferich, and Sharon O'Brien, eds. 2015. *Interdisciplinarity in Translation and Interpreting Process Research*. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/bct.72.
- Ellickson, Robert C. 1994. *Order Without Law: How Neighbors Settle Disputes*. Cambridge: Harvard University Press.
- EMT. 2009. "Competences for Professional Translators, Experts in Multilingual and Multimedia Communication."  
[http://ec.europa.eu/dgs/translation/programmes/emt/key\\_documents/emt\\_competences\\_translators\\_en.pdf](http://ec.europa.eu/dgs/translation/programmes/emt/key_documents/emt_competences_translators_en.pdf) (accessed on 26.07.2017).
- Englund Dimitrova, Birgitta. 2005. *Expertise and Explicitation in the Translation Process*. Amsterdam and Philadelphia: John Benjamins.
- . 2010. "Translation Process." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins.  
<https://benjamins.com/online/hts/articles/tra6> (accessed on 11.04.2015).
- Ericsson, K. Anders, and Herbert A. Simon. 1999. *Protocol Analysis: Verbal Reports as Data*. Cambridge, MA: MIT Press.
- European Commission. 2018. "Medical Devices - European Commission."  
[https://ec.europa.eu/growth/sectors/medical-devices\\_en](https://ec.europa.eu/growth/sectors/medical-devices_en) (accessed on 05.07.2018).
- European Parliament, Council of the European Union. 2007. "Directive 2007/47/EC of the European Parliament and of the Council of 5 September 2007 Amending Council Directive 90/385/EEC on the Approximation of the Laws of the Member States Relating to Active Implantable Medical Devices, Council Directive 93/42/EEC." *Official Journal of the European Union, Series L 169*, 21–55. [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2007.247.01.0021.01.ENG](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2007.247.01.0021.01.ENG).
- Even-Zohar, Itamar. 1975. "Decisions in Translating Poetry." *HaSifrut/Literature* 21 (32–45). Cited in Toury, Gideon. 2012. *Descriptive translation studies and beyond*. Amsterdam and Philadelphia: John Benjamins.
- . 1978a. *Papers in Historical Poetics*. Tel Aviv: Porter Institute for Poetics and Semiotics.
- . 1978b. "The Position of Translated Literature within the Literary Polysystem." In *Literature and Translation: New Perspectives in Literary Studies*, edited by José Lambert and Raymond van den Broeck, 117–27. Leuven: Acco.
- . 1990a. "Polysystem Studies." *Poetics Today* 11 (1): 27–44.
- . 1990b. "Polysystem Theory." *Poetics Today* 11 (1): 9–26. doi:10.2307/1772666.
- Expresso*. 2015. "O Poder Das Pipocas," April 3.  
[http://expresso.sapo.pt/blogues/bloguet\\_economia/blogue\\_econ\\_aurora\\_teixeira/o-poder-](http://expresso.sapo.pt/blogues/bloguet_economia/blogue_econ_aurora_teixeira/o-poder-)

das-pipocas=f918390 (accessed on 10.02.2016).

Faber, Dorrit, and Mette Hjort-Pedersen. 2013. "Expectancy and Professional Norms in Legal Translation: A Study of Explication and Implication Preferences." *Fachsprache* 36 (1–2): 43–63.

Farini, Federico. 2010. "Translation in Healthcare Settings: Between the 'voice of Medicine' and the 'Voice of Patient.'" In *Ways and Modes of Human Communication*, edited by María del Rosario Caballero Rodríguez and María Jesús Pinar Sanz, 1213–20. Cuenca: Ediciones de la Universidad de Castilla La Mancha.

Feinauer, Ilse, and Harold M. Lesch. 2013. "Health Workers: Idealistic Expectations versus Interpreters' Competence." *Perspectives* 21 (1): 117–32. doi:10.1080/0907676X.2011.634013.

Ferreira-Alves, Fernando. 2011. "Job Perceptions, Identity-Building and Interpersonal Relations among Translators as a Professional Group in Northern Portugal." *ILCEA*, no. 14. <http://journals.openedition.org/ilcea/1119> (accessed on 11.07.2018).

———. 2012. "As Faces de Jano: Contributos Para Uma Cartografia Identitária e Socioprofissional Dos Tradutores Da Região Norte de Portugal." Unpublished PhD diss., Institute of Arts and Humanities, University of Minho.

Ferreira, Francisco. 2015. "O Processo Tradutório Em Contexto Jornalístico: A Tradução e a Transedição Na Redação." Unpublished Master diss., School of Social Sciences and Humanities, Nova University. <http://hdl.handle.net/10362/15976>.

Ferreira, Joana. 2013. "Tradução e Jornalismo: Uma Conceção Da Prática Tradutória Como Reescrita Do Texto de Partida." Unpublished Master diss., School of Social Sciences and Humanities, Nova University. <http://hdl.handle.net/10362/11626>.

Finch, Clemente A. 1969. *An Approach to Technical Translation: An Introductory Guide for Scientific Readers*. London: Pergamon Press.

Fischbach, H. 1998. *Translation and Medicine*. Amsterdam and Philadelphia: John Benjamins.

FIT, Fédération Internationale des Traducteurs. 1994. "The Translator's Charter." <http://www.fit-ift.org/translators-charter/> (accessed on 11.07.2018).

Fleck, Christian. 2015. "Attitude: History of Concept." In *International Encyclopedia of the Social & Behavioral Sciences*, edited by James Wright, 2nd ed., 175–77. Amsterdam and New York: Elsevier. doi:10.1016/B978-0-08-097086-8.03146-9.

Flynn, Peter, and Yves Gambier. 2016. "Methodology in Translation Studies." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/met2> (accessed on 20.05.2017).

Forcada, Mikel L. 2011. "Machine Translation Today." In *Handbook Of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/mac1> (accessed on 01.05.2017).

Fowler, F.J. Jr. 1995. *Improving Survey Questions: Design and Evaluation*. Thousand Oaks, London and New Delhi: SAGE Publications.

Franco Aixelá, Javier. 2004. "The Study of Technical and Scientific Translation: An Examination of Its

- Historical Development.” *Journal of Specialised Translation* 1: 29–49.
- . 2015. “La Traducción de Textos Científicos y Técnicos.” *Tonos Digital* II (29): 1–31.
- Frankenberg-Garcia, Ana. 2004. “Are Translations Longer than Source Texts?: A Corpus-Based Study of Explication.” In *CIC-ISLA Working Papers*, 2–9. Lisboa: ISLA.  
<http://hdl.handle.net/10400.26/253>.
- . 2005. “A Corpus-Based Study of Loan Words in Original and Translated Texts.” In *Proceedings from the Corpus Linguistics 2005 Conference Series 1*, edited by Pernilla Danielsson and Martijn Wagenmakers, 1–19. <http://hdl.handle.net/10400.26/359>.
- Gallardo San Salvador, Natividad. 2012. “Hacia Una ‘Globalización’ de La Traducción: El Caso de La Traducción Jurada de Los Documentos Médico -Legales (Inglés-Español) [Towards a ‘Globalization’ of Translation: The Official Translation of Medicallegal Documents (English-Spanish)].” *Sendeban. Boletín de La Facultad de Traductores e Interpretes de Granada* 23: 227–50. <http://revistaseug.ugr.es/index.php/sendeban/article/view/37>.
- Gambier, Yves. 2016a. “Genres, Text-Types and Translation.” In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/gen3> (accessed on 12.07.2018).
- . 2016b. “Translation Strategies and Tactics.” In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/tra7> (accessed on 09.01.2016).
- Gambier, Yves, and Luc van Doorslaer, eds. 2010a. *Handbook of Translation Studies Online*. <https://benjamins.com/online/hts/> (accessed on 18.01.2010).
- . , eds. 2010b. *Handbook of Translation Studies (Volume 1)*. Amsterdam and Philadelphia: John Benjamins.
- . , eds. 2011. *Handbook of Translation Studies (Volume 2)*. Amsterdam and New York: John Benjamins.
- . , eds. 2012. *Handbook of Translation Studies (Volume 3)*. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/hts.3.
- . , eds. 2013. *Handbook of Translation Studies (Volume 4)*. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/hts.4.
- Gamero Pérez, Silvia. 2001. *La Traducción de Textos Técnicos (Descripción y Análisis de Textos Alemán-Español)*. Barcelona: Editorial Ariel.
- Gamero Pérez, Silvia, and Amparo Hurtado Albir. 1999. “La Traducción Técnica y Científica.” In *Enseñar a Traducir. Metodología En La Formación de Traductores e Intérpretes*, edited by Amparo Hurtado Albir, 139–53. Madrid: Edelsa.
- García Izquierdo, Isabel. 2009. *Divulgación Médica y Traducción: El Género Información Para Pacientes*. Bern: Peter Lang.
- García, Ricardo. 2009. “Cinema, Pipocas e Ambiente.” *Público*, September 13.  
<http://www.publico.pt/cronicas/jornal//cinema-pipocas-e-ambiente-17764566> (accessed on 15.07.2016).



- Garzone, Giuliana, and Maurizio Viezzi, eds. 2002. *Interpreting in the 21st Century: Challenges and Opportunities*. Amsterdam: John Benjamins. doi:10.1075/btl.43.
- Gato, Margarida de Vale, Maarten Janssen, Rita Barros, and Susana Valdez. 2016. "Teaching and Researching Literary Translation in the Digital Context: PEnPAL in Trans as a Case-Study." *MATLIT: Materialities of Literature* 4 (1): 63–80. <http://iduc.uc.pt/index.php/matlit/article/view/2377/1940>.
- Gavioli, Laura, and Claudio Baraldi. 2011. "Interpreter-Mediated Interaction in Healthcare and Legal Settings: Talk Organization, Context and the Achievement of Intercultural Communication." *Interpreting* 13 (2): 205–33. doi:10.1075/intp.13.2.03gav.
- Geertz, Clifford. 1973. "Thick Description: Toward an Interpretive Theory of Culture." In *The Interpretation of Cultures: Selected Essays*, edited by Clifford Geertz, 3–30. New York: Basic Books.
- Geest, Dirk de. 1992. "The Notion of 'System': Its Theoretical Importance and Its Methodological Implications for a Functionalist Translation Theory." In *Geschichte, System, Literarische Übersetzung/Histories, Systems, Literary Translations*, edited by Harald Kittel, 32–45. Berlin: Erich Schmidt.
- Geiling, Natasha. 2013. "Why Do We Eat Popcorn at the Movies?" *Smithsonian Mag.* <http://www.smithsonianmag.com/arts-culture/why-do-we-eat-popcorn-at-the-movies-475063/> (accessed on 18.01.2016).
- Gentile, Adolfo, Uldis Ozolins, Mary Vasilakakos, Leong Ko, and Ton-That Quynh-Du. 1996. *Liaison Interpreting: A Handbook*. Melbourne: Melbourne University Press.
- Gentzler, Edwin. 1993. *Contemporary Theories of Translation*. London and New York: Routledge.
- . 2001. *Contemporary Translation Theories*. New York: Routledge.
- Gibbs, Jack P. 1965. "Norms: The Problem of Definition and Classification." *American Journal of Sociology* 70 (5): 586–594. <http://www.jstor.org/stable/2774978%0D>.
- . 1968. "The Study of Norms." In *International Encyclopedia of the Social Sciences, Volume 11*, 208–13. New York: Macmillan.
- Gile, Daniel. 1992. "Les Fautes de Traduction : Une Analyse Pédagogique." *Meta: Journal Des Traducteurs* 37 (2): 251. doi:10.7202/002907ar.
- . 2006. "Do Respondents to Surveys Tell the Truth?" [http://www.est-translationstudies.org/resources/research\\_issues/Do respondents.htm](http://www.est-translationstudies.org/resources/research_issues/Do%20respondents.htm) (accessed on 03.07.2018).
- Gonzalez-Nava, Sandra. 2009. "Das Gespräch Als Qualitätsfaktor Der Behandlung [Conversation as a Quality Factor of Medical Treatment]." In *Spürst Du, Wie Der Bauch Rauf-Runter? Fachdolmetschen Im Gesundheitsbereich / Is Everything All Topsy-Turny in Your Tummy? Health Care Interpreting*, edited by Sonja Pöllabauer and Dörte Andres, 71–84. München: Meidenbauer.
- González Núñez, Gabriel. 2013. "Translation and Healthcare in Europe: An Overview of Europe's Legal Framework." In *Emerging Research in Translation Studies: Selected Papers of the CETRA Research Summer School 2012*, edited by Gabriel González Núñez, Yasmine Khaled, and Tanya Voinova, 1–25. Leuven, Belgium: KU Leuven.

<http://www.arts.kuleuven.be/cetra/papers/files/gonzalez>.

Good, Byron, and Andrew McDowell. 2015. "Belief, Anthropology Of." In *International Encyclopedia of the Social & Behavioral Sciences*, edited by James Wright, 2nd ed., 493–97. Amsterdam and New York: Elsevier. doi:10.1016/B978-0-08-097086-8.12024-0.

Göpferich, Susanne. 2008. *Translationsprozessforschung. Stand – Methoden – Perspektiven*. Tübingen: Tübingen.

———. 2010a. "The Translation of Instructive Texts from a Cognitive Perspective: Novices and Professionals Compared." *New Approaches in Translation Process Research*, 5–55.

———. 2010b. "Data Documentation and Data Accessibility in Translation Process Research." *The Translator* 16 (1): 93–124. doi:10.1080/13556509.2010.10799295.

Göpferich, Susanne, Arnt Lykke Jakobsen, and Inger Mees, eds. 2008. *Looking at Eyes. Eye Tracking Studies of Reading and Translation Processing*. Copenhagen: Samfundslitteratur.

Gouadec, Daniel. 2007. *Translation as a Profession*. Benjamins Translation Library. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.73.

Hadziabdic, Emina. 2011. "The Use of Interpreter in Healthcare. Perspectives of Individuals, Healthcare Staff and Families." PhD diss., Linnaeus University Press. <http://lnu.diva-portal.org/smash/get/diva2:444194/FULLTEXT01>.

Hamacher, Alaric, Su Jin Kim, Sung Tae Cho, Sunil Pardeshi, Seung Hyun Lee, Sung-Jong Eun, and Taeg Keun Whangbo. 2016. "Application of Virtual, Augmented, and Mixed Reality to Urology." *International Neurourology Journal* 20 (3): 172–81. doi:10.5213/inj.1632714.357.

Hann, Michael. 1992. *The Key to Technical Translation (Vol. 1–2)*. Amsterdam and Philadelphia: John Benjamins.

———. 2004. *A Basis for Scientific and Engineering Translation*. Amsterdam and Philadelphia: John Benjamins.

Hansen, Gyde. 2005. "Combination and Triangulation of Methods and Data." [www.est-translationstudies.org](http://www.est-translationstudies.org) (accessed on 01.05.2017).

Hatim, Basil, and Ian Mason. 1990. *Discourse and the Translator*. London: Longman.

Hausman, Daniel M. 2008. "Fairness and Social Norms." *Philosophy of Science* 75 (5): 850–60. doi:10.1086/594529.

Hechter, Michael, and Karl-Dieter Opp. 2001. *Social Norms*. New York: Russel Sage Foundation.

Hempel, Carl G. 1952. *Fundamentals of Concept Formation in Empirical Science*. Chicago: The University of Chicago Press.

Hermans, Theo, ed. 1985. *The Manipulation of Literature. Studies in Literary Translation*. London and Sydney: Croom Helm.

———. 1991. "Translational Norms and Correct Translations." In *Translation Studies. The State of the Art*, edited by Kitty van Leuven-Zwart and Ton Naaijken, 155–170. Amsterdam: Rodopi.

———. 1996. "Norms and the Determination of Translation: A Theoretical Framework." In *Translation, Power, Subversion*, edited by Román Alvarez and Carmen-África Vidal, 24–51.

- Clevedon: Multilingual Matters.
- . 1998. "Translation and Normativity." Edited by Christina Schäffner. *Current Issues In Language and Society* 5 (1–2). Clevedon: Multilingual Matters: 51–72. doi:10.1080/13520529809615503.
- . 1999a. "Translation and Normativity." In *Translation and Norms*, edited by Christina Schäffner, 50–71. Clevedon: Multilingual Matters.
- . 1999b. *Translation in Systems. Descriptive and System-Oriented Approaches Explained*. Manchester: St. Jerome.
- . 2000. "Norms of Translation." In *The Oxford Guide to Literature in English Translation*, edited by Peter France, 10–15. Oxford: Oxford University Press.
- Hertwig, Ralph, and Andreas Ortmann. 2008. "Deception in Experiments: Revisiting the Arguments in Its Defense." *Ethics & Behavior* 18 (1). Routledge: 59–92. doi:10.1080/10508420701712990.
- Hjort, Mette. 1992. *Rules and Conventions: Literature, Philosophy, Social Theory*. Baltimore: Johns Hopkins University Press.
- Holmes, James. 1988. *Translated! Papers on Literary Translation and Translation Studies*. 2nd ed. Amsterdam: Rodopi.
- . 2000. "The Name and Nature of Translation Studies." In *The Translation Studies Reader*, edited by Lawrence Venuti, 172–85. London and New York: Routledge.
- Horne, Christine. 2001. "Sociological Perspectives on the Emergence of Norms." In *Social Norms*, edited by Michael Hechter and Karl-Dieter Opp, 3–35. New York: Russell Sage Foundation.
- Hurtado Albir, Amparo, ed. 1996. *La Enseñanza de La Traducción*. Castelló de la Plana: Universitat Jaume I.
- . , ed. 1999. *Enseñar a Traducir. Metodología En La Formación de Traductores e Intérpretes*. Madrid: Edelsa.
- . , ed. 2017. *Researching Translation Competence by PACTE Group*. Vol. 127. Benjamins Translation Library. Amsterdam: John Benjamins. doi:10.1075/btl.127.
- Hvelplund, Kristian Tangsgaard. 2011. "Allocation of Cognitive Resources in Translation. An Eye-Tracking and Key-Logging Study." Unpublished PhD diss., Copenhagen Business School.
- . 2014. "Eye Tracking and the Translation Process: Reflections on the Analysis and Interpretation of Eye-Tracking Data." *MonTI. Monografías de Traducción e Interpretación*, 201–23. doi:http://dx.doi.org/10.6035/MonTI.2014.ne1.6.
- IEC. 2012. *IEC 82079-1:2012. Preparation of Instructions for Use: Structuring, Content and Presentation*. IEC. <https://www.iso.org/standard/55833.html>.
- Infarmed. n.d. "Dispositivos Médicos." <http://www.infarmed.pt/web/infarmed/entidades/dispositivos-medicos> (accessed on 24.02.2018).
- Inghilleri, Moira. 2004. "Habitus, Field and Discourse: Interpreting as a Socially Situated Activity." *Target* 15 (2): 243–68. doi:10.1075/target.15.2.03ing.

- . 2005. "The Sociology of Bourdieu and the Construction of the 'Object' in Translation and Interpreting Studies." Edited by Moira Inghilleri. *The Translator* 11 (2): 125–45. doi:10.1080/13556509.2005.10799195.
- Interis, Matthew. 2011. "On Norms: A Typology with Discussion." *American Journal of Economics and Sociology* 70 (2): 424–38. doi:10.1111/j.1536-7150.2011.00778.x.
- Isohella, Suvi, and Niina Nissilä. 2015. "Connecting Usability with Terminology: Achieving Usability by Using Appropriate Terms." In *2015 IEEE International Professional Communication Conference (IPCC)*, 1–5. IEEE. doi:10.1109/IPCC.2015.7235849.
- Ivir, Vladimir. 1981. "Formal Correspondence vs. Translation Equivalence Revisited." In *Theory of Trans-lation and Intercultural Relations [Poetics Today 2:4]*, edited by Itamar Even-Zohar and Gideon Toury, 51–59. Tel Aviv: Porter Institute for Poetics and Semiotics, Tel Aviv University.
- Jääskeläinen, Riitta. 2011. "Back to Basics Designing a Study to Determine the Validity and Reliability of Verbal Report Data on Translation Processes." In *Cognitive Explorations of Translation*, edited by Sharon O'Brien, 15–29. London: Continuum.
- Jakobsen, Arnt Lykke. 1998. "Logging Time Delay in Translation, LSP Texts and the Translation Process." In *Copenhagen Working Papers*, edited by Gyde Hansen, 73–101. Copenhagen: Copenhagen Business School.
- . 2003. "Effects of Think Aloud on Translation Speed, Revision, and Segmentation." In *Triangulating Translation: Perspectives in Process Oriented Research*, 45:69–95. doi:10.1075/btl.45.08jak.
- . 2014. "Translation Process Research: Developing a Methodology." Lecture at CETRA Summer School. KU Leuven Faculty of Arts. Leuven.
- Jakobsen, Arnt Lykke, and Lasse Schou. 1999. "Translog Documentation." In *Probing the Process in Translation: Methods and Results*, 73–101. Copenhagen: Samfundslitteratur.
- Jensen, Astrid. 2000. "The Effect of Time on Cognitive Processes and Strategies in Translation." Unpublished PhD dissertation. Copenhagen: Copenhagen Business School, Faculty of Modern Languages.
- Jensen, K. T. H. 2011. "Distribution of Attention Between Source Text and Target Text During Translation." In *Cognitive Explorations of Translation*, edited by Sharon O'Brien, 215–37. London: Continuum.
- Jiménez-Crespo, Miguel A., and Maribel Tercedor Sánchez. 2017. "Lexical Variation, Register and Explicitation in Medical Translation." *Translation and Interpreting Studies* 12 (3): 405–26. doi:10.1075/tis.12.3.03jim.
- Jonasson, Kerstin. 1997. "Norm and Variation in Translation from French into Swedish." In *Norm, Variation and Change in Language*, edited by Johan Falk, 85–107. Stockholm: Almqvist & Wiksell.
- Judaeus, Philo. 1997. "The Creation of the Septuagint." In *Western Translation Theory: From Herodotus to Nietzsche*, edited by Douglas Robinson, 12–14. Manchester: St. Jerome.
- Jumpelt, Rudolf Walter. 1961. *Die Übersetzung Naturwissenschaftlicher Und Technischer Literatur*. Berlin-Schöneberg: Langenscheidt.

- Kaindl, Klaus. 2013. "Multimodality and Translation." In *The Routledge Handbook of Translation Studies*, edited by Carmen Millán-Varela and Francesca Bartrina, Online Edi. Abingdon: Routledge. doi:10.4324/9780203102893.ch19.
- Karwacka, Wioleta. 2014. "Quality Assurance in Medical Education." *JosTRANS Journal of Specialized Translation*, no. 21: 19–34.
- Kingscott, Geoffrey. 2002. "Technical Translation and Related Disciplines." *Perspectives: Studies in Translatology* 10 (4): 247–55. doi:10.1080/0907676X.2002.9961449.
- Kitts, James A., and Yen-Sheng Chiang. 2008. "Norms." *Encyclopedia of Social Problems*, Edited by Vincent N. Parrillo. New York: SAGE Publications.
- Klaudy, Kinga. 1998. "Explicitation." In *Routledge Encyclopedia of Translation Studies*, edited by Mona Baker and ed. assisted by Malmkjær, Kirsten, 80–85. London: Routledge.
- Krein-Kühle, Monika. 2011. "Register Shifts in Scientific and Technical Translation: A Corpus-in-Context Study." *Translator* 17 (2): 391–413. doi:10.1080/13556509.2011.10799495.
- Krings, Hans-Peter. 1986. *Was in Den Köpfen von Übersetzern Vorgeht*. Tübingen: Gunter Narr.
- Kruger, Alet. 2010. "Translating Public Information Texts into Languages of Limited Diffusion so as to Ensure Accessibility for the Masses in South Africa." In *Translating Information*, edited by Roberto A. Valdeón, 151–68. Oviedo: Universidad de Oviedo.
- Kumpulainen, Minna. 2015. "On the Operationalisation of 'pauses' in Translation Process Research." *Translation and Interpreting* 7 (1): 47–58. doi:ti.106201.2015.a04.
- Kuo, Szu-yu. 2014. "Quality in Subtitling: Theory and Professional Reality." Unpublished Phd diss. Imperial College London.
- Laiho, Leena. 2013. "Original and Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/ori1> (accessed on 04.01.2016).
- Laviosa, Sara. 2002. *Corpus-Based Translation Studies: Theory, Findings, Applications*. Amsterdam and Atlanta: Rodopi. doi:10.1080/10228190408566201.
- . 2008. "Description in the Translation Classroom: Universals as a Case in Point." In *Beyond Descriptive Translation Studies. Investigations in Homage to Gideon Toury*, edited by Anthony Pym, Miriam Shlesinger, and Daniel Simeoni, 119–32. Amsterdam & Philadelphia: John Benjamins. doi:10.1075/btl.75.10lav.
- Lavrakas, Paul. 2008. *Encyclopedia of Survey Research Methods*. California: Sage Publications, Inc. doi:10.4135/9781412963947.
- Lawson, Tony, and Joan Garrod, eds. 2001. *Dictionary of Sociology*. London and Chicago: Fitzroy Dearborn Publishers.
- Leal, Alice. 2012. "Equivalence." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and New York: John Benjamins. <https://benjamins.com/online/hts/articles/equ1> (accessed on 21.05.2017).
- Leanza, Yvan. 2007. "Roles of Community Interpreters in Pediatrics as Seen by Interpreters, Physicians and Researchers." In *Healthcare Interpreting: Discourse and Interaction*, edited by

- Franz Pöchhacker and Miriam Shlesinger, 11–34. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/bct.9.04lea.
- Leijten, M., L. Van Waes, K. Schriver, and J. R. Hayes. 2014. "Writing in the Workplace: Constructing Documents Using Multiple Digital Sources." *Journal of Writing Research* 5 (3): 285–336.
- León Pérez, Isabelle. 1998. "Iniciación a La Comprensión Lectora de Textos Biomédicos [The First Steps in Understanding Biomedical Texts]." In *Actas de Las I Jornadas de Jovenes Traductores*, edited by Ana Sofía Ramírez Jaimez, 57–68. Gran Canaria: Universidad de Las Palmas de Gran Canaria, Servicio de Publicaciones.
- Lesch, Harold Michael, and Bernice Saulse. 2014. "Revisiting the Interpreting Service in the Healthcare Sector: A Descriptive Overview." *Perspectives* 22 (3): 332–48. doi:10.1080/0907676X.2013.822008.
- Leuven-Zwart, Kitty van. 1989. "Translation and Original: Similarities and Dissimilarities, I." *Target* 1 (2): 151–81. doi:10.1075/target.1.2.03leu.
- Levý, Jiří. 1967. "Translation as a Decision Process." In *To Honor Roman Jakobson, Vol. II*, 1171–1182. The Hague: Mouton.
- . 1969. *Die Literarische Übersetzung: Theorie Einer Kunstgattung*. Frankfurt am Main: Athenäum.
- . 2011. *The Art of Translation*. Edited by Zuzana Jettmarová. Vol. 97. Benjamins Translation Library. Amsterdam: John Benjamins. doi:10.1075/btl.97.
- Lewis, David K. 1969. *Convention: A Philosophical Study*. Cambridge: Harvard University Press.
- López Rodríguez, Clara Inés, Pamela Faber, and Maribel Tercedor. 2006. "Terminología Basada En El Conocimiento Para La Traducción y La Divulgación Médicas: El Caso de Oncoterm." *Panacea@ VII* (24): 228–40. [http://www.medtrad.org/panacea/IndiceGeneral/n24\\_tradyterm-l.rodriguez.etal.pdf](http://www.medtrad.org/panacea/IndiceGeneral/n24_tradyterm-l.rodriguez.etal.pdf).
- Lörscher, Wolfgang. 1991. *Translation Performance, Translation Process and Translation Strategies: A Psycholinguistic Investigation*. Tübingen: Narr.
- Maillot, Jean. 1969. *La Traduction Scientifique et Technique*. Paris: Éditions Eyrolles.
- Malmkjær, Kirsten. 2008. "Norms and Nature in Translation Studies." In *Incorporating Corpora: The Linguist and the Translator*, edited by Gunilla Anderman and Margaret Rogers, 49–59. Clevedon: Multilingual Matters.
- Malone, Joseph L. 1988. *The Science of Linguistics in the Art of Translation*. Albany: State University of New York Press.
- Manuila, L., A. Manuila, P. Lewalle, M. Nicoulin, and João Alves Falcado. 2004. *Dicionário Médico*. 3rd ed. Lisboa: Climepsi Editores.
- Marco, Josep. 2009. "The Terminology of Translation: Epistemological, Conceptual and Intercultural Problems and Their Social Consequences." In *The Metalanguage of Translation*, edited by Yves Gambier and Luc van Doorslaer, 19:255–69. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/bct.20.05mar.
- Marshall, Gordon, ed. 2003. *Oxford Dictionary of Sociology*. Oxford: Oxford University Press.

- Martínez Motos, Raquel. 2012. "Models of Quality Assessment for Patient Package Inserts in English and Spanish: A Review from the Translation Perspective." In *Translation and the Reconfiguration of Power Relations. Revisiting Role and Context of Translation and Interpreting.*, edited by Beatrice Fischer and Matilde Nisbeth Jensen, 259–77. Graz: Karl-Franzens-Universität Graz and CETRA.  
[https://www.arts.kuleuven.be/cetra/papers/files/Translation and the reconfiguration of power relations.pdf](https://www.arts.kuleuven.be/cetra/papers/files/Translation%20and%20the%20reconfiguration%20of%20power%20relations.pdf).
- Martins, Ana Maria, and Ernestina Carrilho. 2016. *Manual de Linguística Portuguesa*. Berlin: Walter De Gruyter.
- Matthews, Bob, and Liz Ross. 2010. *Research Methods: A Practical Guide for the Social Sciences*. Edinburgh: Pearson Education Ltd.
- Mayoral Asensio, Roberto. 2001. *Aspectos Epistemológicos de La Traducción*. Castellón: Universitat Jaume I.
- . 2004. "Lenguajes de Especialidad y Traducción Especializada. La Traducción Jurídica." In *Manual de Documentación y Terminología Para La Traducción Especializada*, edited by Rosario Consuelo Gonzalo García and Valentín García Yebra, 49–71. Madrid: Arco Libros.
- . 2007. "Specialised Translation: A Concept in Need of Revision." *Babel Revue Internationale de La Traduction International Journal of Translation* 53 (1): 48–55.  
doi:10.1075/babel.53.1.05may.
- Medicines and Healthcare products Regulatory Agency. 2013. "Electronic Instructions for Use of Medical Devices: Guidance on Regulations."  
<https://www.gov.uk/government/publications/electronic-instructions-for-use-of-medical-devices-guidance-on-regulations> (accessed on 24.02.2018).
- MedPAC. 2017. "An Overview of the Medical Device Industry." In *Report to the Congress: Medicare and the Health Care Delivery System*, 207–42. MedPAC. [http://www.medpac.gov/docs/default-source/reports/jun17\\_ch7.pdf?sfvrsn=0](http://www.medpac.gov/docs/default-source/reports/jun17_ch7.pdf?sfvrsn=0).
- Mees, Inger, Fabio Alves, and Susanne Göpferich, eds. 2009. *Methodology, Technology and Innovation in Translation Process Research*. Copenhagen: Samfundslitteratur.
- Mellinger, Christopher D., and Thomas A. Hanson. 2016. *Quantitative Research Methods in Translation and Interpreting Studies*. New York: Routledge.
- Merlini, Raffaella, and Roberta Favaron. 2009. "12. Quality in Healthcare Interpreter Training: Working with Norms through Recorded Interaction." In *The Critical Link 5: Quality in Interpreting – a Shared Responsibility*, edited by Sandra Beatriz Hale, Uldis Ozolins, and Ludmila Stern, 187–200. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.87.15mer.
- Merton, Robert K. 1973. "The Normative Structure of Science." In *The Sociology of Science: Theoretical and Empirical Investigations*, edited by Norman W. Storer, 267–78. Chicago and London: Chicago University Press.
- Mesa-Lao, Bartolomé. 2011. "Explicitation in Translation Memory-Mediated Environments. Methodological Conclusions from a Pilot Study." *Translation and Interpreting* 3 (1): 44–57.
- Mesa, Anne-Marie. 2000. "The Cultural Interpreter: An Appreciated Professional. Results of a Study on Interpreting Services: Client, Health Care Work and Interpreter Points of View." In *The Critical Link 2: Interpreters in the Community: Selected Papers from the Second International*

- Conference on Interpreting in Legal, Health and Social Service Settings, Vancouver, BC, Canada, 19–23 May 1998*, edited by Roda P. Roberts, Silvana E. Carr, Diana Abraham, and Aideen Dufour, 67–79. Amsterdam and Philadelphia: John Benjamins.
- Meylaerts, Reine. 2008. "Translators and (Their) Norms: Towards a Sociological Construction of the Individual." In *Beyond Descriptive Translation Studies: Investigations in Homage to Gideon Toury*, edited by Anthony Pym, Miriam Shlesinger, and Daniel Simeoni, 91–102. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.75.08mey.
- Microsoft. 2011. "European Portuguese Style Guide." <https://www.microsoft.com/Language/en-US/StyleGuides.aspx> (accessed on 10.05.2017).
- Miller, Dale T, and Cathy McFarland. 1991. "When Social Comparison Goes Awry: The Case of Pluralistic Ignorance." In *Social Comparison: Contemporary Theory and Research*, 287–313. Hillsdale: Erlbaum.
- Ministério da Economia. 2001. *Decreto-Lei n.º 320/2001 de 12 de Dezembro*. Diário da República (N.º 286, Série I-A). [https://dre.pt/web/guest/pesquisa/-/search/577359/details/normal?q=Decreto-Lei+n.º 320%2F2001](https://dre.pt/web/guest/pesquisa/-/search/577359/details/normal?q=Decreto-Lei+n.º+320%2F2001).
- Montalt i Resurrecció, Vicent, and Mark Shuttleworth, eds. 2012. *Translation and Knowledge Mediation in Medical and Health Settings. Linguistica Antverpiensia, New Series (LANS)*. Vol. 11. <https://lans.ua.ac.be/index.php/LANS-TTS/issue/archive>.
- Montalt, Vicent. 2011. "Medical Translation and Interpreting." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/med2> (accessed on 02.05.2017).
- . 2012. "Medical Translation." In *The Encyclopedia of Applied Linguistics*, 1–5. Oxford, UK: Blackwell Publishing Ltd. doi:10.1002/9781405198431.wbeal0760.
- Montalt, Vicent, and Maria González-Davies. 2014. *Medical Translation Step by Step: Learning by Drafting*. Oxon and New York: Routledge.
- Montalt y Resurrecció, Vicent, and Mark Shuttleworth. 2012. "Introduction. Research in Translation and Knowledge Mediation in Medical and Healthcare Settings." *Linguistica Antverpiensia New Series – Themes in Translation Studies* 11: 9–30.
- Montgomery, Scott L. 2002. *Science in Translation. Movements of Knowledge through Cultures and Time*. Chicago: Chicago University Press.
- . 2011. "Scientific Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/sci1> (accessed on 03.05.2016).
- Mossop, Brian. 2014. *Revising and Editing for Translators*. 3rd ed. London and New York: Routledge.
- Muñoz Martín, Ricardo. 2014. "A Blurred Snapshot of Advances in Translation Process Research." *Minding Translation / Con La Traducción En Mente. MonTI Special Issue.*, no. 1: 49–84. doi:10.6035/MonTI.2014.ne1.1.
- Murtisari, Elisabet Titik. 2016. "Explicitation in Translation Studies: The Journey of an Elusive Concept." *Translation and Interpreting* 8 (2): 64–81. doi:10.12807/ti.108202.2016.a05.
- Neubert, Albrecht, and Gregory M. Shreve. 1992. *Translation as Text*. Kent: The Kent State University



Press.

- Neunzig, Wilhelm. 2011. "Empirical Studies in Translation. Methodological and Epistemological Questions." *TTR: Traduction, Terminologi, Rédaction* XXIV (2): 15–39. doi:10.7202/1013393ar.
- Newmark, Peter. 1988. *A Textbook of Translation*. Hertfordshire: Prentice Hall.
- Nida, Eugene A. 1964. *Toward a Science of Translating*. Leiden: Brill.
- Nida, Eugene, and Charles Taber. 1969. *The Theory and Practice of Translation*. Leiden: Brill.
- Nogueira, Rodrigo de Sá. 1995. *Dicionário de Erros e Problemas de Linguagem*. Lisboa: Clássica Editora.
- Nord, Christiane. 1991a. *Text Analysis in Translation. Theory, Method, and Didactic Application of a Model for Translation-Oriented Text Analysis*. Translated by Christiane Nord and Penelope Sparrow. Amsterdam and Atlanta: Rodopi.
- . 1991b. "Scopos, Loyalty, and Translational Conventions." *Target* 3 (1): 91–109. doi:10.1075/target.3.1.06nor.
- . 2016. "Functionalist Approaches." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/fun1> (accessed on 10.05.2017).
- . 2018. *Translating as a Purposeful Activity (2nd Edition)*. London: Routledge. doi:10.4324/9781351189354.
- Nunes, João Manuel de Sousa. 2009. "Cultura." Edited by Carlos Ceia. *E-Dicionário de Termos Literários (EDTL)*. <http://edtl.fcsh.unl.pt/encyclopedia/cultura/> (accessed on 10.05.2017).
- O'Brien, Sharon. 2004. *Machine Translatability and Post-Editing Effort: How Do They Relate?* London: Aslib.
- . 2006. "Pauses as Indicators of Cognitive Effort in Post-Editing Machine Translation Output." *Across Languages and Cultures* 7 (1): 1–21. doi:10.1556/Acr.7.2006.1.1.
- . 2010. "Controlled Language and Readability." In *Translation and Cognition*, edited by Gregory M. Shreve and Erik Angelone, 143–68. Amsterdam and Philadelphia: John Benjamins.
- . , ed. 2011. *Cognitive Explorations of Translation*. London: Continuum.
- Oldendick, Robert W. 2008. "Question Order Effects." *Encyclopedia of Survey Research Methods*, 663–65.
- Olohan, Maeve. 2010. "Commercial Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia. <https://benjamins.com/online/hts/articles/comm1>. (Accessed on 30.01.2016).
- . 2016. *Scientific and Technical Translation: A Coursebook*. Oxon and New York: Routledge.
- Olohan, Maeve, and Myriam Salama-Carr. 2011. "Translating Science." *Translator* 17 (2): 179–88. doi:10.1353/pbm.2002.0016.
- Opp, Karl-Dieter. 2001a. "Norms." In *International Encyclopedia of the Social & Behavioral Sciences*, edited by Neil J. Smelser and Paul B. Baltes, 10714–20. Oxford, England: Pergamon Press.

- doi:10.1016/B0-08-043076-7/01936-7.
- . 2001b. "How Do Norms Emerge? An Outline of a Theory." *Mind & Society* 2 (1): 101–28. doi:10.1007/BF02512077.
- Orero, Pilar. 2004. "Introduction: Audiovisual Translation." In *Topics in Audiovisual Translation*, edited by Pilar Orero, 56:vii–xiii. Benjamins Translation Library. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.56.01ore.
- Ortega Arjonilla, Emilio. 2015. "Algunas Reflexiones Teórico-Prácticas Sobre La Traducción de Textos Médicos Especializados Del Francés Al Español [Some Theoretical-Practical Reflections on the Translation of Specialized Medical Texts from French into Spanish]." In *Translating and Interpreting Healthcare Discourses / Traducir e Interpretar En El Ámbito Sanitario*, edited by María-José Varela Salinas and Bernd Meyer, 157–85.
- Oxford University Press. 2017a. "'dressing, n.'" *OED Online*. <http://www.oed.com/view/Entry/57677?redirectedFrom=dressing>.
- . 2017b. "'acute, Adj. and n.'" *OED Online*. <http://www.oed.com/view/Entry/2031?rskey=WFxEoT&result=1>.
- . 2017c. "'bandage, n.'" *OED Online*. <http://www.oed.com/view/Entry/15120?rskey=BSaZyw&result=1>.
- . 2017d. "Belief, N." *OED Online*. <http://www.oed.com/view/Entry/17368?redirectedFrom=belief>.
- . 2017e. "Expectation, N." *OED Online*. <http://www.oed.com/view/Entry/66455?redirectedFrom=expectation>.
- . 2017f. "Peel, V." *OED Online*. <http://www.oed.com/view/Entry/139682?result=6&rskey=Tdnyul&>.
- PACTE. 2003. "Building a Translation Competence Model." In *Triangulating Translation: Perspectives in Process Oriented Research*, 43–66. Amsterdam: John Benjamins. doi:10.1075/btl.45.06pac.
- Parsons, Talcott. 1937. *The Structure of Social Action. A Study in Social Theory with Special Reference to a Group of Recent European Writers*. New York and London: Free Press.
- . 1951. *The Social System*. London: Routledge.
- Parsons, Talcott, and Edward Shils. 1951. *Towards a General Theory of Action*. Cambridge: Harvard University Press.
- Payne, Keith, Laura Niemi, and John M. Doris. 2018. "How to Think about 'Implicit Bias.'" *Scientific American*. <https://www.scientificamerican.com/article/how-to-think-about-implicit-bias/> (accessed on 03.07.2018).
- Pearson, Jennifer. 1998. *Terms in Context*. Studies in Corpus Linguistics. Amsterdam: John Benjamins. doi:10.1075/scl.1.
- Perkins, H. Wesley. 1991. "Confronting Misperceptions of Peer Drug Use Norms Among College Students: An Alternative Approach for Alcohol and Other Drug Education Programs." In *Peer Prevention Program Resource Manual*, 11–29. Fort Worth: Higher Education Leaders/Peers Network, Texas Christian University.

- . 1997. "College Student Misperceptions of Alcohol and Other Drug Norms among Peers: Exploring Causes, Consequences, and Implications for Prevention Programs." In *Designing Alcohol and Other Drug Prevention Programs in Higher Education: Bringing Theory into Practice*, 177–206. Newton: The Higher Education Center for Alcohol and Other Drug Prevention, U.S. Department of Education.
- . 2002. "Social Norms and the Prevention of Alcohol Misuse in Collegiate Contexts." *Journal of Studies on Alcohol, Supplement*, no. s14: 164–72. doi:10.15288/jsas.2002.s14.164.
- . 2003. "The Emergence and Evolution of the Social Norms Approach to Substance Abuse Prevention." In *The Social Norms Approach to Preventing School and College Age Substance Abuse: A Handbook for Educators, Counselors, Clinicians*, 3–17. San Francisco: Jossey-Bass.
- Perkins, H. Wesley, and Alan Berkowitz. 1986. "Perceiving the Community Norms of Alcohol Use among Students: Some Research Implications for Campus Alcohol Education Programming." *International Journal of the Addictions* 21 (9–10): 961–76. doi:10.3109/10826088609077249.
- Pestana, Dinis, Carlos Ventura, and Fernando Sequeira. 2013. *Tradução Científica, Técnica e de Divulgação Nas Áreas de Probabilidade e Processos Estocásticos, Estatística e Aplicações*. Lisboa: Centro de Estatística e Aplicações da Universidade.  
<http://www.ceaul.fc.ul.pt/getfile.asp?where=notas&id=350>.
- Pinchuck, Isadore. 1977. *Scientific and Technical Translation*. London: André Deutsch.
- Pittarello, Sara. 2012. "Medical Terminology Circulation and Interactional Organisation in Interpreter-Mediated Medical Encounters." *Linguistica Antverpiensia, New Series – Themes in Translation Studies*, no. 11: 114–31. <https://lans-tts.uantwerpen.be/index.php/LANS-TTS/article/view/299>.
- Plotkowska, Dagmara. 2016. "Problems of Literality in French-Polish Translations of a Newspaper Article." In *New Directions in Empirical Translation Process Research: Exploring the CRITT TPR-DB*, edited by Michael Carl, Srinivas Bangalore, and Moritz Schaeffer, 279–91. Cham: Springer International Publishing. doi:10.1007/978-3-319-20358-4\_13.
- Plotkin, Henry C. 1993. "Hunting Memes." *Behavioral and Brain Sciences* 16 (04): 768. doi:10.1017/S0140525X00032891.
- Popper, Karl. 1978. "Three Worlds." Michigan: The Tanner Lecture on Human Values at The University of Michigan (April 7). [http://tannerlectures.utah.edu/\\_documents/a-to-z/p/popper80.pdf](http://tannerlectures.utah.edu/_documents/a-to-z/p/popper80.pdf) (accessed on 08.06.2017)%0A.
- Porto Editora. n.d. "Dicionário Infopédia Da Língua Portuguesa Com Acordo Ortográfico." <https://www.infopedia.pt/dicionarios/lingua-portuguesa/esterilizado> (accessed on 08.06.2017).
- Posner, Eric A. 2002. *Law and Social Norms*. Cambridge: Harvard University Press.
- Priberam. n.d. "'produto.'" *Dicionário Priberam Da Língua Portuguesa*. <https://www.priberam.pt/dlpo/produto> (accessed on 26.10.2017).
- Pym, Anthony. 2000. *Negotiating the Frontier. Translators and Intercultures in Hispanic History*. Manchester: St. Jerome.
- . 2003. "Redefining Translation Competence in an Electronic Age. In Defence of a Minimalist Approach." *Meta: Journal Des Traducteurs* 48 (4): 481. doi:10.7202/008533ar.

- . 2005. "Explaining Explication." *New Trends in Translation Studies: In Honour of Kinga Klauy*, 29–43.
- . 2008. "Natural and Directional Equivalence in Theories of Translation." *Target* 19 (2): 271–94. doi:10.1075/target.19.2.07pym.
- . 2009. "Using Process Studies in Translator Training: Self-Discovery through Lousy Experiments." In *Methodology, Technology and Innovation in Translation Process Research*, edited by Susanne Göpferich, Fábio Alves, and Inger M. Mees, 135–56. Copenhagen: Samfundslitteratur.
- . 2010. *Exploring Translation Theories*. London and New York: Routledge.
- . 2012a. "Gideon Toury (Translation Scholar): Gideon Toury (Tel Aviv University) Interviewed by Anthony Pym in Tarragona, 2008." Filmed [2008]. YouTube video, 18:41. <https://www.youtube.com/watch?v=PJbNKGGHJ1I>.
- . 2012b. "Gideon Toury on Sociocultural Approaches to Translation, 2005: Gideon Toury, Response to Daniel Simeoni and Michael Cronin at the Seminar on Sociocultural Approaches to Translation, Tarragona, January 25, 2005." Filmed [2005]. YouTube video, 9:32. <https://www.youtube.com/watch?v=yr6MHZcmHFI>.
- . 2016. "A Typology of Translation Solutions (Draft)." [https://www.academia.edu/34952203/A\\_typology\\_of\\_translation\\_solutions\\_revised\\_](https://www.academia.edu/34952203/A_typology_of_translation_solutions_revised_) (accessed on 20.10.2016).
- . 2017. *Translation Solutions for Many Languages. Histories of a Flawed Dream*. London: Bloomsbury.
- Pym, Anthony, François Grin, Claudio Sfreddo, and Andy L. J. Chan. 2012. *The Status of the Translation Profession in the European Union*. Brussels: European Commission. doi:10.2782/63429.
- Quérin, Serge, ed. 2001. "Traduction Médicale et Documentation / Medical Translation and Documentation." *Meta: Journal Des Traducteurs Meta: Translators' Journal* 46 (1). <https://www.erudit.org/en/journals/meta/2001-v46-n1-meta160/>.
- Ramos Pinto, Sara. 2012. "Audiovisual Translation in Portugal: The Story so Far." Edited by Anthony Pym and Alexandra Assis Rosa. *Revista Anglo Saxonica* 3 (3): 335–63. <http://www.ulices.org/anglo-saxonica/serie-iii-no-3-2012.html>.
- Reips, Ulf-Dietrich. 2000. "The Web Experiment Method: Advantages, Disadvantages, and Solutions." In *Psychological Experiments on the Internet*, edited by Michael H. Birnbaum, 89–117. San Diego: Academic Press.
- Reiss, Katharina. 1989. "Text Types, Translation Types and Translation Assessment." In *Readings in Translation Theory*, edited by Andrew Chesterman, 105–15. Helsinki: Finn Lectura.
- Reiss, Katharina, and Hans Josef Vermeer. 1991. *Grundlegung Einer Allgemeinen Translationstheorie*. Tübingen: Niemeyer.
- Reiter-Palmon, Roni, Erika J. Robinson-Morrall, James C. Kaufman, and Jonathan B. Santo. 2012. "Evaluation of Self-Perceptions of Creativity: Is It a Useful Criterion?" *Creativity Research Journal* 24 (2–3): 107–14. doi:10.1080/10400419.2012.676980.

- Remael, Aline. 2010. "Audiovisual Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia. doi:10.1075/hts.1.aud1.
- Ribeiro, Pedro. 2000. "Multiplexes, Megaplexes Ou Cinema Com Pipocas." *Público*, February 20. <https://www.publico.pt/destaque/jornal/multiplexes-megaplexes-ou-cinema-com-pipocas-140190> (accessed on 04.06.2017).
- Ritchie, Jane, and Jane Lewis, eds. 2003. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London, Thousand Oaks, New Delhi: SAGE Publications. doi:10.4135/9781452230108.
- Robert, Isabelle S., and Aline Remael. 2016. "Quality Control in the Subtitling Industry: An Exploratory Survey Study." *Meta: Journal Des Traducteurs* 61 (3): 578. doi:10.7202/1039220ar.
- Rokeach, Milton. 1968. *Beliefs, Attitudes and Values: A Theory of Organization and Change*. San Francisco: Jossey-Bass Publishers.
- Rommetveit, Ragnar. 1953. *Social Norms and Roles*. Oslo, Norway: Universitetsforlaget.
- Rosa, Alexandra Assis. 2000. "The Negotiation of Literary Dialogue in Translation: Forms of Address in Robinson Crusoe Translated into Portuguese." *Target* 12 (1): 31–62. doi:10.1075/target.12.1.03ass.
- . 2001. "Features of Oral and Written Communication in Subtitling." In *(Multi)Media Translation. Concepts, Practices and Research*, edited by Yves Gambier and Henrik Gottlieb, 213. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.34.26ass.
- . 2004. "Tradução, Poder e Ideologia. Retórica Interpessoal No Diálogo Narrativo Dickensiano Em Português (1950-1999)." Unpublished PhD diss., Faculty of Letters, University of Lisbon.
- . 2006. "Does Translation Have a Say in the History of Our Contemporary Linguacultures? Some Figures on Translation in Portugal." *Polifonia* 9: 77–94.
- . 2016a. "Descriptive Translation Studies (DTS)." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/des1> (accessed on 23.05.2017).
- . 2016b. "Descriptive Translation Studies of Audiovisual Translation: 21st-Century Issues, Challenges and Opportunities." *Target International Journal of Translation Studies* 28 (2): 192–205. doi:10.1075/target.28.2.02ros.
- . 2016c. "Norms in Translation." Lecture for Habilitation in Translation Studies. University of Lisbon. Lisbon. 20 Oct.
- Rosenberg, Brett A. 2002. "Un Análisis Cuantitativo de La Interpretación [A Quantitative Analysis of Interpreting]." In *Traducción e Interpretación En Los Servicios Públicos: Nuevas Necesidades Para Nuevas Realidades*, edited by Carmen Valerá, 133–40. Alcalá: Universidad de Alcalá.
- Rothman, Joshua. 2014. "The Meaning of 'Culture.'" *The New Yorker*. <http://www.newyorker.com/books/joshua-rothman/meaning-culture> (accessed on 23.06.2017).
- Rouleau, Maurice. 2001. "La Fature Des Principaux Dictionnaires Médicaux Français: Point de Vue d'un Traducteur." *Meta: Journal Des Traducteurs* 46 (1): 34. doi:10.7202/004003ar.

- Ruuskaanen, Deborah D. K. 1994. "The Translation of Finnish Medical Texts: Who Is the Expert?" In *Translation Studies: An Interdiscipline*, edited by Klaus Kaindl, Franz Pöchhacker, and Mary Snell-Hornby, 291–300. Amsterdam and Philadelphia: John Benjamins.
- "S.v. 'Bond.'" 2016. *American Heritage® Dictionary of the English Language, Fifth Edition*. <https://www.thefreedictionary.com/bond>.
- Saldanha, Gabriela, and Sharon O'Brien. 2013. *Research Methodologies in Translation Studies*. Abingdon and New York: Routledge. iBook edition.
- Sarukkai, Sundar. 2002. *Translating the World: Science and Language*. MD: University of Press of America.
- Schäffner, Christina. 1999a. "The Concept of Norms in Translation Studies." In *Translation and Norms*, edited by Christina Schäffner, 1–8. Clevedon: Multilingual Matters.
- . , ed. 1999b. *Translation and Norms*. Clevedon: Multilingual Matters.
- . 2010. "Norms of Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/nor1> (accessed on 23.05.2017).
- . 2014. "Translation and Norms." Lecture presented at the 26th Research Summer School in Translation Studies (CETRA). University of Leuven. Leuven. August 22nd–Sept 2nd.
- Schäler, Reinhard. 2011. "Localization and Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/loc1> (accessed on 08.01.2016).
- Schilperoord, Joost. 2002. "On the Cognitive Status of Pauses in Discourse Production." In *Contemporary Tools and Techniques for Studying Writing*, edited by Thierry Olive and C Michael Levy, 61–87. Dordrecht: Springer Netherlands. doi:10.1007/978-94-010-0468-8\_4.
- Schleiermacher, Friedrich. 2004. "On the Different Methods of Translating." In *The Translation Studies Reader*, edited by Lawrence Venuti, translated by Susan Bernofsky, 43–63. New York: Routledge.
- Schmitt, Peter Axel. 1993. "Der Translationsbedarf in Deutschland: Ergebnisse Einer Umfrage." *Mitteilungsblatt Für Dolmetscher Und Übersetzer: MDÜ* 4: 3–10.
- Schubert, Klaus. 2011. "Technical Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/tec1> (accessed on 04.05.2016).
- Schwarz, Norbert. 1997. "Questionnaire Design: The Rocky Road from Concepts to Answers." In *Survey Measurement and Process Quality*, edited by Lars Lyberg, Paul Biemer, Martin Collins, Edith DeLeeuw, Cathryn Dippo, Norbert Schwarz, and Dennis Trewin, 29–45. Chichester: Wiley. doi:10.1002/9781118490013.ch1.
- Schwieter, John, and Aline Ferreira, eds. 2014. *The Development of Translation Competence: Theories and Methodologies from Psycholinguistics and Cognitive Science*. Cambridge: Cambridge Scholars Publishing.
- SDL. 2011. "LISA QA Metric." [http://producthelp.sdl.com/SDL\\_TMS\\_2011/en/Creating\\_and\\_Maintaining\\_Organizations/Ma](http://producthelp.sdl.com/SDL_TMS_2011/en/Creating_and_Maintaining_Organizations/Ma)

- naging\_QA\_Models/LISA\_QA\_Model.htm (accessed on 08.07.2018).
- SDT, Representação da Comissão Europeia em Portugal, and Fundação para a Ciência e a Tecnologia FCT, eds. 1999. *Actas Do II Seminário de Tradução Científica e Técnica Em Língua Portuguesa*. Lisboa: União Latina.
- Searle, John R. 1969. *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press. doi:10.1017/CBO9781139173438.
- Sela-Sheffy, Rakefet. 2005. "How to Be a (Recognized) Translator: Rethinking Habitus, Norms, and the Field of Translation." *Target* 17 (1): 1–26. doi:10.1075/target.17.1.02sel.
- Sethumadhavan, Arathi, Naomi Cherne, and Adam Shames. 2017. "A Guide to Developing Usable Instructions For Use For Medical Devices." *Med Device Online*. <https://www.meddeviceonline.com/doc/a-guide-to-developing-usable-instructions-for-use-for-medical-devices-0001>.
- Shlesinger, Miriam. 1999. "Norms, Strategies and Constraints: How Do We Tell Them Apart?" In *Anovar/Anosar: Estudios de Traducción e Interpretation*, edited by Alberto Alvarez Lugris and Anxo Fernández Ocampo, 65–77. Vigo: Universidade de Vigo.
- Shreve, Gregory, and Erik Angelone, eds. 2010. *Translation and Cognition*. Amsterdam and Philadelphia: John Benjamins.
- Shuttleworth, Mark. 2001. "Polysystem Theory." In *Routledge Encyclopedia of Translation Studies*, edited by Mona Baker, 176–179. New York and London: Routledge.
- Shuttleworth, Mark, and Moira Cowie. 1997. *Dictionary of Translation Studies*. Manchester: St. Jerome.
- Simeoni, Daniel. 1998. "The Pivotal Status of the Translator's Habitus." *Target* 10 (1): 1–39. doi:10.1075/target.10.1.02sim.
- Sjørup, Annette Camilla. 2013. "Cognitive Effort in Metaphor Translation: An Eye-Tracking and Key-Logging Study." Unpublished PhD thesis, Copenhagen Business School. [http://openarchive.cbs.dk/bitstream/handle/10398/8698/Annette\\_Camilla\\_Sjørup.pdf?sequence=1](http://openarchive.cbs.dk/bitstream/handle/10398/8698/Annette_Camilla_Sjørup.pdf?sequence=1).
- Snell-Hornby, Mary. 2007. "'What's in a Name?' On Metalinguistic Confusion In Translation Studies." *Target* 19 (2): 123–34. doi:10.1075/target.19.2.09sne.
- Sousa, António Francisco de. 2007. "Fundamentos Da Tradução Jurídica. Alemão-Português (Com Incidência Especial No Direito Administrativo)." Unpublished Phd diss., Faculty of Arts and Humanities, University of Porto.
- Stetting, Karen. 1989. "Transediting – A New Term for Coping with the Grey Area between Editing and Translating." In *Proceedings from the Fourth Nordic Conference for English Studies*, edited by Graham Caie, Kirsten Haastруп, Arnt Lykke Jakobsen, Joergen Erik Nielsen, Joergen Sevaldsen, Henrik Specht, and Arne Zettersten, 371–382. Copenhagen: University of Copenhagen.
- Sun, Sanjun, and Gregory M. Shreve. 2014. "Measuring Translation Difficulty: An Empirical Study." *Target* 26 (1): 98–127. doi:10.1075/target.26.1.04sun.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 51 (2):

273–86. doi:10.2307/2095521.

- Teixeira, Carlos. 2014. "The Impact of Metadata on Translator Performance: How Translators Work with Translation Memories and Machine Translation." Unpublished Phd diss., Universitat Rovira i Virgili and Katholieke Universiteit Leuven.
- Tercedor, Maribel. 2000. "A Pragmatic Approach to the Description of Phraseology in Biomedical Texts." In *Investigating Translation*, edited by Beeby Allison, Doris Ensinger, and Marisa Presas, 261–70. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.32.30ter.
- Thompson, John B. 1991. "Editor's Introduction." In *Language and Symbolic Power*, 1–31. Cambridge: Harvard University Press.
- Ticca, Anna-Claudia. 2017. "More than Mere Translators: The Identities of Lay Interpreters in Medical Consultations." In *Non-Professional Interpreting and Translation. State of the Art and Future of an Emerging Field of Research*, edited by Rachele Antonini, Letizia Cirillo, Linda Rossato, and Ira Torresi, 107–30. Amsterdam and Philadelphia: John Benjamins. <https://www.jbe-platform.com/content/books/9789027266088-btl.129.06tic>.
- Tirkkonen-Condit, Sonja. 2005. "The Monitor Model Revisited: Evidence from Process Research." *Meta: Journal Des Traducteurs* 50 (2): 405. doi:10.7202/010990ar.
- Tirkkonen-Condit, Sonja, Jukka Mäkisalo, and Sini Immonen. 2008. "The Translation Process - Interplay between Literal Rendering and a Search for Sense." *Across Languages and Cultures* 9 (1): 1–15. doi:10.1556/Acr.9.2008.1.1.
- Toch, Hans, and John Klofas. 1984. "Pluralistic Ignorance, Revisited." In *Progress in Applied Social Psychology*, edited by Geoffrey Michael Stephenson and James H. Davis, 129–59. New York: Wiley.
- Tourangeau, R., L. J. Rips, and K. Rasinski. 2000. *The Psychology of Survey Response*. Cambridge, England: Cambridge University Press.
- Toury, Gideon. 1985. "A Rationale for Descriptive Translation Studies." In *The Manipulation of Literature. Studies in Literary Translation*, edited by Theo Hermans, 16–41. London and Sydney: Croom Helm.
- . 1995. *Descriptive Translation Studies – and Beyond*. Amsterdam: John Benjamins. doi:10.1075/btl.4.
- . 1999. "A Handful of Paragraphs on 'Translation' and 'Norms.'" In *Translation and Norms*, edited by Christina Schäffner, 9–31. Clevedon: Multilingual Matters.
- . 2004. "Probabilistic Explanations in Translation Studies." In *Translation Universals. Do They Exist?*, edited by Anna Mauranen and Pekka Kujamäki, 15–32. Amsterdam and Philadelphia: John Benjamins. doi:10.1075/btl.48.03tou.
- . 2011. "Translation Problem." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/tra11> (accessed on 06.05.2017).
- . 2012. *Descriptive Translation Studies – and Beyond*. Amsterdam: John Benjamins. doi:10.1075/btl.100.
- Trobia, Alerto. 2008. "Questionnaire." *Encyclopedia of Survey Research Methods*. Sage Publications,



Inc.

- Turner, Bryan S., ed. 2006. *The Cambridge Dictionary of Sociology*. Cambridge and New York: Cambridge University Press.
- Tymoczko, Maria. 2005. "Enlarging Translation Theory: Integrating Non-Western Thought about Translation." In *Translating Others*, edited by Theo Hermans. Manchester: St. Jerome.
- . 2007. *Enlarging Translation, Empowering Translators*. Manchester: St. Jerome.
- Ullmann-Margalit, Edna. 2015. *The Emergence of Norms. Clarendon Library of Logic and Philosophy*. Oxford: Oxford University Press.
- Uluköylü, Sevgi. 2008. "'... Manchmal Streite Ich Auch.' Sprach- Und Kulturmittlung Für Türkische Migrantinnen Im Medizinischen Bereich ['... Manchmal Streite Ich Auch.' Language and Culture Mediation for Turkish Immigrant Women in the Medical Field]." In *Kommunal Dolmetschen/Community Interpreting: Probleme, Perspektiven, Potenziale [Community Interpreting: Problems, Perspectives, Potentials]*, edited by Nadja Grbić and Sonja Pöllabauer, 173–220. Berlin: Frank & Timme.
- Unas, Rui. 2016. "Pipocas No Cinema." *RTP*. <http://media.rtp.pt/treze/prazeres/pipocas-no-cinema/> (accessed on 23.06.2017).
- Valdeón, Roberto A. 2010. *Translating Information*. Edited by Roberto A. Valdeón. Oviedo: Universidad de Oviedo.
- Valdez, Susana. 2009. "O Autor Anónimo. A Invisibilidade Do Tradutor No Contexto Português." Unpublished Master diss., School of Arts and Humanities, University of Lisbon.
- . 2017. "Review of Chesterman (2016) Memes of Translation: The Spread of Ideas in Translation Theory." *Target* 29 (3). Amsterdam: John Benjamins: 503–7. doi:10.1075/target.16170.val.
- Valero-Garcés, Carmen. 2007. "Doctor-Patient Consultations in Dyadic and Triadic Exchanges." In *Healthcare Interpreting: Discourse and Interaction*, edited by Franz Pöchhacker and Miriam Shlesinger, 35–51. Amsterdam and Philadelphia: John Benjamins.
- Vandaele, Sylvie. 2001. "Bibliographie Sélective Pour La Traduction Des Sciences Biomédicales." *Meta: Journal Des Traducteurs* 46 (1): 117. doi:10.7202/004535ar.
- Vandaele, Sylvie, Mariana Raffo, and Sylvie Boudreau. 2008. "Les Défis de La Pédagogie de La Traduction Spécialisée : Mise En Oeuvre d'un Site de Référence En Biomédecine." *TTR: Traduction, Terminologie, Rédaction* 21 (2): 63–94. doi:10.7202/037492ar.
- Vázquez y del Árbol, Esther. 2006. "La Redacción Del Discurso Biomédico (Inglés-Español): Rasgos Principales." *Panace@2* 7 (24): 307–17.
- Venuti, Lawrence. 1995. *The Translator's Invisibility. A History of Translation*. London and New York: Routledge. doi:10.4324/9780203360064.
- Vermeer, Hans J. 1997. "Translation and the 'Meme.'" *Target* 9 (1): 155–66. doi:10.1075/target.9.1.10ver.
- Vinay, Jean-Paul, and Jean-Louis Darbelnet. 1958. *Stylistique Comparée Du Français et de L'anglais. Méthode de Traduction*. Paris: Didier.

- . 2004. "A Methodology for Translation." In *The Translation Studies Reader*, edited by Lawrence Venuti, 2nd ed., 128–137.
- Vogeleer, Svetlana. 1995. "La Description Médicale et La Généricité [Medical Description and Genericity]." In *L'interprétation Du Texte et La Traduction*, edited by Svetlana Vogeleer, 87–130. Louvain-la-Neuve & Paris: Peeters.
- Voss, Thomas. 2001. "Game Theoretical Perspectives on the Emergence of Social Norms." In *Social Norms*, edited by Michael Hechter and Karl-Dieter Opp, 105–38. New York: Russell Sage Foundation.
- Weeds, Julie, James Dowdall, Gerold Schneider, Bill Keller, and David Weir. 2005. "Using Distributional Similarity to Organise Biomedical Terminology." In *Application-Driven Terminology Engineering*, 11:107–41. doi:10.1075/term.11.1.06wee.
- Wicker, Allan W. 1969. "Attitudes versus Actions: The Relationship of Verbal and Overt Behavioral Responses to Attitude Objects." *Journal of Social Issues* 25 (4): 41–78. doi:10.1111/j.1540-4560.1969.tb00619.x.
- Williams, Ian A. 2005. "Thematic Items Referring to Research and Researchers in the Discussion Section of Spanish Biomedical Articles and English-Spanish Translations." *Babel* 51 (2): 124–60. doi:10.1075/babel.51.2.02wil.
- . 2008. "Translation Strategies and Features of Discourse Style in Medical Research Articles: A Corpus-Based Study." In *New Trends in Translation and Cultural Identity*, edited by Micaela Muñoz, María del Carmen Buesa Gómez, and María Angeles Ruíz Moneva, 413–32. Newcastle upon Tyne: Cambridge Scholars.
- . 2009. "Discourse Style and Theme–Rheme Progression in Biomedical Research Article Discussions: A Corpus-Based Contrastive Study of Translational and Non-Translational Spanish." *Languages in Contrast* 9 (2): 225–66. doi:10.1075/lic.9.2.03wil.
- Williams, Jenny, and Andrew Chesterman. 2002. *The Map: A Beginner's Guide to Doing Research in Translation Studies*. Manchester: St. Jerome.
- Williams, Robin M. 1968. "The Concept of Norms." In *International Encyclopedia of the Social Sciences, Vol. II*. New York: Macmillan.
- World Health Organization. n.d. "Biomedical Engineering Global Resources." World Health Organization. [http://www.who.int/medical\\_devices/support/en/](http://www.who.int/medical_devices/support/en/) (accessed on 24.02.2018).
- . 2017a. "Human Resources for Medical Devices, the Role of Biomedical Engineers." Geneva. <http://apps.who.int/iris/bitstream/10665/255261/1/9789241565479-eng.pdf?ua=1> (accessed on 24.02.2018).
- . 2017b. "Human Rights and Health." World Health Organization. <http://www.who.int/mediacentre/factsheets/fs323/en/> (accessed on 24.02.2018).
- Wright, James, ed. 2015. *International Encyclopedia of the Social & Behavioral Sciences*. 2nd ed. Amsterdam and New York: Elsevier.
- Wright, Sue Ellen, and Leland D. Wright Jr., eds. 1993. *Scientific and Technical Translation*. American Translators Association Scholarly Monograph Series. Amsterdam: John Benjamins. doi:10.1075/ata.vi.

- Wyke, Ben van. 2010. "Ethics and Translation." In *Handbook of Translation Studies Online*, edited by Yves Gambier and Luc van Doorslaer. Amsterdam and Philadelphia: John Benjamins. <https://benjamins.com/online/hts/articles/eth1> (accessed on 12.07.2018).
- Yin, Robert K. 2009. *Case Study Research: Design and Methods*. Los Angeles, London, etc.: SAGE Publications.
- Young, Hobart Peyton. 1998. "Social Norms and Economic Welfare." *European Economic Review* 42: 821–830.
- Zabalbeascoa, Patrick. 2000. "From Techniques of Translation to Types of Solutions." In *Investigating Translation*, edited by Allison Beeby, Doris Ensinger, and Marisa Presas, 117–27. Amsterdam and Philadelphia: John Benjamins.
- Zanettin, Federico, Gabriela Saldanha, and Sue-Ann Ann Harding. 2015. "Sketching Landscapes in Translation Studies: A Bibliographic Study." *Perspectives: Studies in Translatology* 23 (2): 161–82. doi:10.1080/0907676X.2015.1010551.

## **APPENDICES**

---

- 1. Informed consent forms**
- 2. Background information on the individual participants per profile**
- 3. E-mail sent to participants regarding the experiment phase (in Portuguese)**
- 4. Translation brief**
- 5. Source text of the main experiment**
- 6. Demographic data of the novice and experienced translators who participated in the pilot study**
- 7. Source texts of the pilot study**
- 8. Poster “Behavioral norms in biomedical translation in the pt-PT translation market: a process-oriented pilot study”**
- 9. Questionnaires**
- 10. Additional questions sent by e-mail to the revisers**
- 11. Novice and Experienced translators’ target texts**
- 12. Novice and Experienced translators’ source-oriented, target-oriented and other solutions in interim and final versions, individual level**
- 13. Detailed analysis of the results of the questionnaires to the novice and experienced translators, revisers and health professionals**

## **APPENDIX 1. Informed Consent Forms**

### **(1) Informed Consent Form for translators**

#### **Informed Consent Form**

You have been invited to participate in an experiment as part of Susana Valdez's PhD thesis in Cotutelle at Lisbon University and Ghent University.

Supervisors: Dr. habil. Alexandra Assis Rosa (School of Arts and Humanities, University of Lisbon) and Professor Sonia Vandepitte (Faculty of Arts and Philosophy, Ghent University).

#### **AIM**

The data will be used only for research purposes.

#### **DATA COLLECTION**

During the experiment, screen and keylogging software and an online form will be used to collect data from you.

#### **DATA STORAGE**

The data will be stored in its original format on the researcher's computers and will not be released by any means or shared with any other person or institution.

#### **CONFIDENTIALITY**

Confidentiality will be maintained at all times. Your name will only be known to the researcher and will be anonymized in the questionnaire and in the translation data. Only anonymized versions of the data will be stored on a computer, except for computers belonging to the researcher. Your personal data will not be disclosed to any institution or person.

#### **YOUR RIGHTS**

You have the right to refuse to participate in the experiment at any time, including after the data collection.

You have the right to access your data at any time and to request a copy of all the documents based on the data collected by sending a request to Susana Valdez by e-mail.

Please fill in the declaration below:

I \_\_\_\_\_ (your name) understand the procedures described above and agree to participate in this study.

Signature \_\_\_\_\_

Date \_\_\_\_\_ Day/month/year

## **(2) Informed Consent Form for revisers and health professionals**

### **Informed Consent Form**

You have been invited to participate in an experiment as part of Susana Valdez's PhD thesis in Cotutelle at Lisbon University and Ghent University.

Supervisors: Dr. habil. Alexandra Assis Rosa (School of Arts and Humanities, University of Lisbon) and Professor Sonia Vandepitte (Faculty of Arts and Philosophy, Ghent University).

#### **AIM**

The data will be used only for research purposes.

#### **DATA COLLECTION**

During the experiment, an online form will be used to collect data from you.

#### **DATA STORAGE**

The data will be stored in its original format on the researcher's computers and will not be released by any means or shared with any other person or institution.

#### **CONFIDENTIALITY**

Confidentiality will be maintained at all times. Your name will only be known to the researcher and will be anonymized in the questionnaire. Only anonymized versions of the data will be stored on a computer, except for computers belonging to the researcher. Your personal data will not be disclosed to any institution or person.

#### **YOUR RIGHTS**

You have the right to refuse to participate in the experiment at any time, including after the data collection.

You have the right to access your data at any time and to a copy of all the documents based on the data collected by sending a request to Susana Valdez by e-mail.

Please fill in the declaration below:

I \_\_\_\_\_ (your name) understand the procedures described above and agree to participate in this study.

Signature \_\_\_\_\_

Date \_\_\_\_\_ Day/month/year

## APPENDIX 2. Background information on the individual participants per profile

### Novice translators' background information (n=15):

Translator	Formal translation training	Years of experience	Experience in medical/ biomedical trans.
Anabela	MA	0-1	Yes
Bárbara	BA and Post-grad	0-1	Yes
Carolina	Post-grad	0-1	Yes
Dora	BA and Post-grad	0-1	Yes
Elzira	BA and Post-grad	0-1	Yes
Felícia	BA and Post-grad	0-1	Yes
Graça	Post-grad	0-1	Yes
Hermínia	Post-grad	0-1	Yes
Iolanda	Post-grad	0-1	Yes
Julieta	MA	0-1	Yes
Luísa	No (MA in Clinical Psychology)	1-2	Yes
Manuel	No (MA in Child Protection Psychology)	1-2	Yes
Nelson	Post-grad	0-1	Yes
Odete	MA and PhD	0-1	Yes
Pedro	Post-grad	0-1	Yes

**Experienced translators' background information (n=15):**

<b>Translator</b>	<b>Formal translation training</b>	<b>Years of experience</b>	<b>No. of years of experience in medical/biomedical trans.</b>	<b>Additional information</b>
Amélia	BA and Post-grad	16	10	Specialized in Marketing and Audiovisual Translation  Ongoing PhD in Translation Studies
Beatriz	BA	16	None	Specialized in Legal Translation
Catarina	BA	21	20	Specialized in Medical Instruments, Pharmaceuticals and Dentistry
Débora	MA	12	1	Specialized in Legal Translation
Eva	BA	19	None	Specialized in Marketing
Filipa	--	29	None	Graduate Degree in Modern Languages and Literature, French and English Studies  Specialized in Medicine and Healthcare
Gonçalo	--	15	1	BA in English and Portuguese and ongoing PhD in Translation Studies  Specialized in technical translation
Helga	MA	14	2	Specialized in Medicine, Healthcare and Pharmaceuticals
Ivone	Post-grad	20	<1	Specialized in Literary translation
Josélia	PhD	11	11	BA in German Philology, MA in Anglo-Portuguese studies  Specialized in medical translation
Lúcio	MA	23	2	Specialized in technical translation
Maria	--	15	<1	BA in English and German Literature and Language, MA in Revision
Nádia	--	20	<1	Specialized in Legal Translation
Orlando	MA and PhD	25	None	Specialized in technical translation
Pilar	BA and MA	20	7	Specialized in Medical and Biomedical translation, and Medical Instruments



**Revisers' background information (n=15):**

Reviser	Formal translation training	Years of experience	Years of experience in medical and biomedical revision	Specialization	Additional information
António	Post-grad	4	4	Pharmaceuticals	
Bernardo	BA	8	5	Videogames	
Cátia	Post-grad	15	15	Medicine, Pharmaceuticals, Medical instruments, Medical assistance	
Dália	--	18	10	Life Sciences, Healthcare, Medical devices	DipTrans Certification
Eduardo	BA	13	11	Pharmaceuticals, Veterinary med., Zoology	
Fábia	BA and Post-grad	11	6	Medicine, Pharmaceuticals, Medical instruments, Dentistry, Cardiology	
Guilhermina	BA and MA	7	4	Health Sciences, Medicine, Dentistry, Instruments, Healthcare, Cardiology, Pharmaceuticals, Genetics	Integrated Master's in Veterinary Medicine
Helena	MA	11	11	Pharmaceuticals	
Isaura	--	12	12	Pharmaceuticals, Medical equipment and supplies, Healthcare, biotechnology	BA in Pharmaceutical Sciences and MSc in Health and Development
Joana	BA	8	4	Medicine, Pharmaceuticals	BA in Veterinary Nursing
Luís	BA and Post-grad	22	10	Information technology	
Mário	BA and MA	5	2	Medicine, Life Sciences	
Nuno	MA	15	4	Pharmaceuticals	
Octávio	MA	5	5	AVT	
Patrícia	--	11	10	AVT	

**Health professionals' background information (n=15):**

<b>Health professional</b>	<b>Status</b>	<b>Foreign Languages</b>	<b>Additional information</b>
Ana	Medical Information Specialist	English	MSc in Pharmacy
Bruno	Biomedical Engineer	English	BA, MSc and ongoing PhD in Biomedical Engineering.  In past worked as a technical support engineer and a teaching assistant at a Portuguese university.
Carlos	Biomedical Engineer	English, Italian, Spanish	MSc in Biomedical Engineering  PhD in Genetics
Daniela	Obstetrician	English	
Elsa	Nurse	English, Spanish	
Fernanda	Medical intern	English	Researcher in internal medicine, oncology and infectious diseases
Gabriela	General Practitioner	English, Spanish, French	
Hugo	Nursing student	English	
Isabel	Student of Biomedical/Medical Engineering (Msc)	English, Chinese	
João	Medical student	English	
Lara	Nurse	English, French	Currently working at a community health center
Marques	Biomedicine and Biomedical engineer	English, Spanish, Catalan	
Nunes	Nurse	English	
Santos	Nurse	English	
Paula	Nurse	French	Specialized in pediatrics and currently working at a community health center

### **APPENDIX 3. E-mail sent to participants regarding the experiment phase (in Portuguese)**

Caro \*name of participant\*,

Espero que o meu e-mail o encontre bem. No seguimento do meu contacto anterior, envio-lhe hoje o material para a experiência. Em anexo, pode encontrar o documento **Task description** no qual pode encontrar todos os passos da experiência.

Peço-lhe que, caso as instruções não sejam claras ou encontre alguma dificuldade técnica ou outra, não desista da sua participação por isso e me contacte por e-mail ou por telefone (\*researcher's phone number\*). Terei todo o gosto em ajudar e posso, inclusive, deslocar-me ao seu escritório para resolver a questão. Sem a sua participação, o meu estudo não tem validade.

Só tenho a agradecer a sua generosa disponibilidade para o meu trabalho e no que possa ajudar não hesite.

Obrigada,

Susana Valdez

[valdez.susana@gmail.com](mailto:valdez.susana@gmail.com)

## APPENDIX 4. Translation brief

### Task description

Dear Participant,

Thank you again for participating in my research project. As explained in my introductory e-mail, I am interested in studying your translation and opinions. Your participation is fundamental for my study. I therefore ask you to translate a 244-word text and to answer a survey. Please read the instructions below. If you have any questions, do not hesitate to contact me.

#### **FIRST: INFORMED CONSENT**

I kindly ask you to read and sign the informed consent form. This document comprehensively explains your rights as a participant and information about the data collection, data storage and confidentiality are laid out. If you agree to proceed, you can sign the consent digitally or print the form, sign it with a pen and scan it using your phone or a scanner. If you prefer, we can meet so that I can collect the form in person. The consent form attached to my e-mail can also be found at this link: <http://bit.ly/2tjNdwf>.

#### **SECOND: TRANSLATION**

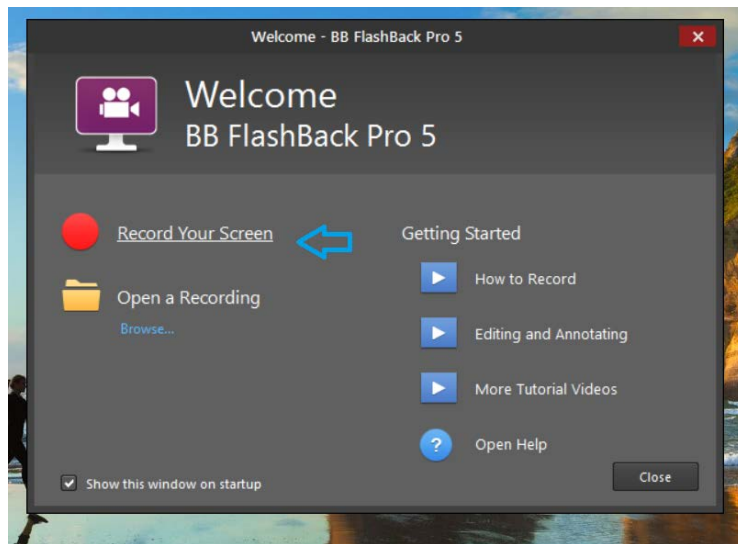
The translation task consists of translating a short text from the biomedical field from English to Portuguese. Please translate the text bearing in mind that if this was a real situation your translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience is health professionals. Your client has not sent any resources or additional information other than the text itself.

You can take as much time as you need, but please translate in one go. In other words, please translate the text from start to finish without stopping, except for natural reasons (for instance, if you need to take a bathroom break, drink water or eat, or get up to stretch your legs). You can use whatever resources you like, including paper, digital and online resources.

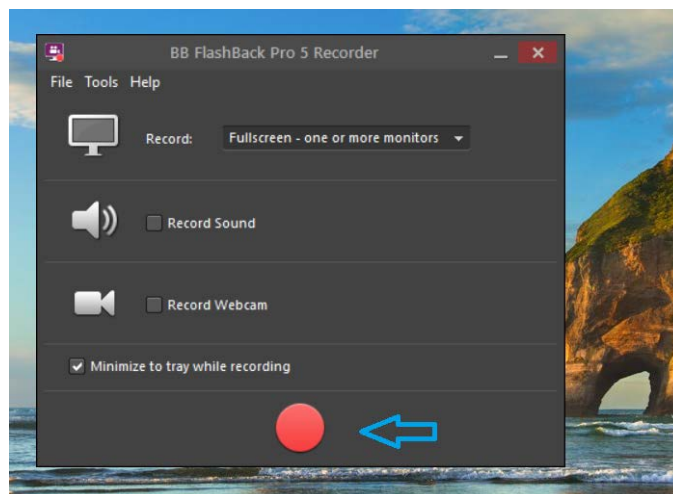
I would also like you to record the whole project using software so that I can study it. This is one of the most important parts of the task and I will not be able to do my research without it. I will ask you to use screen-recording software such as the Flashback recorder (<https://www.flashbackrecorder.com/download/>) to record your screen. If you already use another kind of software, that is not a problem. What the software does is simply record everything that you do on the computer, such as opening a website to search for the definition of a term. I will also ask you to use another program to record your typing. For this, please use Translog II (<https://www.dropbox.com/s/jvfu52vrnsq0ge6/SetupT2-v2.0.msi>). What this software does is record the keys that you press on your keyboard. If you want to know more about these two pieces of software before you proceed, we can meet so that I can explain them to you in more detail.

After you install the software, and when you are ready to start the translation, please follow these steps:

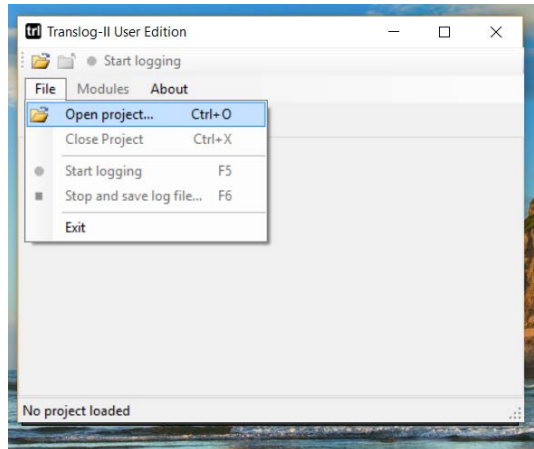
(1) Open Flashback recorder. Click “Record your screen”.



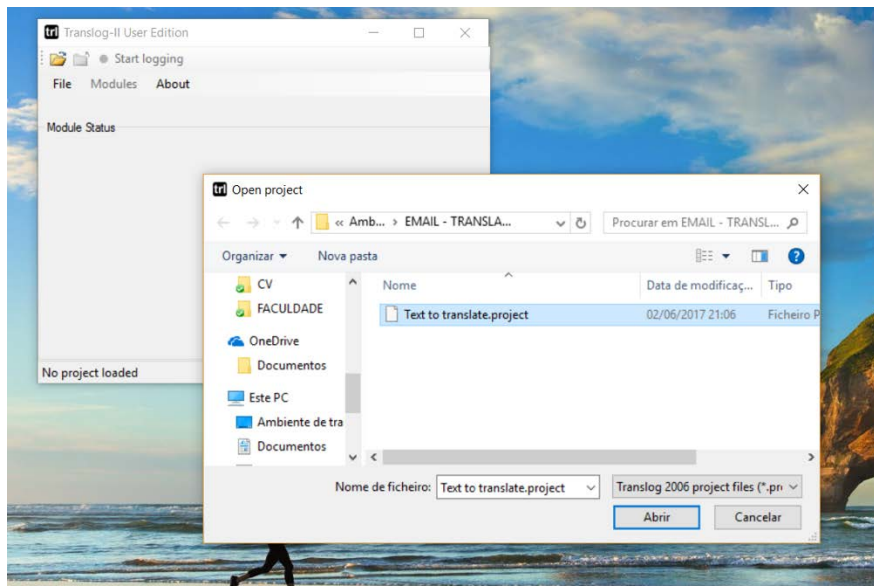
(2) Click on the red button. Your screen is now being recorded.



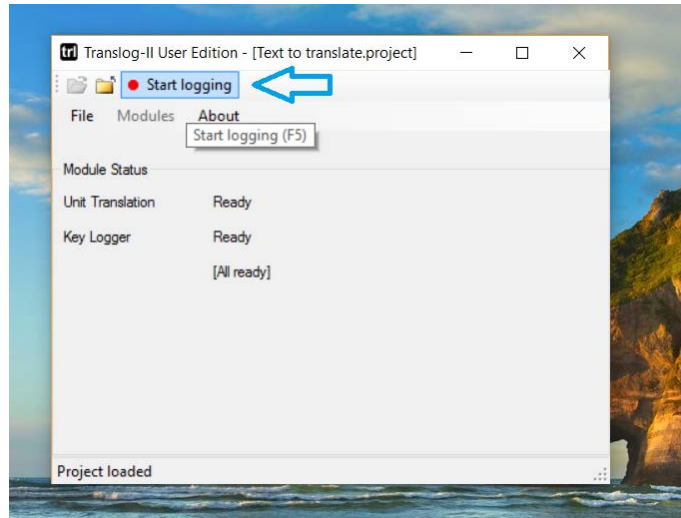
(3) Open Translog-II User Edition. Click “File”. Click “Open Project”.



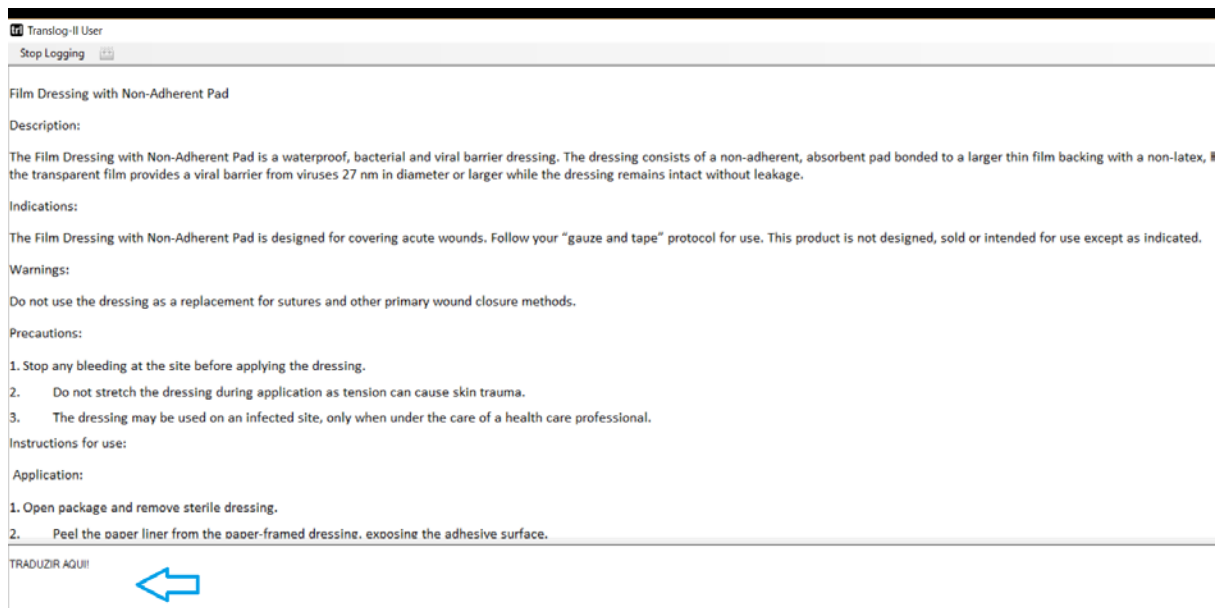
(4) Select the file **Text to translate.project** attached to my e-mail or you can download from <http://bit.ly/2s32F25>.



(5) Click “Start Logging”.



(10) You can now start translating!

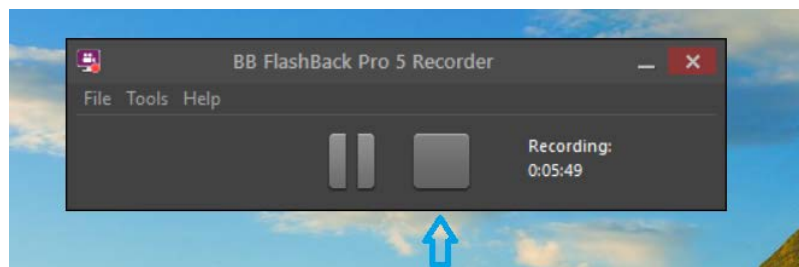


After finishing the translation:

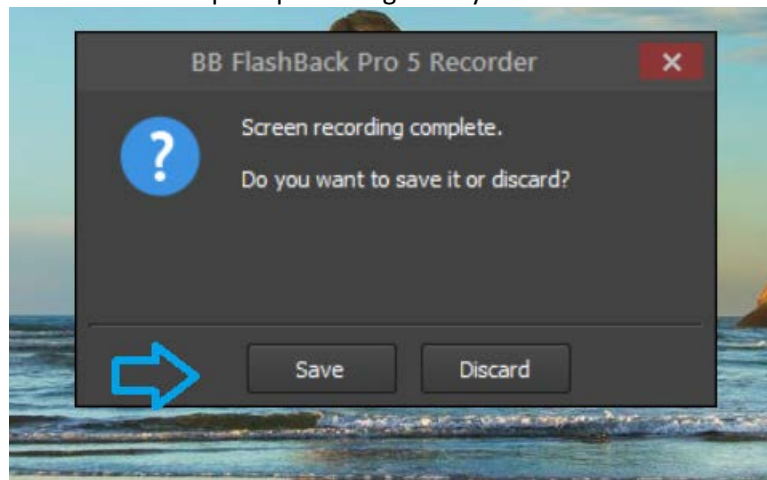
(1) Click on Flashback recorder, which can be found in your notification area.



(2) Click on the square red button.



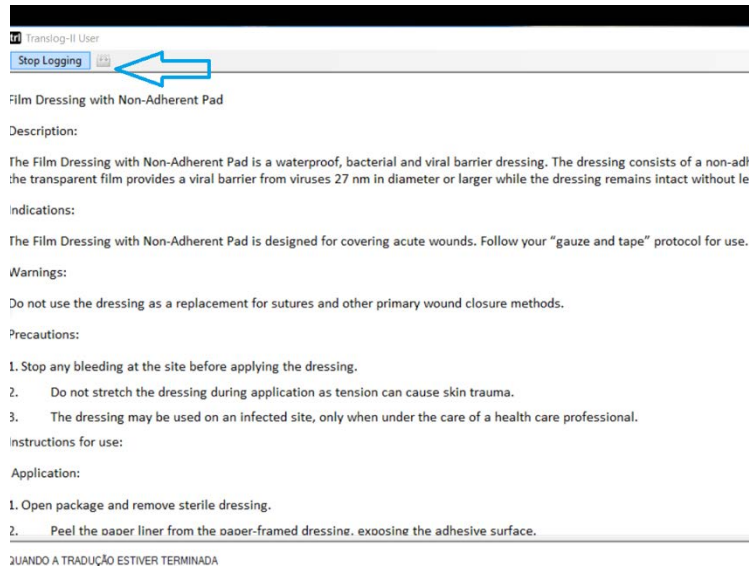
(3) Click "Save" on the prompt message "Do you want to save it or discard?"



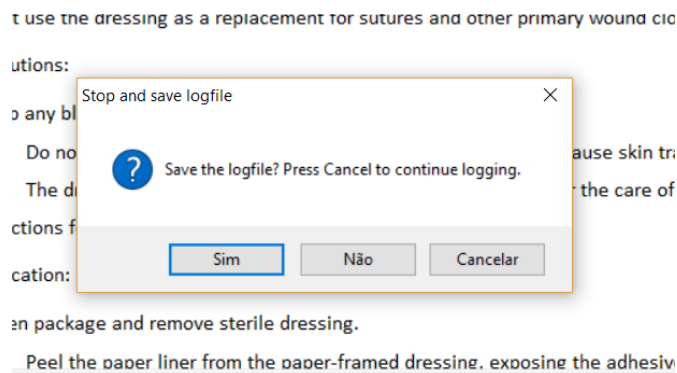
(4) Save the file with your name.



(5) In Translog II, click “Stop Logging”.



(6) Click “Yes” or “Sim” on the prompt message “Save the logfile?” and save the file with your name.



**Send all files (screen recording and Translog files) to my e-mail address. Thank you so much!**

### **THIRD: SURVEY**

Please answer a few questions about yourself and your thoughts regarding translation. You can find the survey here: <https://pt.surveymonkey.com/r/9PZMNDS>. At the end, please send me an e-mail to let me know you have finished so I can properly thank you for your help!

## **APPENDIX 5. Source text**

### **Film Dressing with Non-Adherent Pad**

#### **Description:**

The Film Dressing with Non-Adherent Pad is a waterproof, bacterial and viral barrier dressing. The dressing consists of a non-adherent, absorbent pad bonded to a larger thin film backing with a non-latex, hypoallergenic adhesive. In vitro testing shows that the transparent film provides a viral barrier from viruses 27 nm in diameter or larger while the dressing remains intact without leakage.

#### **Indications:**

The Film Dressing with Non-Adherent Pad is designed for covering acute wounds. Follow your “gauze and tape” protocol for use. This product is not designed, sold or intended for use except as indicated.

#### **Warnings:**

Do not use the dressing as a replacement for sutures and other primary wound closure methods.

#### **Precautions:**

1. Stop any bleeding at the site before applying the dressing.
2. Do not stretch the dressing during application as tension can cause skin trauma.
3. The dressing may be used on an infected site, only when under the care of a health care professional.

#### **Instructions for use:**

##### **Application:**

1. Open package and remove sterile dressing.
2. Peel the paper liner from the paper-framed dressing, exposing the adhesive surface.
3. Position the framed window over the wound site or catheter insertion site and apply dressing.
4. Press the dressing into place.
5. Remove the paper frame from the dressing while smoothing down the dressing edges. Seal securely around catheter or wound site. Firmly smooth adhesive border to the skin.

**APPENDIX 6. Demographic data of the novice and experienced translators who participated in the pilot study**

**Demographic data of the novice translators who participated in the pilot**

Participant	Gender	Age	Experience in translation (in years)
P-NT-01	M	29	2
P-NT-02	M	26	2
P-NT-03	M	25	1

**Demographic data of the experienced translators who participated in the pilot**

Participant	Gender	Age	Experience in translation (in years)
P-ET-01	M	50	30
P-ET-02	M	41	19
P-ET-03	F	41	16

## APPENDIX 7. Source texts of the pilot study

### Excerpt 1 (295 words):

#### {0}LATITUDE NXT PATIENT MANAGEMENT INTRODUCTION

NXT Patient Management system enables authorized members of a clinic to periodically monitor patient and device status remotely ({{0 "See &lt;:r30&gt;×Alerts&lt;:r30&gt;± on page 15" }} for device conditions that are monitored).

Data collected from the implanted device at times scheduled by the clinic are combined with data from an optional weight scale or blood pressure monitor.

By combining these internal and external measurements with historical information, clinicians can use the LATITUDE NXT system to develop an informed understanding of the patient's implanted device and cardiac health status.

Clinic users can periodically monitor devices and bring patients into the office according to implanted device labeling and also when clinically appropriate.

#### {0}Intended Use

The LATITUDE NXT Patient Management system is intended to remotely communicate with a compatible Boston Scientific implanted device and{{0} {1}transfer data to a central database.

The LATITUDE NXT system provides patient data that can be used as part of the clinical evaluation of the patient.

#### {0}Contraindications

The LATITUDE NXT Patient Management system is contraindicated for use with any {{0}implanted device{1}} other than a compatible Boston Scientific {{2}implanted device{3}}.

Not all Boston Scientific {{0}implanted device{1}s are compatible with the LATITUDE NXT system.

For contraindications for use related to the {{0}implanted device{1}}, refer to the System Guide for the Boston Scientific {{2}implanted device{3}} being interrogated.

#### {0}LATITUDE Communicator

A key component of the system is the LATITUDE Communicator, an in-home monitoring device for patients.

The Communicator ({{0 "Figure1" }}) automatically reads implanted device information for daily device checks and scheduled follow-ups.

The Communicator sends data to the LATITUDE NXT server through a standard analog telephone line or over a cellular data network using the {{0}LATITUDE GSM{1}} Data Plan.

The Communicator supports the tone analog dialing mode.

Heart Button

Status Button

#### {0}LATITUDE Communicator

## Excerpt 2 (363 words):

### {0}Configuration Details

#### Saving Settings

{0}Remember to select the Save and Close button to ensure any changes you make to settings are stored in the LATITUDE NXT system.

You can select the Close Without Saving button to discard any changes and revert to the settings from the previously saved version.

Changes to settings {0}will be sent to the affected patient{1}Øs Communicator the next time the Communicator connects to the LATITUDE NXT server.

It could take up to seven days for the Communicator to call the LATITUDE{0}NXT server.

Until then, the Communicator will continue to operate using the previous configuration.

#### Remote Scheduled Follow-ups

Remote follow-ups can be scheduled manually or set automatically.

For manual{0} {1}scheduling, you may pick a new follow-up date each time the previous one has been completed.

For automatic scheduling, the next follow-up is automatically scheduled{0} {1}by using the configured interval and day of the week.

The scheduled date is calculated by taking the date the remote scheduled interrogation was received and adding the configured interval and the number of days of the configured day of the week (scheduled date = interrogation date + interval + configured week days).

If a patient{0}Øs follow-up schedule (interval or day of the week) is changed, the date of the next follow-up does not change, unless you specifically change that date.

Even with automatic scheduling, you can always manually select a new follow-up date by using the scheduling calendar.

The number of days used for a monthly interval is 30 times the number of months selected except for 1 month and 3 months, which are 31 and 91 days respectively.

The number of days for 1 through 12 months equals 31, 60, 91, 120, 150, 180, 210, 240, 270, 300, 330, and 360.

While remote scheduled follow-ups are configured by the clinician, actual interrogations occur automatically on the scheduled dates.

The patient does not need to perform any action.

These interrogations often occur without the patient{0}Øs knowledge.

#### Patient-initiated Interrogations

Patient-initiated Interrogations (PIIs) can be enabled (5 per week) or disabled.

You can also configure one additional PII at any time.

This additional PII can be configured from the {0 "newtext" }Edit/View Schedule and Alert Configuration{1} page.

Excerpt 3 (355 words):

{0}SEARCH PATIENTS TOOL

A link to the Search Patients tool is located in the navigation bar on all webpages.

The Search Patients tool ({0 "Figure7" }) enables a user to search for patient records from all those that the user is authorized to access.

One or more fields can be used to search for patient records.

Searches using multiple fields are performed using all the words entered into each field.

{0 "Default" }Clicking the Search button displays the matching patient records below the search criteria in a table similar to the View Patient List web page.

From the table, you can print the search results list, access details of a patient appearing in the list, print reports for a selected patient(s) or dismiss a patient that is for review.{0}

{0}Search Patients Tool

PATIENT ENROLLMENT

This section describes the steps the clinic needs to complete for a patient to be enrolled and appear on the LATITUDE NXT website:

Online Patient Enrollment

Patient enrollment through the LATITUDE NXT system can not be completed without the Communicator model and serial numbers.

{0} You should record these numbers when you give the patient a Communicator.

Communicator Distribution to Patients

Clinics can order Communicators, weight scales, and blood pressure monitors by contacting Customer Service.

Online Patient Enrollment

Clinic users enroll new patients using the {0}Enroll Patient{1} link under the Manage Clinic menu option as shown in {2 "Figure8" }.

A patient is identified by their implanted device{0}Øs model and serial number and by their date of birth.

Patient enrollment through the LATITUDE NXT system can not be completed without the Communicator model and serial numbers.

During patient enrollment, the clinic user enters the model and serial number of the patient's Communicator.

If the patient will use a weight scale or blood pressure monitor, those model and serial numbers may be entered at enrollment or later through the Edit/View Patient and Equipment Information pages.

The clinic user also enters the patient's time zone.

The clinic user must assign a Patient Group from a selectable list before submitting the multiple webpage form.

A confirmation of enrollment is displayed and can be printed.

# APPENDIX 8. Poster “Behavioral norms in biomedical translation in the pt-PT translation market: a process-oriented pilot study.”

## BEHAVIORAL NORMS IN BIOMEDICAL TRANSLATION IN THE pt-PT TRANSLATION MARKET: A PROCESS-ORIENTED PILOT STUDY



Susana Valdez, Universidade de Lisboa, ULICES, NOVA Univ., UGent.

### BACKGROUND

There is a growing body of evidence to suggest that peripheral cultures/languages that translate texts from hypercentral cultures/languages show a tendency to opt for source-oriented norms (Tolerance of interference theory, Tourny 1995: 274f).

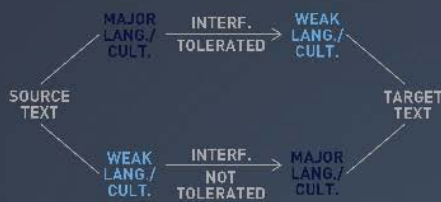


Figure 1 - Visual representation of Tourny's thesis of tolerance of interference.

A good case in point is translation from English to European Portuguese. Research suggests that literary and audiovisual translation is to a great extent source-oriented (e.g. Rosa 2000, 2001, 2003; Ramos-Pinto 2009, Xavier 2009). However, little is known about translational norms in scientific-technical texts in general and in the EN-PT language pair in particular.

This poster aims to present the results of a pilot study conducted between December 2015 and January 2016 — part of a larger experiment — with three professional translators and three novice translators in order to help identify the behavioral norm (Malmkjær 2008: 51) in biomedical translation. Data were collected using screen recording, keystroke logging (Translog-IT) and pre- and post-interviews. The pilot study was conducted in the translators' workplaces in an attempt to add to research on translation as a situated activity.

### DATA AND RESULTS

#### 1. Translation problems

The total number of problems encountered by the translators during the translation task and the time taken to solve them (average and variation) are shown in Table 1.

	P-NT-01	P-NT-02	P-NT-03	P-ET-01	P-ET-02	P-ET-03
No. of problems	26	71	42	57	40	28
Pause av.	19:00	16:00	03:48	04:40	04:12	00:14
Pause var.	00:02-02:15	00:02-01:19	00:35-10:11	00:02-00:35	00:08-12:30	00:02-00:56

Table 1 - Number of translation problems, the average and variation of pause duration per participant during the translation task (in minutes:seconds)

It is apparent from this table that there is a significant difference between participants in the number of problems and pause duration (average and variation).

#### 2. Interim product solutions

In some cases, translators faced with a translation problem did not reach a solution immediately, first going through a draft phase (interim solution). Table 2 provides an overview of the types of interim product solutions and corresponding final product solutions per participant in the translation task. The classification of the interim and final product solutions is based on Chesterman's 1997 typology of "translation strategies". Each type of interim product solution is further classified as source- or target-oriented.

	P-NT01	P-NT02	P-NT03	P-ET01	P-ET02	P-ET03
Explicitness change (T) →				20%		
Information change (T) →						20%
Literal translation (S) →				33%	100%	
Literal translation (S) →				33%		
Literal translation (S) →				33%	60%	
Literal translation (S) →						20%
Literal translation (S) →						20%
Other semantic changes (T) →				20%		
Paraphrase (T) →					20%	
Synonym (S) →					20%	
Transposition (T) →						20%

Table 2 - Overview of the types of interim product solutions. (S) indicates a source-oriented solution. (T) indicates a target-oriented solution.

From this data, it can be seen that literal translation was the default translation in the majority of cases (for more about the study of literal translation through the lens of TPR, see Halverson 2015). Interestingly, literal translation was substituted by a target-oriented solution only in one case.

#### 3. Final product solutions

The final solutions to the translation problems identified are summarized in Table 3.

	P-NT-01	P-NT-02	P-NT-03	P-ET-01	P-ET-02	P-ET-03
<b>Syntactic:</b>						
Clause structure change (T)	3%	1%	0%	4%	3%	7%
Literal translation (S)	33%	52%	40%	30%	48%	43%
Phrase structure change (T)	0%	1%	2%	0%	0%	3%
Transposition (T)	3%	7%	0%	9%	0%	0%
<b>Semantic:</b>						
Abstraction change (T)	3%	3%	7%	0%	3%	3%
Converse (S)	3%	0%	2%	0%	5%	0%
Hypernym (S)	3%	0%	5%	5%	5%	3%
Synonym (S)	7%	3%	5%	4%	3%	3%
<b>Pragmatic:</b>						
Distribution change (T)	0%	3%	10%	7%	5%	7%
Double presentation (S)	0%	0%	0%	4%	0%	0%
Explicitness change (T)	20%	1%	7%	0%	0%	7%
Information change (T)	0%	17%	5%	5%	5%	3%
Non-translation (S)	7%	0%	10%	2%	15%	0%
Paraphrase (T)	0%	0%	7%	2%	3%	0%

Table 3 - Overview of the types of final product solutions. (S) indicates a source-oriented solution. (T) indicates a target-oriented solution.

From the data, it can be seen that the final product solutions were syntactic, semantic, and pragmatic in nature. Literal translation (49%) was the most frequent final product solution among novice and experienced translators. Information change (11%), explicitness change (6%) and non-translation (6%) were the second and third most frequent solutions respectively. There isn't a significant difference between the two groups.

#### PRELIMINARY CONCLUSIONS

This pilot study set out to test the hypotheses regarding the behavioral norms of novice and experienced translators and to perfect the methodology of the main experiment. By analyzing the translation problems encountered during the translation process and their solutions, this study aimed to identify the orientation (source or target) of the translation solutions.

The results of this study indicate that translators — novice and experienced — tend to opt for source-oriented solutions, mainly literal translation. Experienced translators, as hypothesized, even though they also frequently opt for source-oriented solutions, more often choose target-oriented solutions such as information change, distribution change, and clause structure change. This pilot study will serve as a basis for the main experiment and adds to a growing body of literature on the translational norm which is especially relevant for the contemporary Portuguese translation market.

### REFERENCES

Chesterman, A. (1989). *Mimesis of Translation*. Amsterdam & Philadelphia: John Benjamins.  
 Halverson, S. (2015). Cognitive Translation Studies and the merging of empirical paradigms: The case of 'literal translation'. *Translation Spaces*, 4(2), 310–340.  
 Malmkjær, K. S. (2008). Norms and Nature in Translation Studies. In G. Anderman & M. Rogers (Eds.), *Incorporating Corpora - Corpora and the Translator* (49-59). Bristol: Multilingual Matters.  
 Ramos-Pinto, S. (2009). Tradução no âmbito: a problemática da variação linguística nas traduções de *Diagnóstico* de G. B. Shaw e de *My Fair Lady* de Alan Jay Lerner. (Unpublished doctoral thesis). Faculty of Letters, University of Lisbon, Portugal.  
 Rosa, A. A. (2000). The Negotation of Literary Dialogue (Translation): Forms of Address in Robinson Crusoe Translated into Portuguese. *Target*, 12 (1), 31-52.  
 ——— (2001). Features of Oral and Written Communication in Subtitling. In Y. Gambier & H. Gottlieb (Eds.), *(Multi)Media Translation. Concepts, Practices and Research* (213-221). Amsterdam & Philadelphia: John Benjamins.  
 ——— (2003). Tradução, Poder e Ideologia. Retórica Interpessoal no Diálogo Narrativo Dickensiano em Português (1950-1999). (Unpublished doctoral thesis). Faculty of Letters, University of Lisbon, Portugal.  
 Tourny, G. (1995). *Descriptive Translation Studies and Beyond*. Amsterdam & Philadelphia: John Benjamins.  
 Xavier, C. (2009). *A enquadramento da tradução audiovisual: um estudo de caso*. (Unpublished master dissertation). Faculty of Letters, University of Lisbon, Portugal.



## APPENDIX 9. Questionnaires

## SURVEY 1

### Introduction

**Dear Translator:**

**Following the experimental task, please answer this questionnaire. Please be reminded that, just like the experimental task, these questions do not apply to translation in general, but to medical and biomedical translation in particular. This questionnaire takes about 15 minutes to complete. As I have mentioned before, your contribution is very important and I'm very glad to be able to work with you.**

**Susana**

## SURVEY 1

### Identification

\* 1. Please fill in your name (First and last name). **This will be anonymised.**

\* 2. Are you a trained translator with up to two years of full-time experience?

\* 3. Which is/are your main language pairs?

\* 4. From the list below, and regarding medical content, can you please select the types of documents that you have worked with?

- User manuals (software)
- User manuals (devices)
- Training material
- Policy manuals
- Guidebooks

- (Material) Safety Data Sheets
- Patient information leaflets
- Hospital Discharge Letters
- Cath Lab Reports
- Labels
- Patient Consent Forms
- Clinical Trial Agreements
- EC Correspondence
- Protocol Summaries
- News Releases
- Notes on Clinical Trial Files
- Software
- Websites
- Original articles
- Case reports
- Doctoral theses
- Clinical guidelines
- Summaries of product characteristics
- Disease classifications
- Nomenclatures
- Vademecums
- Clinical Histories
- Course books
- Fact sheets for patients
- Popularizing articles
- Drug advertisements
- Catalogues of medical equipment
- Other (please specify)

## PART 1: YOUR perception of translators (you and your colleagues)

In the following questions you will be asked to give your opinion about how you think you and others **should** translate and how you and others **translate**. There are no right or wrong answers, what I value is your opinion.

\* 5. In general, how do other translators with the same experience as you think you **should** translate?

## SURVEY 1

In general, how do you think translators **actually** translate?

\* 6. How do **other translators** with the same experience as you translate?

\* 7. Below you will find a number of statements regarding how you believe you **should** translate. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
The translator's goal should be a faithful translation of the message as the author intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The translator is required to convey the meaning faithfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The main goal of a translator is to aim for the most natural-sounding translation conveying the meaning of the source text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The translator's job is to convey the full meaning of the source in the target language respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The English text is just a starting point. The task of the translator is to translate as if the text was written in Portuguese originally.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Don't know/ Other, if you know of any other statements, please specify and indicate your degree of agreement.

\* 8. Please select from the following statements those statements that best describe how other translators with the same experience as you **actually** translate. You can select more than one statement.

- Other translators' translations are faithful translations of the message as the author intended.
- In their translations, other translators convey the meaning faithfully.
- Colleagues use the most natural-sounding text that conveys the meaning of the source text.
- Other translators convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- Other translators, the English text is just a starting point. They translate as if the text was written originally in Portuguese.

Don't know/ Other, please specify

---

In the following questions you will be asked to give your opinion about what you think reviewers **expect** of a translation and how they **assess** translations. Again, there are no right or wrong answers, what I value is your opinion.

\* 9. In general, what criteria do you think reviewers **should** use to judge the quality of a translation?

\* 10. In general, what expectations do you think reviewers **have** of your work?

\* 11. In general, how do you think reviewers **assess** a translation?

\* 12. Below you will find a number of statements regarding how reviewers **should** assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

Reviewers **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it conveys the meaning faithfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Don't know/ Other, if you know of any other statements that apply to reviewers' assessment criteria, please specify and indicate your degree of agreement.

\* 13. Please select from the following statements those statements that best describe how reviewers **assess** a translation. Please select only one statement.

Reviewers **actually** consider a translation appropriate:

- if it conveys the meaning faithfully.
- if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- Don't know/ Other (please specify)

14. How do you think reviewers assess a faithful, literal translation?

Very low quality	Low quality	Medium quality	Good quality	Very good quality
				

15. If you knew reviewers evaluated positively non-faithful translations, would you translate freely?

SURVEY 1

PART 3: YOUR perception of the reader of the translation

In the following questions you will be asked to give your opinion about what you think readers **expect** of a translation and how they **assess** translations. Again, there are no right or wrong answers, what I value is your opinion.

\* 16. In general, what criteria do you think the reader of the translations **should** use to judge the quality of a translation?

\* 17. In general, what expectations do you think the readers of the translation **have** of your work?



\* 18. In general, how do you think the readers of the translation **assess** a translation?

\* 19. Below you will find a number of statements regarding how the readers of translations **should** assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

The readers of the translation **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it faithfully conveys the message as the author intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Don't know/ Other, if you know of any other statements that apply to readers' assessment criteria, please specify and indicate your degree of agreement.

\* 20. Please select from the following statements those statements that best describe how the readers of the translation **assess** a translation. Please select only one statement.

The readers of the translation **actually** consider a translation appropriate:

- if it faithfully conveys the message as the author intended.
- if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.
- Other (please specify)

21. How do you think readers assess a faithful, literal translation?

Very low quality	Low quality	Medium quality	Good quality	Very good quality
				

Thank you for your time.

## SURVEY 2

### Introduction

**Dear Translator:**

**Following the experimental task, please answer this questionnaire. Please be reminded that, just like the experimental task, these questions do not apply to translation in general, but to medical and biomedical translation in particular. This questionnaire takes about 15 minutes to complete. As I have mentioned before, your contribution is very important and I'm very glad to be able to work with you.**

**Susana**

## SURVEY 2

### Identification

\* 1. Please fill in your name (First and last name). **This will be anonymised.**

\* 2. Are you a trained translator with more than 10 years of experience?

3. Which is/are your main language pairs?

\* 4. Can you please confirm how many years (if any) have you been working on the translation of medical content?

No experience

Years:

\* 5. From the list below, and regarding medical content, can you please select the types of documents that you have worked with?

- User manuals (software)
- User manuals (devices)
- Training material
- Policy manuals
- Guidebooks
- (Material) Safety Data Sheets
- Patient information leaflets
- Hospital Discharge Letters
- Cath Lab Reports
- Labels
- Patient Consent Forms
- Clinical Trial Agreements
- EC Correspondence
- Protocol Summaries
- News Releases
- Notes on Clinical Trial Files
- Software
- Websites
- Original articles
- Case reports
- Doctoral theses
- Clinical guidelines
- Summaries of product characteristics
- Disease classifications
- Nomenclatures
- Vademecums
- Clinical Histories
- Course books
- Fact sheets for patients
- Popularizing articles
- Drug advertisements

Catalogues of medical equipment

Other (please specify)

## SURVEY 2

### PART 1: YOUR perception of translators (you and your colleagues)

In the following questions you will be asked to give your opinion about how you think you and others **should** translate and how you and others **translate**. There are no right or wrong answers, what I value is your opinion.

\* 6. In general, how do other translators with the same experience as you think you **should** translate?

## SURVEY 2

In general, how do you think translators **actually** translate?

\* 7. How do **other translators** with the same experience as you translate?

\* 8. Below you will find a number of statements regarding how you believe you **should** translate. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
The translator's goal should be a faithful translation of the message as the author intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The translator is required to convey the meaning faithfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The main goal of a translator is to aim for the most natural-sounding translation conveying the meaning of the source text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The translator's job is to convey the full meaning of the source in the target language respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The English text is just a starting point. The task of the translator is to translate as if the text was written in Portuguese originally.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Don't know/ Other, if you know of any other statements, please specify and indicate your degree of agreement.

\* 9. Please select from the following statements those statements that best describe how other translators with the same experience as you **actually** translate. You can select more than one statement.

- Other translators' translations are faithful translations of the message as the author intended.
- In their translations, other translators convey the meaning faithfully.
- Colleagues use the most natural-sounding text that conveys the meaning of the source text.
- Other translators convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- Other translators, the English text is just a starting point. They translate as if the text was written originally in Portuguese.

Don't know/ Other, please specify

---

In the following questions you will be asked to give your opinion about what you think reviewers **expect** of a translation and how they **assess** translations. Again, there are no right or wrong answers, what I value is your opinion.

\* 10. In general, what criteria do you think reviewers **should** use to judge the quality of a translation?

\* 11. In general, what expectations do you think reviewers **have** of your work?

\* 12. In general, how do you think reviewers **assess** a translation?

\* 13. Below you will find a number of statements regarding how reviewers **should** assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

Reviewers **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it conveys the meaning faithfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Don't know/ Other, if you know of any other statements that apply to reviewers' assessment criteria, please specify and indicate your degree of agreement.






\* 14. Please select from the following statements those statements that best describe how reviewers **assess** a translation. Please select only one statement.

Reviewers **actually** consider a translation appropriate:

- if it conveys the meaning faithfully.
- if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- Don't know/ Other (please specify)



15. How do you think reviewers assess a faithful, literal translation?

Very low quality	Low quality	Medium quality	Good quality	Very good quality
				

16. If you knew reviewers evaluated positively non-faithful translations, would you translate freely?

SURVEY 2

PART 3: YOUR perception of the reader of the translation

In the following questions you will be asked to give your opinion about what you think readers **expect** of a translation and how they **assess** translations. Again, there are no right or wrong answers, what I value is your opinion.

\* 17. In general, what criteria do you think the reader of the translations **should** use to judge the quality of a translation?

\* 18. In general, what expectations do you think the readers of the translation **have** of your work?

\* 19. In general, how do you think the readers of the translation **assess** a translation?

\* 20. Below you will find a number of statements regarding how the readers of translations **should** assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

The readers of the translation **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it faithfully conveys the message as the author intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






Don't know/ Other, if you know of any other statements that apply to readers' assessment criteria, please specify and indicate your degree of agreement.

\* 21. Please select from the following statements those statements that best describe how the readers of the translation **assess** a translation. Please select only one statement.

The readers of the translation **actually** consider a translation appropriate:

- if it faithfully conveys the message as the author intended.
- if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.
- Other (please specify)

22. How do you think readers assess a faithful, literal translation?

Very low quality	Low quality	Medium quality	Good quality	Very good quality
				

Thank you for your time.

## SURVEY 3

### Introduction

Dear Translator/Reviewer:

Please answer this questionnaire. Please be reminded that these questions do not apply to translation in general, but to medical and biomedical translation in particular. This questionnaire takes about 15 minutes to complete. As I have mentioned before, your contribution is very important and I'm very glad to be able to work with you.

By answering this survey, you voluntarily agree to participate. You can read your rights as a participant, [here](#).

Susana

## SURVEY 3

### Identification

\* 1. Please fill in your name (First and last name). **This will be anonymised.**

2. Which is/are your main language pairs?

3. Can you please confirm how many years (if any) have you been working on the revision of medical content?

No experience

Years:

\* 4. From the list below, can you please select the types of documents that you have worked with?

- User manuals (software)
- User manuals (devices)
- Training material
- Policy manuals
- Guidebooks
- (Material) Safety Data Sheets
- Patient information leaflets
- Hospital Discharge Letters
- Cath Lab Reports
- Labels
- Patient Consent Forms
- Clinical Trial Agreements
- EC Correspondence
- Protocol Summaries
- News Releases
- Notes on Clinical Trial Files
- Software
- Websites
- Original articles
- Case reports
- Doctoral theses
- Clinical guidelines
- Summaries of product characteristics
- Disease classifications
- Nomenclatures
- Vademecums
- Clinical Histories
- Course books
- Fact sheets for patients
- Popularizing articles
- Drug advertisements

Catalogues of medical equipment

Other (please specify)

\* 5. Can you please indicate the three most common types of documents?

Most common

Second most common

Third most common

## SURVEY 3

### PART 1. Assess the quality of a translation

\* 6. Below you will find three translation options for the same source text. Please read the instructions given to the translator and from the translation options choose the one you consider the most appropriate.

The **instructions** given to the translator were the following: Please translate the text bearing in mind that if this was a real situation your translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience is health professionals. Your client has not sent any resources or additional information other than the text itself.

**Source text:**

The Film Dressing with Non-Adherent Pad is designed for covering acute wounds. Follow your “gauze and tape” protocol for use. This product is not designed, sold or intended for use except as indicated.

O penso transparente com compressa absorvente está concebido para aplicação sobre feridas agudas. Para o uso correto siga o seu protocolo “gaze e adesivo”. Este produto não foi concebido nem pode ser vendido ou utilizado para outros fins que não os indicados.

A película com compressa não-aderente é desenhada para cobrir feridas agudas. Siga o seu protocolo “gauze and tape” para utilização. Este produto não é desenhado, vendido nem destinado a utilização exceto como indicado.

O penso transparente com compressa absorvente foi concebido para ser aplicado em feridas graves. Para uma utilização correta siga o protocolo da sua instituição para a aplicação de gazes e adesivos. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados.

Other (please specify)

\* 7. Again, below you will find two translation options for the same source text in the same translation situation with the same instructions as above. From the translation options please choose the one you consider the most correct.

**Source text:**

Precautions:

1. Stop any bleeding at the site before applying the dressing.
2. Do not stretch the dressing during application as tension can cause skin trauma.

Precauções:

1. Estancar hemorragias localizadas antes da aplicação do penso.
2. Não distender o penso durante a aplicação devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão.

Precauções:

1. Para qualquer sangramento no local antes da aplicação da película.
2. Não esticar a película durante a aplicação porque a tensão pode causar traumas na pele.

Other (please specify)

## SURVEY 3

### PART 1: YOUR perception of reviewers (you and your colleagues)

In the following questions you will be asked to give your opinion about how you think you and others **should** assess a translation and how you and others **assess** translations. There are no right or wrong answers, what I value is your opinion.



\* 8. In general, which are the essential characteristics of a good translation?

### SURVEY 3

In general, how do you think reviewers **assess** translations?

\* 9. How do **you** assess translations?

\* 10. How do **other** reviewers assess translations?

\* 11. Below you will find a number of statements regarding how reviewers **should** assess translations in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

You/other reviewers **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it faithfully conveys the message as the author intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if it conveys the message faithfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if it is the most natural-sounding translation conveying the meaning of the source text.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
if the target text was translated as if the text was written originally in Portuguese.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Don't know/ Other, if you know of any other statements that apply to you or other reviewers' assessment criteria, please specify and indicate your degree of agreement.

\* 12. Please select from the following statements those statements that best describe how you **actually** assess translations. You can select more than one statement.

You consider a translation appropriate:

- if it faithfully conveys the message as the author intended.
- if it conveys the message faithfully.
- if it is the most natural-sounding translation conveying the meaning of the source text.
- if it conveys the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- if the target text was translated as if the text was written originally in Portuguese.

Don't know/ Other, please specify

## SURVEY 3

### PART 2: YOUR perception of translators

In the following questions you will be asked to give your opinion about how you think translators **should** translate and how they **translate**. Again, there are no right or wrong answers, what I value is your opinion.

\* 13. In general, how do you think translators **should** translate?

\* 14. In general, how do you think translators **actually** translate?

\* 15. Below you will find a number of statements regarding how translators **should** translate in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

	Strongly disagree	Disagree	Agree	Strongly agree
The translator is required to convey the meaning faithfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The translator's job is to convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Don't know/ Other, if you know of any other statements, please specify and indicate your degree of agreement.

\* 16. Please select from the following statements those statements that best describe how translators **actually** translate. You can select more than one statement.

- Translators convey the meaning faithfully.
- Translators convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
- Don't know/ Other (please specify)

### SURVEY 3

#### PART 3: YOUR perception of the reader of the translation

In the following questions you will be asked to give your opinion about what you think readers **expect** of a translation and how they **actually** assess translations. I therefore ask you to consider the differences between what readers **should do in an ideal world** and what readers **actually do in reality**. Again, there are no right or wrong answers, what I value is your opinion.

\* 17. In general, what criteria do you think the reader of the translations **should** use to judge the quality of a translation?

\* 18. In general, what expectations do you think the readers of the translation **have** of your work?

\* 19. In general, how do you think the readers of a translation **actually** assess it?

\* 20. Below you will find a number of statements regarding how the readers of the translations **should** assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

The readers of the translation **should** consider a translation appropriate:

	Strongly disagree	Disagree	Agree	Strongly agree
if it faithfully conveys the message as the author intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Don't know/ Other, If you know of any other statements that apply to readers' assessment criteria, please specify and indicate your degree of agreement.

\* 21. Please select from the following statements those statements that best describe how the readers of the translation **actually** assess a translation. Please select only one statement.

The readers of the translation **actually** consider a translation appropriate:

- if it faithfully conveys the message as the author intended.
- if the target text was translated as if the text was written originally in Portuguese, considering the English text just as a starting point.
- Don't know/ Other (please specify)

Thank you for your time.

## Questionário 5

### Introdução

**Cara/Caro Profissional de Saúde:**

**O meu estudo tem como intuito inquirir as suas perspetivas sobre as instruções de utilização dos dispositivos que utiliza no seu dia a dia como Profissional de Saúde e é parte integrante da minha tese de doutoramento sobre tradução e revisão de conteúdo médico.**

**O tempo estimado deste questionário é de 15 minutos. A sua participação é muito importante e estou bastante agradecida por poder contar consigo.**

**Ao responder a este questionário aceita participar no mesmo de forma voluntária. Pode ler os seus direitos como participante, [aqui](#).**

**Obrigada,**

**Susana Valdez**  
**valdez.susana@gmail.com**

## Questionário 5

### Identificação

1. Nome e e-mail (opcional)

\* 2. Tem conhecimento de línguas estrangeiras? Se sim, por favor indique-as.

Não tenho.

Sim, e as línguas que domino são:

\* 3. Indique, por favor, a sua área de trabalho ou estudo.

Sou estudante de:

Trabalho na área de:



\* 4. Da lista abaixo, indique, por favor, o tipo de documentos com que já trabalhou no decurso do seu trabalho ou estudo.

- Manuais de instruções (software)
- Manuais de instruções (dispositivos)
- Instruções
- Material de formação
- Manuais de políticas
- Guias
- Fichas de dados de segurança
- Fichas informativas
- Altas hospitalares
- Relatórios Laboratoriais
- Rótulos
- Consentimentos informados de pacientes
- Acordos de Ensaio Clínicos
- Correspondência da Comissão Europeia
- Resumos de protocolo
- Comunicados de imprensa
- Documentação de ensaios clínicos
- Software
- Websites
- Artigos originais
- Relatórios de casos clínicos
- Teses de doutoramento
- Diretrizes clínicas
- Resumos das características do medicamento
- Classificações de doenças
- Vademecums
- Historiais clínicos
- Livros de curso
- Artigos de jornais

Anúncios publicitários a fármacos

Catálogos de equipamento médico

Other (please specify)

\* 5. Pode indicar, por favor, os três tipos de documento mais comuns?

Mais comum

Segundo mais comum

Terceiro mais comum

## Questionário 5

### PARTE 1. Avaliação de um texto traduzido.

\* 6. Abaixo pode encontrar três versões do mesmo texto. Por favor, das opções escolha aquela que considera a mais apropriada.

O penso transparente com compressa absorvente está concebido para aplicação sobre feridas agudas. Para o uso correto siga o seu protocolo "gaze e adesivo". Este produto não foi concebido nem pode ser vendido ou utilizado para outros fins que não os indicados.

A película com compressa não-aderente é desenhada para cobrir feridas agudas. Siga o seu protocolo "gauze and tape" para utilização. Este produto não é desenhado, vendido nem destinado a utilização exceto como indicado.

O penso transparente com compressa absorvente foi concebido para ser aplicado em feridas graves. Para uma utilização correta siga o protocolo da sua instituição para a aplicação de gazes e adesivos. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados.

OUTRA OPÇÃO:

\* 7. Tal como na pergunta anterior, abaixo pode encontrar duas versões do mesmo texto. Por favor, das opções escolha aquela que considera a mais apropriada.

Precauções:

1. Estancar hemorragias localizadas antes da aplicação do penso.
2. Não distender o penso durante a aplicação devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão.

Precauções:

1. Para qualquer sangramento no local antes da aplicação da película.
2. Não esticar a película durante a aplicação porque a tensão pode causar traumas na pele.

OUTRA OPÇÃO:

## Questionário 5

### PARTE 2: A sua perceção dos profissionais de saúde (de si e dos seus colegas)

8. De uma forma geral, quais são as características essenciais de um texto bem traduzido?

## Questionário 5

### De uma forma geral, como acha que os profissionais de saúde avaliam as traduções?

9. Como é que avalia textos traduzidos?

10. Como é que **outros** profissionais de saúde avaliam textos traduzidos?

\* 11. Abaixo pode encontrar algumas afirmações sobre como os profissionais de saúde devem avaliar textos traduzidos. Leia cada uma das afirmações e indique em que medida é que concorda ou discorda com cada uma das afirmações. Peça-lhe que classifique todas as afirmações.

Eu/outros profissionais de saúde devo/devem considerar o texto traduzido apropriado:

	Não concordo totalmente	Não concordo parcialmente	Concordo parcialmente	Concordo totalmente
se transmitir a mensagem de forma fiel tal como o autor assim o desejou.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
se transmitir a mensagem de forma fiel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
se for a tradução mais natural e transmitir o significado do texto original.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
se transmitir o significado completo do texto original, respeitando as regras gramaticais, sintáticas e estilísticas do português, incluindo a terminologia e as regras de uso.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
se o texto traduzido for traduzido como se tivesse sido escrito em português.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Não sei/Outra opção: se conhecer outras afirmações aplicáveis, indique-as, bem como em que medida é que concorda ou discorda com cada uma das afirmações.

12. Selecione das afirmações abaixo as que melhor descrevem como, na verdade, avalia os textos traduzidos. Pode selecionar mais do que uma afirmação.

Eu considero um texto traduzido apropriado:

- se transmitir a mensagem de forma fiel tal como o autor assim o desejou.
- se transmitir a mensagem de forma fiel.
- se for a tradução mais natural e transmitir o significado do texto original.
- se transmitir o significado completo do texto original, respeitando as regras gramaticais, sintáticas e estilísticas do português, incluindo a terminologia e as regras de uso.
- se o texto traduzido for traduzido como se tivesse sido escrito em português.

Não sei/Outro (indique)

\* 13. De uma forma geral, como acha que os tradutores devem traduzir?

\* 14. De uma forma geral, como acha que os tradutores na verdade traduzem?

\* 15. Abaixo pode encontrar algumas afirmações sobre como os tradutores devem traduzir. Leia cada uma das afirmações e indique em que medida é que concorda ou discorda com cada uma das afirmações. Peça-lhe que classifique todas as afirmações.

	Não concordo totalmente	Não concordo parcialmente	Concordo parcialmente	Concordo totalmente
O tradutor deve transmitir a mensagem de forma fiel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O tradutor deve transmitir o significado completo do texto original, respeitando as regras gramaticais, sintáticas e estilísticas do português, incluindo a terminologia e as regras de uso.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Não sei/Outra opção: se conhecer outras afirmações aplicáveis, indique-as, bem como em que medida é que concorda ou discorda com cada uma das afirmações.

\* 16. Selecione das afirmações abaixo as que melhor descrevem como, na verdade, os tradutores traduzem. Pode selecionar mais do que uma afirmação.

- Os tradutores devem transmitir a mensagem de forma fiel.
- Os tradutores devem transmitir o significado completo do texto original, respeitando as regras gramaticais, sintáticas e estilísticas do português, incluindo a terminologia e as regras de uso.

Não sei/Outra opção:

Obrigada pela sua colaboração.

#### **APPENDIX 10. Additional questions sent by e-mail to the revisers**

- What expectations do you think translators have of your work?
- And what about other revisers, project managers or leads: what expectations do you think they have of your work? (Please answer the one that best applies to you.)
- How other revisers with a similar experience as you review? Do you know? You can select more than one of the below statements.
  - (a) Other revisers' revisions are faithful translations of the message as the author intended.
  - (b) In their revisions, other revisers convey the meaning faithfully.
  - (c) Colleagues use the most natural-sounding text that conveys the meaning of the source text.
  - (d) Other revisers convey the full meaning of the source in the target language, respecting its grammatical, syntactical and stylistic rules; consistently following the client's terminology and the style guide.
  - (e) For other revisers, the English text is just a starting point. They review/translate as if the text was written originally in Portuguese.
- How do translators consider a faithful, literal translation? And how do readers of the translation consider a faithful, literal translation? Very low quality, Low Quality, Medium Quality, Good Quality, Very good Quality?
- If you knew other revisers, project managers or leads evaluated positively non-faithful translations, would you assess positively non-faithful translations?

## **APPENDIX 11. Novice and Experienced translators' target texts**

### **ME-NT-01**

#### **Adesivo de Película com Penso Não-Aderente**

##### **Descrição:**

O Adesivo de Película com Penso Não-Aderente é um adesivo à prova de água que bloqueia as bactérias e os vírus. O adesivo consiste num penso absorvente não-aderente incluído numa película maior e fina coberta por um adesivo hipoalergénico e sem látex. Os testes in vitro demonstram que a película transparente oferece uma barreira viral contra os vírus com 27 ou mais nm, enquanto a película se mantém intacta sem vazamento.

##### **Indicações:**

O Adesivo de Película com Penso Não-Aderente destina-se a cobrir ferimentos graves. Consulte-se o protocolo "gaze e fita adesiva" sobre a sua utilização. Este produto não destina a outras utilizações além das indicadas nem para tal é vendido.

##### **Avisos:**

Não utilizar o adesivo como substituto de suturas ou outros métodos primários de fechamento de ferimentos.

##### **Precauções:**

1. Parar qualquer hemorragia na zona antes de aplicar o adesivo.
2. Não esticar o adesivo durante a aplicação, pois a tensão pode causar lesões cutâneas.
3. O adesivo apenas pode ser utilizado numa zona infetada sob a orientação de um profissional de saúde.

##### **Instruções para utilização:**

##### **Aplicação:**

1. Abrir a embalagem e retirar o adesivo esterilizado.
2. Retirar a cobertura de papel do penso com moldura de papel, expondo a superfície adesiva.
3. Posicionar a moldura da janela sobre a zona do ferimento ou a zona de inserção do cateter e aplicar o adesivo.
4. Pressionar o adesivo no local.
5. Remover a moldura de papel do adesivo enquanto se alisa as margens do adesivo. Isolar com segurança em volta a zona do cateter ou do ferimento. Alisar firmemente a margem do adesivo contra a pele.

## **ME-NT-04**

### **Penso de Película com Compressa Não Aderente**

#### **Descrição:**

O Penso de Película com Compressa Não Aderente é um penso resistente à água que forma uma barreira contra bactérias e vírus. O penso consiste numa almofada absorvente, mas não aderente, ligada a uma película fina maior com adesivo sem látex e hipoalergénico. Testes in vitro demonstram que a película transparente fornece uma barreira viral contra vírus de 27 nm de diâmetro ou mais enquanto que o penso permanece intacto sem vazamentos.

#### **Indicações:**

O Penso de Película com Compressa Não Aderente é concebido para cobrir feridas agudas. Siga o seu protocolo de uso de "gaze e fita". Este produto não é concebido, vendido ou destinado para qualquer outro uso que não o indicado.

#### **Avisos:**

Não utilizar o penso como substituto para suturas e outros tratamentos de ferida primários.

#### **Precauções:**

1. Estanque o sangramento do local antes de aplicar o penso.
2. Não estique o penso durante a aplicação, visto que a tensão pode causar trauma na pele.
3. O penso pode ser usado num local infectado apenas sob os cuidados de um profissional de saúde.

#### **Instruções de uso:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso estéril.
2. Retire o forro de papel do penso expondo a superfície adesiva.
3. Posicione a moldura do penso sobre o local da ferida ou do cateter e aplique o penso.
4. Pressione o penso no local.
5. Retire a moldura de papel do penso e alise as extremidades do penso. Feche firmemente à volta do local do cateter ou ferida. Alise firmemente as extremidades do adesivo na pele.



## **ME-NT-05**

### **Curativo com almofada não aderente**

#### **Descrição:**

O curativo com almofada não aderente é um curativo à prova de água, bactérias e vírus. O curativo consiste numa almofada absorvente e não aderente fixada a um suporte mais largo de película fina com um adesivo hipoalergénico e sem látex. Testes in vitro demonstram que a película transparente proporciona uma barreira anti-vírus para vírus com um diâmetro de ou superiores a 27 nm, enquanto o curativo permanece intacto sem qualquer fuga.

#### **Indicações:**

O curativo de película com almofada não aderente é concebido para cobrir feridas agudas. Siga o protocolo de “gaze e fita adesiva” para a sua utilização. Este produto não é concebido, vendido ou destinado a outro uso que não o indicado.

#### **Avisos:**

Não utilize o curativo de película como substituto para suturas ou outros métodos primários de fechamento de feridas.

#### **Precauções:**

1. Pare qualquer hemorragia no local antes de aplicar o curativo.
2. Não estique o curativo durante a sua aplicação pois a tensão pode causar traumas na pele.
3. O curativo apenas pode ser utilizado numa área infetada sob a supervisão de um profissional de saúde.

#### **Instruções para utilização:**

##### **Aplicação:**

1. Abra a embalagem e remova o curativo esterilizado.
2. Remova o invólucro de papel do curativo delimitado por papel, expondo a superfície adesiva.
3. Posicione a moldura de papel sobre a área da ferida ou de inserção do cateter e aplique o curativo.
4. Pressione o curativo no devido lugar.
5. Remova o suporte de papel do curativo ao mesmo tempo que alisa as pontas. Sele de forma segura em volta do cateter ou da área da ferida. Alise firmemente a borda adesiva contra a pele.

## **ME-NT-07**

### **Penso em Película com Compressa Não Aderente**

#### **Descrição:**

O Penso em Película com Compressa Não Aderente constitui uma barreira bacteriana e viral, sendo também à prova de água. Consiste numa compressa não aderente e absorvente, ligada a uma película ampla e fina apoiada sobre um adesivo hipoalergénico e sem látex. Ensaios In Vitro demonstram que esta película transparente age como uma barreira contra vírus com 27 nm de diâmetro ou mais, mantendo o penso intacto e sem a ocorrência de fugas.

#### **Indicações:**

O Penso em Película com Compressa Não Aderente é indicado para o revestimento de feridas agudas. É aconselhado o seguimento do protocolo “gaze e adesivo”. Este produto não se destina à venda ou à utilização, exceto quando indicado.

#### **Avisos:**

O penso não deve ser utilizado como alternativa às suturas e a outros métodos primários de encerramento de feridas ou de lesões.

#### **Precauções:**

1. Antes da aplicação do penso, parar qualquer hemorragia no local.
2. Durante a aplicação, não esticar o penso. A tensão pode levar ao trauma da pele.
3. Quando aplicado por um profissional de saúde, o penso pode ser utilizado num local onde existe infeção.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abrir a embalagem e retirar o penso esterelizado.
2. Retirar a cobertura do penso, emoldurado por papel, de forma a expor a superfície adesiva.
3. Posicionar o penso, ainda emoldurado por papel, sobre o local da ferida ou da inserção do cateter.
4. Pressionar o penso no local.
5. Retirar a moldura de papel do penso e nivelar as extremidades do mesmo. Selar de forma segura em volta do local da ferida ou do cateter. Nivelar firmemente a extremidade adesiva à pele.

## **ME-NT-08**

### **Penso de Película com Compressa Não-Aderente**

#### **Descrição:**

O Penso de Película com Compressa Não-Aderente é um penso à prova de água que age como uma barreira antibacteriana e antiviral. O penso é constituído por uma compressa absorvente não-aderente colada a uma película maior com adesivo sem látex hipoalergénico. Testes in vitro mostraram que, enquanto permanecer intacta e sem fugas, transparente fornece uma barreira viral para vírus com 27 nm de diâmetro ou mais.

#### **Indicações:**

O Penso de Película com Compressa Não-Aderente foi criado para cobrir feridas agudas. Siga o seu protocolo de "gaze e fita". Este produto não foi criado, vendido ou destinado para usos aqui não indicados.

#### **Atenção:**

Não utilize o penso como substituto a suturas e outros métodos de fechamento primário de feridas.

#### **Precauções:**

1. Pare qualquer sangramento no antes de colocar o penso.
2. Não estique o penso durante a aplicação uma vez que a tensão pode causar trauma na pele.
3. O penso só deve ser utilizado numa zona infectada sob os cuidados de um médico.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso esterilizado.
2. Retire o papel de proteção do penso, expondo a superfície adesiva.
3. Posicione o quadrado sobre a zona da ferida ou da inserção do cateter e aplique o penso.
4. Pressione bem a película de forma a ficar bem colada.
5. Retire o papel restante da película colando as bordas à pele. Certifique-se que fica bem selado à volta da zona do cateter ou da ferida. Alise firmemente as bordas do penso à pele.

## **ME-NT-10**

### **Película Adesiva com Compressa não aderente**

#### **Descrição:**

A Película Adesiva com Compressa não aderente é um tipo de bandagem à prova de água, bactérias e vírus. A bandagem consiste numa compressa absorvente e não aderente unida a uma película fina maior com um adesivo hipoalergénico, sem látex. Os testes *in vitro* demonstraram que a película transparente proporciona uma barreira contra vírus de 27 nm ou mais de diâmetro, enquanto a bandagem mantém-se intacta, sem derrames.

#### **Indicações:**

A Película Adesiva com Compressa não aderente foi criada para cobrir ferimentos graves. Durante a sua utilização, siga o seu protocolo para “gaze e fita adesiva hospitalar”. Este produto não foi criado, comercializado e não é destinado a outra utilização exceto a indicada.

#### **Advertências:**

Não utilize esta bandagem como substituto a suturas ou outros métodos primários de suturação de ferimentos.

#### **Precauções:**

1. Cesse qualquer hemorragia na zona antes de aplicar a bandagem.
2. Não estique a bandagem durante a sua aplicação, já que a tensão pode causar lesões cutâneas.
3. A bandagem pode ser aplicada numa zona infetada apenas quando sob cuidado de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abra o pacote e retire a bandagem esterilizada.
2. Retire a película que forra a bandagem para expôr a bandagem.
3. Posicione a janela da película sobre a zona do ferimento ou a zona de inserção do cateter e aplique a bandagem.
4. Pressione a bandagem.
5. Retire a moldura de papel enquanto pressiona as bordas da bandagem. Pressione firmemente de forma a vedar as zonas circundantes do ferimento ou cateter. Pressione a borda do adesivo à pele, de forma a ficar nivelado.

## **ME-NT-11**

### **Penso de Película com Compressa Não Aderente**

#### **Descrição:**

O Penso de Película com Compressa Não Aderente é um penso impermeável, com uma barreira antiviral e antibacteriana. O penso consiste numa compressa não aderente e absorvente unida a uma película fina maior com um adesivo hipoalergénico e sem látex. Análises in vitro demonstram que a película transparente estabelece uma barreira de 27 nanómetros em diâmetro ou maiores contra vírus, enquanto o penso permanece intacto e sem fugas.

#### **Indicações:**

O Penso de Película com Compressa Não Aderente está concebido para cobrir feridas agudas. Siga as instruções de utilização. Este não está destinado a outras utilizações para além da descrita neste folheto.

#### **Advertências:**

1. Estanque qualquer hemorragia no local antes de aplicar o penso.
2. Não estique o penso durante a aplicação dado que a tensão pode causar lesões na pele.
3. O penso pode ser utilizado numa ferida infectada apenas sob o cuidado de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso estéril.
2. Remova o revestimento de papel do penso, expondo a superfície aderente.
3. Posicione a moldura de suporte sobre a ferida ou sobre o local de inserção do catéter e aplique o penso.
4. Pressione o penso.
5. Remova a moldura de suporte do penso enquanto alisa as extremidades do penso. Sele, de forma segura, em torno do catéter ou ferida. Alise firmemente as extremidades do adesivo.

## **ME-NT-13**

### **Penso de Película com Compressa Não Aderente**

#### **Descrição:**

O Penso de Película com Compressa Não Aderente é um penso impermeável e uma barreira bacteriana e viral. O penso é composto por uma compressa não aderente e absorvente, fixa a uma proteção maior de película fina com um adesivo hipoalergénico e sem látex. Testes in vitro mostram como a película transparente fornece uma barreira viral contra vírus de 27 nm de diâmetro ou maiores, enquanto o penso se mantém intacto e sem fugas.

#### **Indicações:**

O Penso de Película com Compressa Não Aderente é concebido para cobrir feridas graves. Siga o seu protocolo de utilização de “gaze e adesivos”. Este produto não é concebido, vendido, ou utilizado, excepto quando indicado.

#### **Avisos:**

Não utilize este penso como substituto de suturas e outros métodos primários de curativos.

#### **Precauções:**

1. Pare qualquer hemorragia na zona, antes de aplicar o penso.
2. Não estique o penso durante a aplicação, uma vez que a tensão pode causar lesões cutâneas.
3. O penso apenas deve ser utilizado numa zona infectada, sob os cuidados de um profissional de saúde.

#### **Instruções para utilização:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso esterilizado.
2. Descole o revestimento protector com uma moldura de papel, expondo a superfície adesiva.
3. Posicione a moldura por cima da zona da ferida ou da inserção do cateter e aplique o penso.
4. Pressione o penso até estar bem colocado.
5. Remova a moldura do penso enquanto alisa as extremidades. Isole bem à volta da zona do cateter ou da ferida. Alise firmemente os limites do adesivo para aderir à pele.

## **ME-NT-20**

### **Penso de película Transparente Não-Aderente**

#### **Descrição:**

O Penso de película Transparente Não-Aderente é um penso à prova de água e que constitui uma barreira contra as bactérias e vírus. O penso é composto por uma moldura não aderente e absorvente ligada a um filme fino mas larga em suporte não-latex, com adesivo hipoalergénico. Ensaios in vitro mostram que a película transparente fornece uma barreira contra vírus de 27 nm de diâmetro ou maiores, mantendo o penso intacto sem qualquer fuga.

#### **Indicações:**

O Penso de película Transparente Não-Aderente é desenhado para cobrir feridas agudas. Siga o mesmo procedimento utilizado para os curativos “gaze e adesivo”. Este produto não é desenhado, vendido ou para outras utilizações diferentes da indicada.

#### **Avisos:**

Não utilize o penso para substituir a sutura ou outros métodos primários de fechamento de feridas.

#### **Precauções:**

1. Estanque a hemorragia antes de aplicar o penso.
2. Não estique o penso durante a aplicação dos mesmo, a tensão pode originar um trauma cutâneo.
3. O penso pode ser utilizado numa zona infectada, apenas sob o cuidado de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abra a embalagem e remova o invólucro esterelizado.
2. Remova a proteção de moldura de papel da parte revestida do penso, expondo a superfície do adesivo.
3. Posicione a moldura sobre o local da ferida ou do catéter e aplique o penso.
4. Ajuste o penso ao local.
5. Remova a moldura de papel do penso enquanto alisa as extremidades. Sele o penso cuidadosamente à volta do catéter ou do local da ferida. Cole de modo suave, mas firmemente a borda adesiva à pele.

## **ME-NT-30**

### **Penso com Compressa Não-Adesiva**

#### **Descrição:**

O Penso com Compressa Não-Adesiva é uma barreira viral e bacteriana, resistente à água. O penso consiste numa compressa absorvente, não-adesiva, ligada a um filme fino e mais largo com um adesivo hipoalergénico sem látex. Testes in vitro demonstram que o filme transparente oferece uma barreira para vírus com um diâmetro de 27 nm ou maiores permanecendo o revestimento intacto sem infiltrações.

#### **Indicações:**

O Filme de Revestimento com Penso Não-Adesivo foi concebido para cobrir feridas graves. Siga o protocolo de utilização "gaze e fita". A conceção e venda deste produto não se destina a qualquer outra utilização que não a indicada.

#### **Aviso:**

Não utilize o penso como substituto de suturas ou outros métodos primários de encerramento de feridas.

#### **Precauções:**

1. Pare qualquer hemorragia no local, antes de aplicar o penso.
2. Não estique o penso durante a aplicação porque a tensão pode provocar danos na pele.
3. O penso pode ser utilizado numa zona infetada, mas apenas sob a supervisão de um profissional de cuidados de saúde.

#### **Instruções de Utilização:**

##### **Aplicação:**

1. Abra a embalagem e remova o invólucro estéril.
2. Remova a parte interior da moldura de papel, expondo a superfície adesiva.
3. Posicione a janela da moldura sobre a ferida ou a inserção de cateter e aplique o penso.
4. Pressione o penso no local.
5. Remova a moldura de papel do penso, alisando as extremidades. Sele com firmeza à volta do catéter ou do local da ferida. Adira, firmemente, a extremidade do adesivo à pele.



## **ME-NT-34**

### **Penso de película transparente com gaze não aderente**

#### **Descrição:**

O Penso de película transparente com gaze não aderente é um penso à prova de água, anti-bacteriano e anti-viral. O penso consiste numa gaze não aderente e não absorvente, unida a uma película transparente maior com um adesivo sem látex e hipoalergénico. Testes “in vitro” demonstram que a película transparente fornece uma barreira contr vírus com 27 nm de diâmetro ou maiores, desde que o penso permaneça intacto.

#### **Indicações:**

O Penso de película transparente com gaze não aderente foi criado para cobrir feridas graves. Siga o protocolo de “gaze de fita adesiva” para um uso adequado. Este produto não foi criado nem deve ser vendido ou usado contra as indicações.

#### **Advertências:**

Não utilizar o penso como substituto de suturas ou outros métodos primários de tratamento de feridas.

#### **Precauções:**

1. Estancar qualquer hemorragia antes de aplicar o penso.
2. Não esticar o penso duante a aplicação, visto que a tensão pode causar danos na pele.
3. O penso pode ser usado em feridas infectadas, apenas sob a supervisão de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abrir a embalagem e remover o penso esterilizado.
2. Descolar o revestimento de papel do contorno de papel, expondo a superfície do adesivo.
3. Posicionar o contorno sobre a ferida ou o local de inserção do cateter e aplicar o penso.
4. Pressionar o penso.
5. Remover o contorno de papel, enquanto alisa as margens do penso. Selar bem em volta do local de inserção do cateter ou da ferida. Colar firmemente as margens do adesivo contra a pele.

## **ME-NT-35**

### **Penso de película transparente com compressa não aderente**

#### **Descrição:**

O Penso de película transparente com compressa não aderente é à prova de água, anti-viral e anti-bacteriano. Consiste numa compressa absorvente, não aderente, ligada a uma película fina, de maior superfície, com adesivo sem látex e hipoalergénico. , de maior superfície, Os testes “in vitro” comprovam que a película transparente oferece uma barreira contra vírus com 27 nm de diâmetro ou maiores, enquanto o penso permanecer intacto.

#### **Indicações:**

O penso de película transparente com compressa não aderente foi elaborado para cobrir feridas graves. Siga o protocolo “gaze e fita adesiva” para a sua utilização. Este produto não foi elaborado nem deve ser vendido ou usado contra as indicações prévias.

#### **Avisos:**

Não usar este penso para substituir suturas ou outros métodos primários de cuidar de feridas.

#### **Precauções:**

1. Estancar a hemorragia antes de aplicar o penso.
2. Não esticar o penso aquando da sua aplicação para evitar danos na pele.
3. O penso pode ser utilizado em feridas infectadas, apenas sob o cuidado de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abrir embalagem e remover o penso esterilizado.
2. Soltar o papel do contorno de papel, expondo a superfície do adesivo.
3. Posicionar o contorno do penso sobre a ferida ou o local de inserção do cateter e aplicar o penso.
4. Pressionar o penso na área adequada.
5. Remover o contorno de papel do penso, enquanto pressiona os contornos do penso. Selar bem a área do local de inserção do cateter ou da ferida. Colar com vigor com contorno do adesivo à pele.

## **ME-NT-37**

### **Penso Película com Tecido Não-Aderente**

#### **Descrição:**

O Penso Película com Tecido Não-Aderente é um penso anti-viral à prova de água e anti-bacterial. O penso contém um tecido não-aderente e absorvente ligado a uma película fina maior suportada por um adesivo sem látex e hipoalergénico. Testes In Vitro mostram que a película transparente proporciona uma barreira anti-viral contra vírus num raio de 27 mm de diâmetro e mais enquanto o penso em si permanece intacto e impermeável.

#### **Indicações:**

O Penso Película com Tecido Não-Aderente foi concebido para cobrir feridas agudas. Siga o protocolo “gaze e enfaixar” para o seu uso. Este produto não foi concebido, vendido nem destinado a outro uso senão o indicado.

#### **Aviso:**

Não use o penso como um substituto para suturas ou outros meios principais para cozer feridas.

#### **Precauções:**

1. Pare qualquer hemorragia na zonal da ferida antes de aplicar o penso.
2. Não estique o penso durante a aplicação uma vez que a tensão pode causar algum traumatismo na pele.
3. O penso pode ser usado numa zona infetada apenas sob o cuidado de um profissional de saúde.

#### **Instruções para uso:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso estéril.
2. Tire o revestimento de papel do penso, expondo a superfície adesiva.
3. Posicione a moldura sobre a zona da ferida ou zona de inserção do catéter e aplique o penso.
4. Pressione o penso até ficar assente.
5. Retire a moldura de papel do penso enquanto alisa com cuidado as pontas do penso. Isole com cuidado à volta do catéter ou zona da ferida. Alise firmemente os contornos adesivos á pele.

## **ME-NT-40**

### **Fita para curativos com compressas não-aderentes**

#### **Descrição:**

O penso para curativos com compressa não-aderente é uma proteção à prova de água, anti-viral e anti-bacteriana. O penso consiste numa compressa não-aderente e absorvente colada numa banda fina, mais larga, e coberta por uma camada de adesivo hipoalergénico e sem latex. Testes in vitro comprovam que este penso transparente consegue criar uma barreira protetora contra vírus de diâmetro igual ou superior a 27 nm, preservando o curativo e evitando corrimentos.

#### **Indicações:**

O penso para curativos com compressa não-aderente foi concebido para proteger feridas agudas. Para aplicar, siga o protocolo «gaze e fita adesiva» em vigor. Este produto não prevê, não se destina a, nem pode ser vendido para outros fins que não os indicados.

#### **Advertências:**

Não utilize este penso como substituto de suturas e/ou de outros métodos padronizados de fecho de feridas.

#### **Precauções:**

1. Antes de colocar o penso, estanque qualquer possível hemorragia;
2. Não ajuste o penso durante a aplicação; tal tensão poderá provocar um traumatismo na pele;
3. O penso poderá ser aplicado numa área infetada, mas apenas por um profissional de saúde devidamente qualificado.

#### **Instruções para uso:**

##### **Aplicação:**

1. Abra a embalagem e retire a película esterilizada;
2. Separe a fita de papel do lado do penso com a compressa, assim deixando exposta a superfície adesiva;
3. Posicione o penso sobre a área ferida ou a zona de inserção de um catéter, de modo a cobri-la;
4. Aplique o penso;
5. Retire, inteiramente, a fita de papel, enquanto pressiona, ligeiramente, os bordos. Certifique-se de que a área em tratamento fica bem protegida. Cole com firmeza o adesivo sobre a pele.

## **ME-NT-41**

### **Penso com compressa não adesiva**

#### **Descrição:**

O Penso com compressa não adesiva é uma barreira impermeável resistente a vírus e bactérias. Consiste num penso absorvente, não aderente, ligado a uma fina película maior com um adesivo hipoalergénico. Os testes in vitro mostram que a película proporciona uma barreira transparente viral a partir de vírus de 27 nm de diâmetro ou maior, enquanto o penso se mantém intacto sem derrames.

#### **Indicações:**

O Penso com compressa não adesiva é concebido para cobrir feridas agudas. Siga o protocolo de “gaze e fita adesiva”. Este produto não é concebido para venda ou uso fora do indicado.

#### **Cuidados:**

Não use o penso como alternativa a outros tipos de curativo primários.

#### **Precauções:**

1. Parar a hemorragia no local antes de apicar o penso.
2. Não estique o penso durante a aplicação pois a tensão pode causar trauma na pele.
3. O penso pode ser utilizado numa zona infetada, apenas estando sobre o cuidado de um profissional de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abrir a embalagem e remover o penso estéril.
2. Retirar o revestimento de papel do forro do penso, expondo a superfície adesiva.
3. Posicionar o quadro do penso sobre o local da ferida ou do local da inserção do cateter e aplicar o penso.
4. Pressionar o penso sobre a ferida.
5. Remover o quadro de papel do penso enquanto pressiona suavemente os cantos da película. Selar de forma segura à volta do cateter ou do local da ferida. Suavizar firmemente às bordas do adesivo à pele.

## ET-02

### Penso de película transparente com espuma não aderente

#### Descrição:

O penso de película transparente com espuma não aderente é um penso que proporciona uma barreira antibacteriana e antiviral impermeável. É constituído por uma espuma absorvente não aderente com uma película fina mais larga e um adesivo hipoalergénico sem latéx. Testes “in vitro” demonstram que a película transparente constitui uma barreira antiviral com 27 nm de diâmetro ou mais mantendo-se o penso intacto sem fugas.

#### Indicações:

O penso de película transparente com espuma não aderente está indicado para feridas agudas. Respeite o seu protocolo de tratamento. Este produto não foi concebido para outros fins além dos indicados nem se destina a venda ou utilização para além das previstas.

#### Avisos:

Não utilizar o penso como substituto de sutura nem de outros métodos de encerramento primários da ferida.

#### Precauções:

1. Estancar qualquer hemorragia no local antes de aplicar o penso.
2. Não esticar o penso durante a aplicação, uma vez que a tensão pode lesionar a pele intacta.
3. O penso pode ser utilizado numa zona infetada, mas só sob supervisão de um prestador de cuidados de saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abrir a embalagem e retirar o penso esterilizado.
2. Descolar o papel protetor do penso expondo a superfície adesiva.
3. Posicionar o penso na zona da ferida ou no local de inserção do cateter e aplicar o penso.
4. Exercer pressão sobre o penso.
5. Retirar o restante papel protetor do penso enquanto este é colocado devagar. Vedar bem em torno do cateter ou da zona da ferida. Pressionar suavemente a película adesiva em contacto com a pele.

## ET-05

### Penso de Película com compressa não aderente

#### Descrição:

O penso de película com compressa não aderente é um penso à prova de água, bacteriano e com barreira viral. O penso consiste numa compressa não aderente e absorvente ligada a uma proteção de película fina mais larga com um adesivo sem látex e hipoalergénico. Os testes in vitro demonstraram que a película oferece uma barreira viral contra os vírus com 27 nm de diâmetro, ou mais larga, enquanto o penso permanece intacto sem fugas.

#### Indicações:

O penso de película com compressa não aderente é concebido para feridas graves. Siga o seu protocolo “gaze e fita adesiva” para a utilização. Este produto não é concebido, vendido nem destinado a ser utilizado a não ser da forma indicada.

#### Avisos:

Não utilizar o penso em substituição de suturas e de outros métodos primários para fechar feridas.

#### Precauções:

1. Estancar qualquer hemorragia no local antes de aplicar o penso.
2. Não esticar o penso durante a aplicação pois a tensão pode provocar traumas na pele.
3. O penso pode ser utilizado num local infetado apenas quando se estiver aos cuidados de um profissional da área da saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abrir a embalagem e remover o penso estéril.
2. Retirar a proteção de papel “em estilo moldura” do penso, expondo a superfície adesiva.
3. Posicionar a janela “em estilo moldura” por cima do local do ferimento ou do local de inserção do cateter e aplicar o penso.
4. Premir o penso para que fique no local.
5. Remover o papel “em estilo moldura” do penso, alisando as extremidades do penso. Vedar de forma segura em torno do local do cateter ou do ferimento. Alisar firmemente o canto adesivo à pele.

## ET-07

### Penso Película com Compressa Não Aderente

#### Descrição:

O Penso Película com Compressão Não Aderente é um penso à prova de água que cria uma barreira contra bactérias e vírus. O penso é composto por uma compressa absorvente não aderente, unida a um suporte de película de maior dimensão com um adesivo hipoalergénico isento de látex. Os ensaios in vitro demonstram que a película transparente constitui uma barreira contra vírus de diâmetro igual ou superior a 27 nm, mantendo-se o penso intacto e sem fugas.

#### Indicações:

O Penso Película com Compressa Não Aderente foi concebido para tapar feridas agudas. Seguir o protocolo habitual de “gaze e fita adesiva” na sua utilização. Este produto destina-se exclusivamente a ser utilizado da forma indicada, não devendo ser vendido nem utilizado para outros fins.

#### Advertências:

Não utilizar o penso como substituto de suturas e de outros métodos primários de fecho de feridas.

#### Precauções:

1. Parar eventuais hemorragias no local antes de aplicar o penso.
2. Não esticar o penso durante a aplicação, na medida em que a tensão pode causar traumatismos cutâneos.
3. O penso só pode ser utilizado num local infectado sob a supervisão de um profissional de saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abrir a embalagem e retirar o penso esterilizado.
2. Destacar a protecção em papel do penso com moldura de papel, expondo a superfície adesiva.
3. Posicionar a janela com moldura sobre o local da ferida ou de inserção do cateter e aplicar o penso.
4. Pressionar o penso para fixá-lo.
5. Retirar a moldura de papel do penso, alisando as extremidades do mesmo. Fixá-lo firmemente em torno do cateter ou da ferida. Aplicar pressão para fazer com que o rebordo adesivo adira à pele.



## ET-10

### Penso de película transparente com compressa não aderente

#### Descrição:

O penso de película transparente com compressa não aderente é um penso à prova de água, antibacteriano e antiviral. O penso consiste numa compressa não aderente, absorvente, ligada a uma fina película mais larga, protegida por um adesivo hipoalergénico de não latex. Os testes in vitro comprovam que a película transparente oferece uma barreira anti-viral contra vírus com diâmetro igual ou superior a 27nm, mantendo-se o penso intacto e sem fugas.

#### Indicações:

O penso de película transparente com compressa não aderente foi concebido para cobrir feridas graves. Siga o seu protocolo de “gaze e adesivo” ao utilizar. Este produto não foi concebido, não é vendido, nem se destina a usos diferentes dos indicados.

#### Avisos:

Não use o penso como substituto de suturas e de outros métodos primários de fecho de feridas.

#### Precauções

1. Estanque a hemorragia da ferida antes de aplicar o penso.
2. Não estique o penso durante a aplicação porque a tensão pode provocar trauma na pele.
3. O penso só pode ser usado numa ferida infetada quando sob o cuidado de um profissional de saúde.

#### Instruções para uso:

##### Aplicação:

1. Abra a embalagem e retire o penso estéril.
2. Retire a película de papel da moldura de papel do penso, expondo a superfície adesiva.
3. Posicione a janela da moldura sobre o local da ferida ou de inserção do cateter e aplique o penso.
4. Pressione o penso sobre o local.
5. Retire a moldura de papel do penso pressionado suavemente os rebordos do penso. Alise firmemente à volta do cateter ou do local da ferida. Comprima firmemente o rebordo adesivo

## **ET-11**

### **Penso transparente com compressa não adesiva**

#### **Descrição:**

O penso transparente com compressa não adesiva é um penso impermeável que funciona como barreira contra vírus e bactérias. O penso é composto por uma compressa não adesiva e absorvente e por uma película transparente de maiores dimensões, cujo adesivo é isento de látex e hipoalergénico. Os testes in vitro demonstram que a película transparente forma uma barreira contra vírus com diâmetro igual ou superior a 27 nm, enquanto o penso permanece intacto e estanque.

#### **Indicações:**

O penso transparente com compressa não adesiva é indicado para proteger feridas agudas. Use-o de acordo com o protocolo de curativo com gaze e fita adesiva. Este produto é concebido, vendido e recomendado exclusivamente para a finalidade indicada.

#### **Advertências:**

Não use o penso para substituir suturas e outros métodos de fecho de ferida primários.

#### **Precauções:**

1. Estanque qualquer hemorragia no local antes de aplicar o penso.
2. Não estique o penso durante a colocação, visto a tensão poder provocar lesões na pele.
3. No caso de feridas infetadas, o penso deve ser aplicado apenas sob a supervisão de um profissional de cuidados de saúde.

#### **Instruções de utilização:**

##### **Aplicação:**

1. Abra a embalagem e retire o penso esterilizado.
2. Retire a proteção do penso com moldura de papel, expondo a superfície aderente.
3. Centre o penso sobre a ferida ou sobre o local de inserção do cateter e aplique-o.
4. Pressione bem o penso.
5. Retire a moldura de papel do penso e vá alisando os rebordos. Cole firmemente à volta do local do cateter ou da ferida. Alise o rebordo adesivo para aderir bem à pele.

## ET-12

### Penso com Película com Compressa Não Aderente

#### Descrição:

O Penso com Película com Compressa Não Aderente é um penso com barreira impermeável, bacteriana e viral. O penso consiste numa compressa não aderente e absorvente ligada a um revestimento mais largo composto por uma fina película com um adesivo hipoalergénico sem látex. Os testes in vitro mostram que a película transparente proporciona uma barreira viral contra vírus de diâmetro igual ou superior a 27 nm enquanto o penso se mantém intacto e sem fugas.

#### Indicações:

O Penso com Película com Compressa Não Aderente foi concebido para cobrir ferimentos agudos. Siga o protocolo de utilização "gaze e fita adesiva". Este produto não foi concebido, não é vendido e não se destina a outro uso que não o indicado.

#### Advertências:

Não use o penso como substituto de suturas e outros métodos de fechamento de ferimentos primários.

#### Precauções:

1. Pare qualquer sangramento no local antes de aplicar o penso.
2. Não estique o penso durante a aplicação, dado que a tensão pode causar traumas na pele.
3. O penso pode ser usado num local infetado somente sob a vigilância de um profissional de cuidados de saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abra a embalagem e retire o penso estéril.
2. Retire o forro de papel do penso com moldura de papel, expondo a superfície adesiva.
3. Posicione a janela com moldura sobre o local do ferimento ou da inserção do cateter e aplique o penso.
4. Pressione o penso, fixando-o no local.
5. Retire a moldura de papel do penso, colando simultaneamente as margens do penso. Sele de forma segura em torno do local do cateter ou do ferimento. Cole com firmeza as margens adesivas à pele.

## ET-16

### Penso de Película com Compressa Não Aderente

#### Descrição:

O Penso de Película com Compressa Não Aderente é um penso de barreira viral e bacterial à prova de água. O penso consiste numa compressa absorvente, não aderente, colada a uma película fina de maior dimensão com adesivo hipoalergénico sem látex. Os testes in vitro mostram que a película transparente é uma barreira viral contra vírus com um diâmetro de 27 nm ou mais, desde que o penso se mantenha intacto e sem fugas.

#### Indicações:

O Penso de Película com Compressa Não Aderente foi concebido para proteger feridas agudas. Siga o seu protocolo “gaze e ligadura” para utilizar este penso. O produto não foi concebido, vendido ou pensado para ser usado de forma distinta da indicada.

#### Avisos:

Não use o penso como substituto de suturas e outros métodos curativos primários.

#### Precauções:

1. Interrompa hemorragias no local da ferida antes de aplicar o penso.
2. Não estique o penso durante a aplicação, pois a tensão pode causar trauma na pele.
3. O penso pode ser usado num local infectado, mas apenas se aplicado por um profissional de saúde.

#### Instruções de uso:

##### Aplicação:

1. Abra a embalagem e retire o penso esterilizado.
2. Retire o revestimento de papel do penso coberto por papel, revelando a superfície adesiva.
3. Coloque a compressa sobre o local da ferida ou ponto de inserção do cateter e aplique o penso.
4. Pressione o penso para fixá-lo.
5. Remova a película de papel do penso enquanto alisa as extremidades do mesmo. Tape a ferida ou o cateter de forma segura. Alise suavemente a parte adesiva para que esta adira à pele.

## ET-23

### Penso rápido com compressa não aderente

#### Descrição:

O penso rápido com compressa não aderente é um penso à prova de água, uma barreira contra vírus e bactérias. O penso consiste numa compressa absorvente, não aderente, coberta por uma fina película protetora mais larga, sem látex, hipoalergénica e adesiva. Testes in vitro mostram que a película transparente constitui uma barreira antivírus para vírus de diâmetro igual ou superior a 27 nm, sendo que o penso se mantém intacto e sem vazamento.

#### Indicações:

O penso rápido com compressa não aderente é indicado para tapar feridas agudas. Siga o seu protocolo “gaze e adesivo”. Este produto não foi concebido, e não deve ser vendido nem recomendado para outros fins além do indicado.

#### Avisos:

Não usar o penso em substituição de suturas ou outros métodos primários de fechamento de feridas.

#### Precauções:

1. Pare qualquer sangramento na zona antes de aplicar o penso.
2. Não estique o penso durante a aplicação visto que a tensão pode causar lesões na pele.
3. O penso pode ser usado numa zona infetada, mas apenas sob os cuidados de um profissional de cuidados de saúde.

#### Instruções de uso:

##### Aplicação:

1. Abra a embalagem e retire o penso estéril.
2. Retire do penso o revestimento de papel, deixando à vista a superfície adesiva.
3. Posicione a janela enquadada sobre a zona da ferida, ou sobre o cateter, e aplique o penso.
4. Pressione o penso.
5. Retire do penso a moldura de papel, alisando os cantos do penso. Fixe e segure em redor do cateter ou da zona da ferida. Ajuste firmemente os bordos adesivos à pele.

## ET-32

### Penso de Película com Compressa Não-Aderente

#### Descrição:

O Penso de Película com Compressa Não-Aderente é um penso impermeável que oferece uma barreira bacteriana e viral. Este penso é constituído por uma compressa absorvente e não-aderente colada a uma película fina de maior dimensão com adesivo hipoalergénico sem látex. Testes in vitro demonstraram que a película transparente proporciona uma barreira contra vírus de diâmetro igual ou superior a 27 nm, mantendo-se o penso intacto sem fugas.

#### Indicações:

O Penso de Película com Compressa Não-Aderente é indicado para cobrir feridas agudas. Siga o protocolo de gaze e adesivo. Este produto não foi pensado, nem comercializado, para outros usos que não o indicado.

#### Aviso:

Este penso não deve ser utilizado como substituto de suturas ou de outros métodos utilizados habitualmente para fechamento de feridas.

#### Precauções:

1. Estanque quaisquer hemorragias que existam no local da ferida antes de aplicar o penso.
2. Não estique o penso durante a aplicação, pois essa tensão poderá causar traumatismos na pele.
3. O penso só poderá ser utilizado em feridas infetadas sob a supervisão de um profissional de saúde.

#### Instruções de uso:

##### Aplicação:

1. Abra a embalagem e retire o penso estéril.
2. Descole o papel que reveste por completo o penso com moldura de papel, expondo a superfície aderente.
3. Posicione a compressa sobre o local da ferida ou o ponto de inserção do cateter e aplique o penso.
4. Pressione o penso para fixá-lo.
5. Retire a moldura de papel do penso alisando a toda a volta. Verifique a aderência do penso em torno da ferida ou do cateter. Alise as bordas do penso com firmeza.

## ET-34

### Penso com compressa não adesiva

#### Descrição:

O penso com compressa não adesiva é impermeável, anti-bacteriano e resistente a vírus. O penso é composto por uma compressa absorvente e não adesiva e uma película transparente revestida com capa adesiva hipoalergénica e sem latex. Testes In vitro demonstraram que a película transparente torna o penso resistente a vírus com diâmetro igual ou superior a 27 nm e evita fugas de exsudado.

#### Indicações:

O penso com compressa não adesiva destina-se ao tratamento de feridas graves. Deve ser utilizado exclusivamente para esse fim e em conformidade com o Protocolo de Orientação no Tratamento de feridas em vigor na sua instituição.

#### Aviso:

Não se deve utilizar o penso como substituto de suturas ou de outras formas primárias de fechamento de feridas.

#### Precauções:

1. Conter eventual hemorragia na área de aplicação do penso antes da sua utilização.
2. Não estique o penso ao aplicá-lo para evitar causar traumatismo na pele.
3. A aplicação do penso numa área infectada deve ser feita exclusivamente sob a supervisão de um profissional de saúde.

#### Instruções de uso:

##### Aplicação do penso:

1. Abra a embalagem e retire o penso esterilizado.
2. Remova a película que cobre o adesivo.
3. Posicione o penso sobre a ferida ou local de inserção do cateter e aplique o penso.
4. Pressione o penso contra a pele.
5. Remove the paper frame from the dressing while smoothing down the dressing edges. Seal securely around catheter or wound site. Firmly smooth adhesive border to the skin.

## ET-49

### Penso em Película com Almofada Não-Adesiva

#### Descrição:

O Penso em Película com Almofada Não-Adesiva é um penso à prova de água que protege da contaminação viral e bacteriana. O penso consiste numa almofada não-adesiva e absorvente, associada a uma cobertura anterior de maiores dimensões formada por uma fina película e dotada de um adesivo hipoalergénico não constituído por látex. Os testes in vitro mostram que a película transparente constitui uma barreira contra vírus de, pelo menos, 27 nm e que o penso permanece intacto e sem fugas.

#### Indicações:

O Penso em Película com Almofada Não-Adesiva está concebido para a protecção de feridas do tipo agudo. A utilização deste penso requer a adopção do protocolo “gaze e fita adesiva”. Este produto não foi concebido para ser utilizado em desconformidade com as directrizes aqui mencionadas, e as respectivas venda e utilização nunca se deverão desviar das instruções indicadas.

#### Advertências:

Não utilizar o penso como substituto de suturas e de outros métodos primários de fechamento de feridas.

#### Precauções:

1. Estancar qualquer hemorragia local antes de aplicar o penso.
2. Não esticar o penso durante a aplicação, uma vez que a tensão poderá lesionar a pele.
3. A utilização do penso num local infectado nunca deverá ser feita sem a supervisão dum profissional de saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abrir a embalagem e remover o penso esterilizado.
2. Retirar o revestimento de papel que envolve o penso, expondo a superfície adesiva.
3. Posicionar a janela emoldurada sobre o local do ferimento ou de inserção do cateter e aplicar o penso.
4. Pressionar o penso até que este assente no local correcto.
5. Remover a moldura de papel do penso, alisando simultaneamente os respectivos cantos. Selar bem à volta do cateter ou do local do ferimento. Alisar com firmeza a margem adesiva até que esta assente sobre a pele.



## ET-53

### Penso de película com compressa não aderente

#### Descrição:

O penso de película com compressa não aderente é resistente à água, formando uma barreira contra vírus e bactérias. O penso é composto por uma compressa absorvente não aderente, revestida por uma proteção de película fina de maior dimensão com um adesivo hipoalergénico, sem látex. Os testes in vitro demonstram que a película transparente proporciona uma barreira contra vírus de diâmetro igual ou superior a 27 nm, desde que o penso se mantenha intacto e estanque.

#### Indicações:

O penso de película com compressa não aderente foi concebido para a proteção de feridas agudas. Ao utilizar o penso, respeite o protocolo de tratamento de feridas em vigor. Este produto não foi concebido, nem deve ser vendido ou utilizado, para outros fins que não os indicados.

#### Advertências:

Não utilize o penso como substituto de suturas ou de outros métodos de fechamento primário de feridas.

#### Precauções:

1. Em caso de hemorragia, controle a mesma antes de aplicar o penso.
2. Durante a aplicação, não estique o penso, uma vez que a tensão pode causar traumas cutâneos.
3. No caso de uma ferida infetada, o penso só poderá ser aplicado por um profissional de saúde.

#### Instruções de utilização:

1. Abra a embalagem e retire o penso esterilizado.
2. Descole o revestimento de papel da moldura do penso, expondo a superfície adesiva.
3. Posicione a zona da compressa sobre o local da ferida ou de inserção do cateter e aplique o penso.
4. Exerça pressão sobre o penso no local de aplicação.
5. Retire a moldura de papel do penso, ao mesmo tempo que alisa as extremidades do penso. Assegure-se de que o local de cateter ou da ferida fica devidamente isolado. Com firmeza, alise o rebordo adesivo contra a pele.

## ET-54

### **Película com compressa anti-aderente**

#### **Descrição:**

A película com compressa anti-aderente é uma película impermeável, com proteção contra bactérias e vírus. Consiste numa compressa anti-aderente, absorvente, ligada a uma película maior e mais fina de suporte, com um adesivo hipoalergénico, não de látex. Testes in vitro demonstram que a película transparente fornece proteção contra vírus de 27nm de diâmetro ou maiores, permanecendo intacta e sem fugas.

#### **Indicações:**

A película com compressa anti-aderente destina-se a cobrir feridas profundas. Siga as suas instruções de uso de “gaze e fita”. Este produto apenas se destina ao uso indicado, para o qual é vendido.

#### **Avisos:**

Não use a película em substituição de suturas e de outros métodos primários de tratamento de feridas.

#### **Precauções:**

1. Pare o sangramento no sítio antes de aplicar a película.
2. Não estenda a película durante a aplicação, sob pena de a tensão causar trauma dermatológico.
3. A película pode ser usada num sítio infetado apenas sob a supervisão de um profissional de saúde.

#### **Aplicação:**

1. Abra a embalagem e retire a película esterilizada.
2. Retire o revestimento de papel da película com moldura de papel, expondo a superfície adesiva.
3. Posicione a janela com moldura sobre o sítio ferido ou o sítio da inserção do catéter e aplique a película.
4. Pressione a película no lugar.
5. Retire a moldura de papel da película enquanto pressiona suavemente os cantos da película. Sele com firmeza à volta do catéter ou da ferida. Pressione suave mas firmemente o perímetro adesivo à pele.

## ET-55

### Penso de película com Compressa não-aderente

#### Descrição:

O Penso de película com Compressa não-aderente fornece uma barreira à prova de água, bactérias e vírus. O penso é composto por uma compressa não-aderente e absorvente, ligada a um adesivo de película fino que contém uma cola sem látex e hipoalergénica. Testes “in vitro” revelaram que esta película transparente oferece uma barreira de protecção contra vírus com 27nm de diâmetro ou mais, desde que o penso se mantenha intacto e sem quaisquer fugas.

#### Indicações:

O Penso de película com Compressa não-aderente foi desenhado para proteger feridas agudas. Siga o protocolo de utilização de “gazes e adesivos”. Este produto não foi concebido, vendido ou visa outra utilização para lá da indicada.

#### Avisos:

Não use o penso como um substituto para suturas ou outros métodos primários de fechamento de feridas.

#### Precauções:

1. Estanque qualquer hemorragia no local da ferida antes de aplicar o penso.
2. Não estique o penso durante a aplicação, uma vez que a tensão pode causar traumatismos cutâneos.
3. O penso pode ser usado num local infectado, mas apenas quando aplicado por um profissional de saúde habilitado.

#### Instruções de utilização:

##### Aplicação:

1. Abra a embalagem e retire o penso esterilizado.
2. Retire a protecção de papel do penso, de forma a expor a superfície adesiva.
3. Posicione a janela em volta do local da ferida, ou do ponto de inserção do catéter, e aplique o penso.
4. Coloque o penso na posição correcta.
5. Retire a janela de papel em volta do penso, alisando as margens. Fixe o penso em segurança em volta do catéter ou ferida. Alise as margens adesivas com firmeza e suavidade sobre a pele.

## ET-56

### Penso com película incluindo compressa não aderente

#### Descrição:

O penso com película com pressa não aderente é à prova de água e tem uma barreira bacteriana e viral. O penso é constituído por uma compressa não aderente e absorvente, unida a uma película fina de maior tamanho que, no verso, tem um adesivo hipoalergénico, sem látex. Os testes efetuados “in vitro” demonstram que a película transparente fornece uma barreira viral relativamente a vírus com um diâmetro de 27 nm ou superior, enquanto o penso permanece intacto, sem fugas.

#### Indicações:

O penso com película incluindo compressa não aderente foi concebido para a proteção de feridas agudas. Siga o seu protocolo “ligar com gaze e colocar fita adesiva” para usar. Este produto não foi concebido, vendido nem o seu uso se destina a outros fins que não sejam os indicados.

#### Avisos:

Não utilize o penso como substituto de suturas ou de outros métodos primários de cicatrização de feridas.

#### Precauções:

1. Pare qualquer tipo de sangramento no local, antes de aplicar o penso.
2. Não estique o penso durante a aplicação, uma vez que a tensão pode provocar trauma cutâneo.
3. O penso pode ser utilizado num local infetado, desde que sob vigilância de um profissional de saúde.

#### Instruções de utilização:

##### Aplicação:

1. Abra a embalagem e retire o penso esterilizado.
2. Descole a parte de papel que cobre a janela de papel do penso, deixando a superfície adesiva exposta.
3. Posicione a janela de moldura sobre o local da ferida ou de inserção do cateter e aplique o penso.
4. Pressione o penso no local.
5. Remova a janela de papel do penso enquanto alisa as extremidades do mesmo. Cole eficazmente à volta do cateter ou do local da ferida. Alise com firmeza o rebordo adesivo na pele.

**APPENDIX 12. Novice and Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level.**

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Anabela</i>	27	25%	75%	0%	52%	59%	0%
<i>Bárbara</i>	29	0%	0%	0%	52%	76%	0%
<i>Carolina</i>	36	25%	75%	0%	36%	78%	3%
<i>Dora</i>	37	45%	73%	9%	43%	70%	5%
<i>Elzira</i>	43	73%	47%	7%	60%	49%	0%
<i>Felícia</i>	41	53%	63%	3%	37%	78%	0%
<i>Graça</i>	41	11%	89%	0%	63%	46%	2%
<i>Hermínia</i>	64	55%	50%	45%	72%	55%	8%
<i>Iolanda</i>	32	67%	78%	0%	69%	56%	0%
<i>Julieta</i>	47	72%	60%	16%	57%	66%	0%
<i>Luísa</i>	50	70%	80%	20%	84%	58%	4%
<i>Manuel</i>	40	33%	83%	0%	70%	48%	0%
<i>Nelson</i>	55	62%	57%	14%	67%	56%	0%
<i>Odete</i>	50	42%	79%	5%	64%	64%	0%
<i>Pedro</i>	50	60%	60%	0%	62%	50%	4%
<b>MEAN</b>	43	46%	65%	8%	59%	61%	2%
<b>DEVIATION</b>	10	6	5	3	10	6	1

**Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level.**

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Amélia</i>	31	76%	82%	29%	52%	90%	3%
<i>Beatriz</i>	40	83%	63%	58%	78%	63%	0%
<i>Catarina</i>	24	76%	71%	71%	63%	67%	0%
<i>Débora</i>	25	47%	58%	47%	52%	64%	4%
<i>Eva</i>	30	76%	48%	3%	43%	73%	0%
<i>Filipa</i>	28	84%	56%	36%	68%	54%	0%
<i>Gonçalo</i>	72	70%	50%	50%	78%	36%	0%
<i>Helga</i>	48	64%	39%	39%	52%	60%	2%
<i>Ivone</i>	59	81%	38%	24%	61%	53%	0%
<i>Josélia</i>	37	64%	55%	36%	59%	59%	0%
<i>Lúcio</i>	46	72%	36%	67%	65%	46%	2%
<i>Maria</i>	35	70%	40%	30%	43%	66%	0%
<i>Nádia</i>	42	64%	38%	87%	67%	43%	0%
<i>Orlando</i>	66	82%	42%	71%	89%	33%	2%
<i>Pilar</i>	45	86%	30%	23%	91%	47%	0%
<b>MEAN</b>	42	73%	50%	45%	64%	57%	1%
<b>DEVIATION</b>	14	11	5	12	14	5	0

Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level.

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Anabela</i>	27	25%	75%	0%	52%	59%	0%
<i>Bárbara</i>	29	0%	0%	0%	52%	76%	0%
<i>Carolina</i>	36	25%	75%	0%	36%	78%	3%
<i>Dora</i>	37	45%	73%	9%	43%	70%	5%
<i>Elzira</i>	43	73%	47%	7%	60%	49%	0%
<i>Felícia</i>	41	53%	63%	3%	37%	78%	0%
<i>Graça</i>	41	11%	89%	0%	63%	46%	2%
<i>Iolanda</i>	32	67%	78%	0%	69%	56%	0%
<i>Manuel</i>	40	33%	83%	0%	70%	48%	0%
<b>MEAN</b>	36	37%	65%	2%	54%	62%	1%
<b>DEVIATION</b>	5	5	5	0	6	5	0

Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level. Group that faced the lower number of problems based on the mean of 43.

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Hermínia</i>	64	55%	50%	45%	72%	55%	8%
<i>Julieta</i>	47	72%	60%	16%	57%	66%	0%
<i>Luísa</i>	50	70%	80%	20%	84%	58%	4%
<i>Nelson</i>	55	62%	57%	14%	67%	56%	0%
<i>Odete</i>	50	42%	79%	5%	64%	64%	0%
<i>Pedro</i>	50	60%	60%	0%	62%	50%	4%
<b>MEAN</b>	53	60%	64%	17%	68%	58%	3%
<b>DEVIATION</b>	6	5	4	3	7	3	2

Novice translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level. Group that faced the higher number of problems based on the mean of 43.

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Amélia</i>	31	76%	82%	29%	52%	90%	3%
<i>Beatriz</i>	40	83%	63%	58%	78%	63%	0%
<i>Catarina</i>	24	76%	71%	71%	63%	67%	0%
<i>Débora</i>	25	47%	58%	47%	52%	64%	4%
<i>Eva</i>	30	76%	48%	3%	43%	73%	0%
<i>Filipa</i>	28	84%	56%	36%	68%	54%	0%
<i>Josélia</i>	37	64%	55%	36%	59%	59%	0%
<i>Maria</i>	35	70%	40%	30%	43%	66%	0%
<i>Nádia</i>	42	64%	38%	87%	67%	43%	0%
<b>MEAN</b>	32	71%	57%	44%	58%	64%	1%
<b>DEVIATION</b>	6	5	2	9	6	4	0

Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level. Group that faced the lower number of problems based on the mean of 42.

Translator	No. of problems	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Gonçalo</i>	72	70%	50%	50%	78%	36%	0%
<i>Helga</i>	48	64%	39%	39%	52%	60%	2%
<i>Ivone</i>	59	81%	38%	24%	61%	53%	0%
<i>Lúcio</i>	46	72%	36%	67%	65%	46%	2%
<i>Orlando</i>	66	82%	42%	71%	89%	33%	2%
<i>Pilar</i>	45	86%	30%	23%	91%	47%	0%
<b>MEAN</b>	56	76%	39%	46%	73%	46%	1%
<b>DEVIATION</b>	10	12	7	14	13	4	1

Experienced translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level. Group that faced the higher number of problems based on the mean of 42.

Translator	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Bárbara</i>	2087	0%	0%	0%	52%	76%	0%
<i>Elzira</i>	867	73%	47%	7%	60%	49%	0%
<i>Iolanda</i>	2510	67%	78%	0%	69%	56%	0%
<i>Julieta</i>	2945	72%	60%	16%	57%	66%	0%
<i>Luísa</i>	763	70%	80%	20%	84%	58%	4%
<i>Manuel</i>	1272	33%	83%	0%	70%	48%	0%
<i>Nelson</i>	2226	62%	57%	14%	67%	56%	0%
<i>Pedro</i>	3075	60%	60%	0%	62%	50%	4%
<b>MEAN</b>	1968	55%	58%	7%	65%	57%	1%
<b>DEVIATION</b>	844	6	4	1	8	5	1

Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions at individual level (seconds). Group with least time spent based on the mean of 3096 seconds.



Translator	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Anabela</i>	3489	25%	75%	0%	52%	59%	0%
<i>Carolina</i>	3277	25%	75%	0%	36%	78%	3%
<i>Dora</i>	7821	45%	73%	9%	43%	70%	5%
<i>Felícia</i>	4343	53%	63%	3%	37%	78%	0%
<i>Graça</i>	3686	11%	89%	0%	63%	46%	2%
<i>Herminia</i>	4201	55%	50%	45%	72%	55%	8%
<i>Odete</i>	3878	42%	79%	5%	64%	64%	0%
<b>MEAN</b>	4385	37%	72%	9%	52%	64%	3%
<b>DEVIATION</b>	1445	5	5	3	11	7	3

Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level (seconds). Group with most time spent based on the mean of 3096 seconds.

Translator	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Beatriz</i>	2686	83%	63%	58%	78%	63%	0%
<i>Catarina</i>	1105	76%	71%	71%	63%	67%	0%
<i>Débora</i>	1546	47%	58%	47%	52%	64%	4%
<i>Eva</i>	2934	76%	48%	3%	43%	73%	0%
<i>Filipa</i>	1351	84%	56%	36%	68%	54%	0%
<i>Gonçalo</i>	2183	70%	50%	50%	78%	36%	0%
<i>Lúcio</i>	3164	72%	36%	67%	65%	46%	2%
<i>Maria</i>	2854	70%	40%	30%	43%	66%	0%
<i>Nádia</i>	3099	64%	38%	87%	67%	43%	0%
<i>Orlando</i>	2846	82%	42%	71%	89%	33%	2%
<b>MEAN</b>	2377	73%	50%	52%	65%	54%	1%
<b>DEVIATION</b>	734	12	5	13	16	4	0

Time spent on the task and experienced translators' source-oriented, target-oriented and other solutions in interim and final versions at individual level (seconds). Group with least time spent based on the mean of 3317 seconds.

Translator	Total time (in seconds)	Interim 1			Target text		
		Source-oriented	Target-oriented	Other	Source-oriented	Target-oriented	Other
<i>Amélia</i>	3844	76%	82%	29%	52%	90%	3%
<i>Helga</i>	3667	64%	39%	39%	52%	60%	2%
<i>Ivone</i>	4900	81%	38%	24%	61%	53%	0%
<i>Josélia</i>	9998	64%	55%	36%	59%	59%	0%
<i>Pilar</i>	3580	86%	30%	23%	91%	47%	0%
<b>MEAN</b>	5198	74%	49%	30%	63%	62%	1%
<b>DEVIATION</b>	2446	9	2	2	9	4	0

Time spent on the task and novice translators' source-oriented, target-oriented and other solutions in interim and final versions, individual level (seconds). Group with most time spent based on the mean of 3317 seconds.

Translator	Interim 1			Target text		
	Explicitation	Implicitation	Hyponymy	Explicitation	Implicitation	Hyponymy
<i>Anabela</i>	0%	0%	0%	33%	0%	67%
<i>Bárbara</i>	0%	0%	0%	0%	100%	0%
<i>Carolina</i>	0%	0%	0%	67%	33%	0%
<i>Dora</i>	0%	100%	0%	50%	50%	0%
<i>Elzira</i>	33%	0%	67%	33%	67%	0%
<i>Felícia</i>	0%	0%	0%	33%	67%	0%
<i>Graça</i>	0%	0%	0%	0%	50%	50%
<i>Hermínia</i>	0%	0%	100%	25%	50%	25%
<i>Iolanda</i>	0%	50%	50%	50%	0%	50%
<i>Julieta</i>	0%	0%	0%	0%	100%	0%
<i>Luísa</i>	0%	100%	0%	14%	57%	29%
<i>Manuel</i>	0%	50%	50%	0%	67%	33%
<i>Nelson</i>	0%	40%	60%	0%	0%	100%
<i>Odete</i>	20%	0%	80%	38%	38%	23%
<i>Pedro</i>	0%	0%	0%	0%	67%	33%
<b>MEAN</b>	4%	23%	27%	23%	50%	27%
<b>DEVIATION</b>	0	1	1	1	1	2

Novice translators' explicitation changes in the interim versions and target texts, individual level.

Translator	Interim 1			Target text		
	Explicitation	Implication	Hyponymy	Explicitation	Implication	Hyponymy
<i>Amélia</i>	50%	17%	33%	38%	25%	38%
<i>Beatriz</i>	0%	0%	100%	0%	0%	100%
<i>Catarina</i>	0%	50%	50%	0%	0%	100%
<i>Débora</i>	0%	0%	100%	20%	20%	60%
<i>Eva</i>	44%	33%	22%	42%	25%	33%
<i>Filipa</i>	33%	67%	0%	0%	33%	67%
<i>Gonçalo</i>	43%	14%	43%	29%	29%	43%
<i>Helga</i>	100%	0%	0%	25%	50%	25%
<i>Ivone</i>	0%	0%	100%	33%	11%	56%
<i>Josélia</i>	0%	0%	100%	44%	11%	44%
<i>Lúcio</i>	50%	0%	50%	40%	0%	60%
<i>Maria</i>	0%	0%	0%	0%	0%	100%
<i>Nádia</i>	17%	17%	67%	14%	14%	71%
<i>Orlando</i>	0%	50%	50%	0%	50%	50%
<i>Pilar</i>	50%	0%	50%	40%	0%	60%
<b>MEAN</b>	26%	17%	51%	22%	18%	60%
<b>DEVIATION</b>	1	1	1	2	1	1

Experienced translators' explicitation changes in the interim versions and target texts, individual level.

Translator	Interim 1			Target text		
	Addition	Omission	Other information changes	Addition	Omission	Other information changes
<i>Anabela</i>	0%	0%	100%	0%	0%	100%
<i>Bárbara</i>	0%	0%	0%	0%	67%	33%
<i>Carolina</i>	0%	0%	100%	14%	0%	86%
<i>Dora</i>	0%	0%	100%	14%	0%	86%
<i>Elzira</i>	0%	50%	50%	0%	0%	100%
<i>Felícia</i>	0%	0%	100%	0%	92%	8%
<i>Graça</i>	0%	50%	50%	0%	100%	0%
<i>Hermínia</i>	0%	50%	50%	33%	67%	0%
<i>Iolanda</i>	60%	40%	0%	40%	30%	30%
<i>Julieta</i>	0%	18%	82%	0%	57%	43%
<i>Lúisa</i>	40%	20%	40%	71%	0%	29%
<i>Manuel</i>	0%	100%	0%	25%	25%	50%
<i>Nelson</i>	0%	0%	100%	0%	0%	100%
<i>Odete</i>	0%	13%	88%	0%	20%	80%
<i>Pedro</i>	33%	33%	33%	8%	42%	50%
<b>MEAN</b>	9%	25%	60%	14%	33%	53%
<b>DEVIATION</b>	1	1	2	1	6	2

Novice translators' information changes in the interim versions and target texts, individual level.

Translator	Interim 1			Target text		
	Addition	Omission	Other information changes	Addition	Omission	Other information changes
<i>Anabela</i>	0%	38%	63%	0%	36%	64%
<i>Bárbara</i>	0%	0%	100%	0%	0%	0%
<i>Carolina</i>	33%	33%	33%	25%	25%	50%
<i>Dora</i>	0%	20%	80%	0%	17%	83%
<i>Elzira</i>	0%	0%	100%	0%	0%	100%
<i>Felícia</i>	0%	33%	67%	0%	0%	100%
<i>Graça</i>	0%	20%	80%	14%	0%	86%
<i>Hermínia</i>	0%	17%	83%	10%	10%	80%
<i>Iolanda</i>	0%	0%	100%	0%	10%	90%
<i>Julieta</i>	0%	0%	100%	0%	20%	80%
<i>Lúisa</i>	0%	0%	100%	0%	0%	100%
<i>Manuel</i>	0%	33%	67%	0%	20%	80%
<i>Nelson</i>	10%	20%	70%	0%	22%	78%
<i>Odete</i>	6%	0%	94%	17%	17%	67%
<i>Pedro</i>	0%	0%	100%	0%	13%	88%
<b>MEAN</b>	3%	14%	82%	4%	13%	76%
<b>DEVIATION</b>	0	1	3	0	1	2

Experienced translators' information changes in the interim versions and target texts, individual level.

APPENDIX 13. Detailed analysis of the results of the questionnaires to the novice and experienced translators, revisers and health professionals

— Types of documents participants have worked with (n=60)

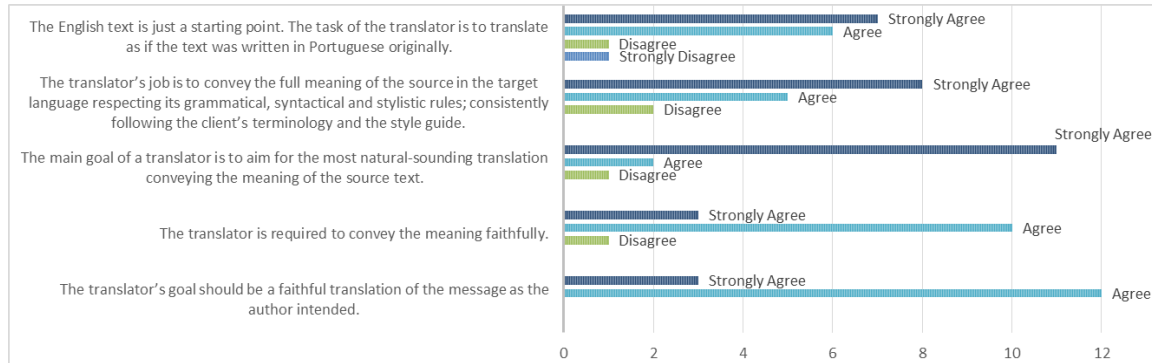
	Novice translators	Experienced translators	Reviewers	Readers	TOTAL
Patient information leaflets	7	7	8	11	33
Summaries of product characteristics	3	2	11	13	29
User manuals (devices)	3	4	9	11	27
Training material	1	4	8	12	25
Original articles	2	1	9	13	25
Websites	2	1	8	11	22
Labels	0	3	5	14	22
User manuals (software)	2	2	8	9	21
Popularizing articles	4	2	2	12	20
Clinical guidelines	2	2	4	12	20
(Material) safety data sheets	1	1	9	9	20
Patient consent forms	6	1	4	8	19
Case reports	3	1	4	11	19
Clinical trial agreements	2	1	6	9	18
Catalogues of medical equipment	2	3	4	9	18
Software	1	3	5	8	17
Press releases	3	1	4	8	16
Clinical histories	1	1	4	10	16
Protocol summaries	1	1	4	8	14
Lab reports	0	0	1	13	14
Hospital discharge letters	0	0	2	11	13
Guidebooks	0	1	3	8	12
Policy manuals	1	0	4	6	11
Instruction manuals	0	0	1	10	11
Disease classifications	1	0	0	10	11
PhD dissertations	0	0	0	9	9
Fact sheets for patients	2	4	3	0	9
Text books	0	0	0	7	7
Drug advertisements	2	1	4	0	7
Clinical trial documentation	0	0	0	7	7
Drug advertisements	0	0	0	6	6
Notes on clinical trial files	2	1	2	0	5
Doctoral theses	1	0	2	0	3
Vademecums	0	0	0	2	2
Trademark material	0	1	0	0	1
Nomenclatures	1	0	0	0	1
Medical encyclopedia for the general public	0	1	0	0	1
Course books	0	0	1	0	1
Correspondence of the European Commission	0	0	0	1	1
Audiovisual content (P)	0	0	1	0	1

## Analysis of the findings of the surveys to the novice and experienced translators

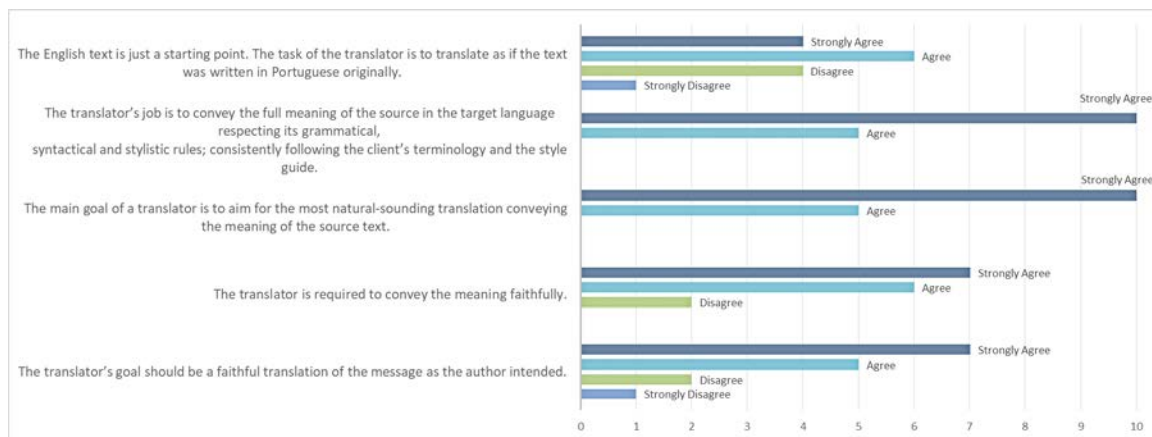
### Personal normative beliefs

#### — How do you believe you *should* translate?

##### Novice translators

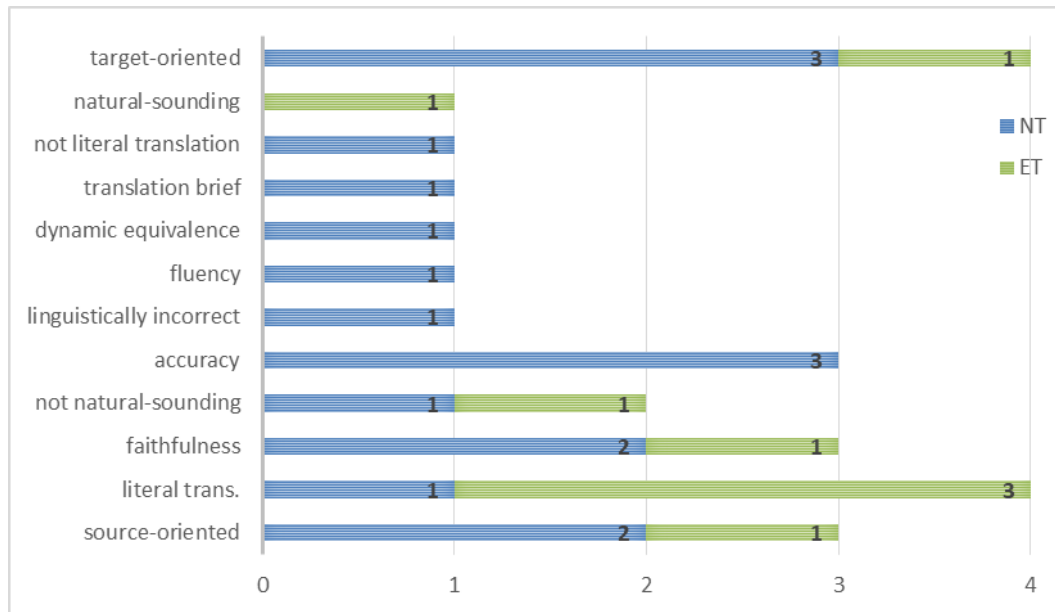


##### Experienced translators

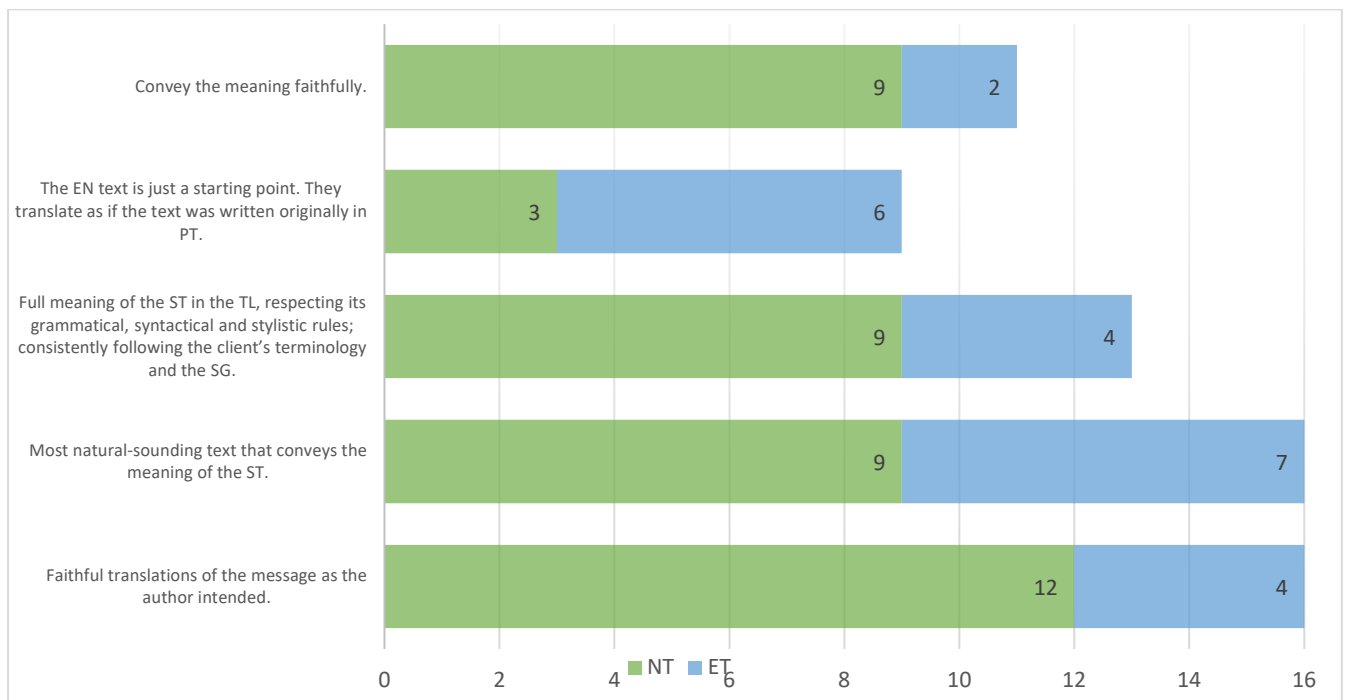


**Empirical expectations of novice and experienced translators about other novice and experienced translators' actions**

— How do other translators with the same experience as you translate?



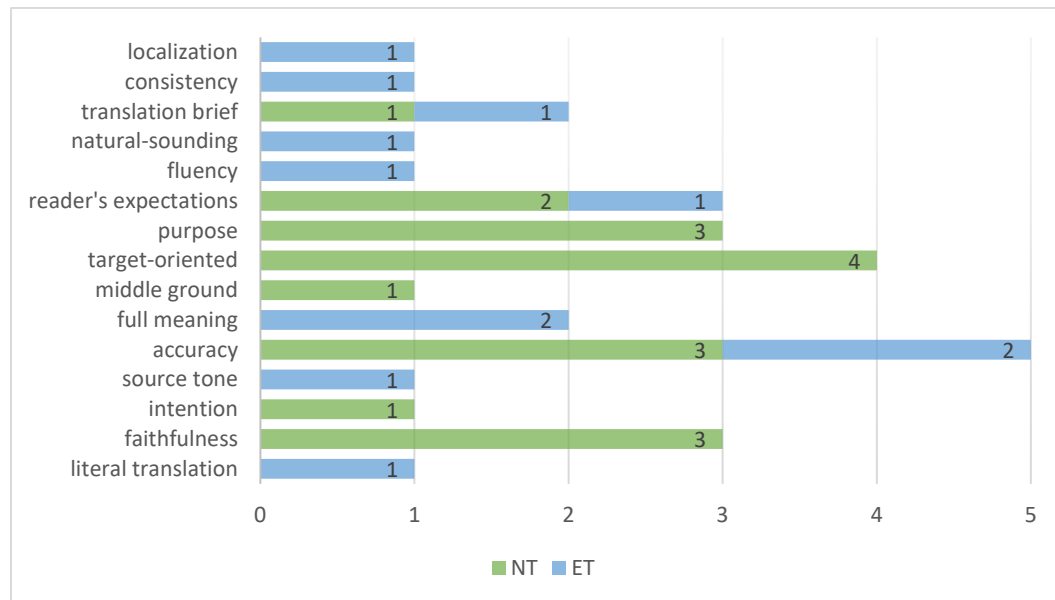
— Please select from the following statements those statements that best describe how other translators with the same experience as you actually translate. You can select more than one statement.





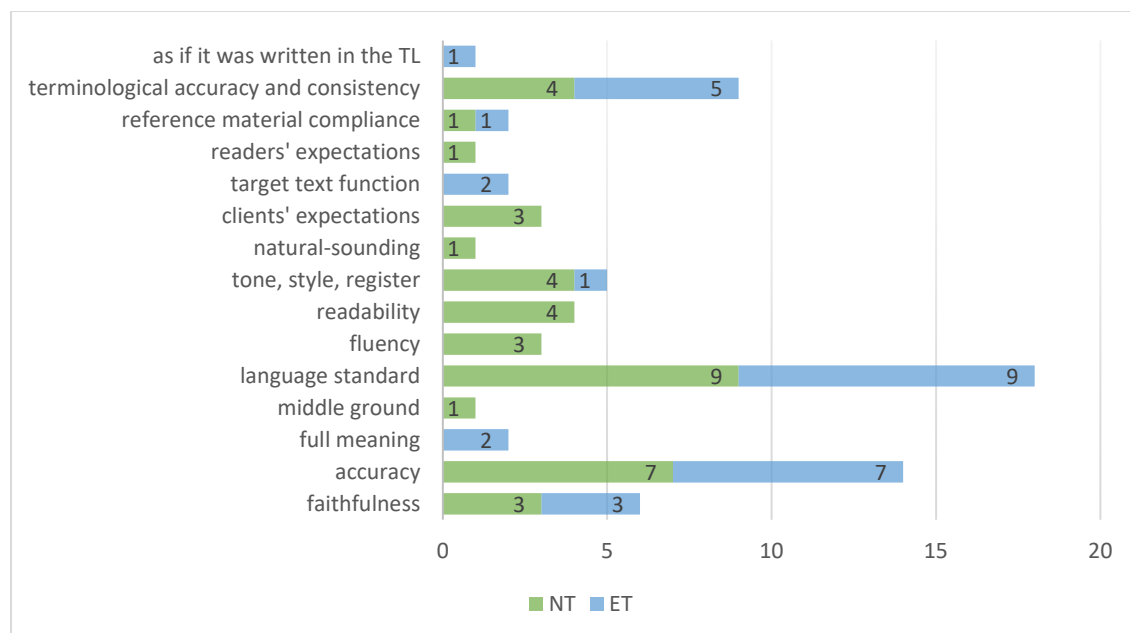
**Normative expectations of novice and experienced translators about other novice and experienced translators' beliefs**

— In general, how do other translators with the same experience as you think you should translate?



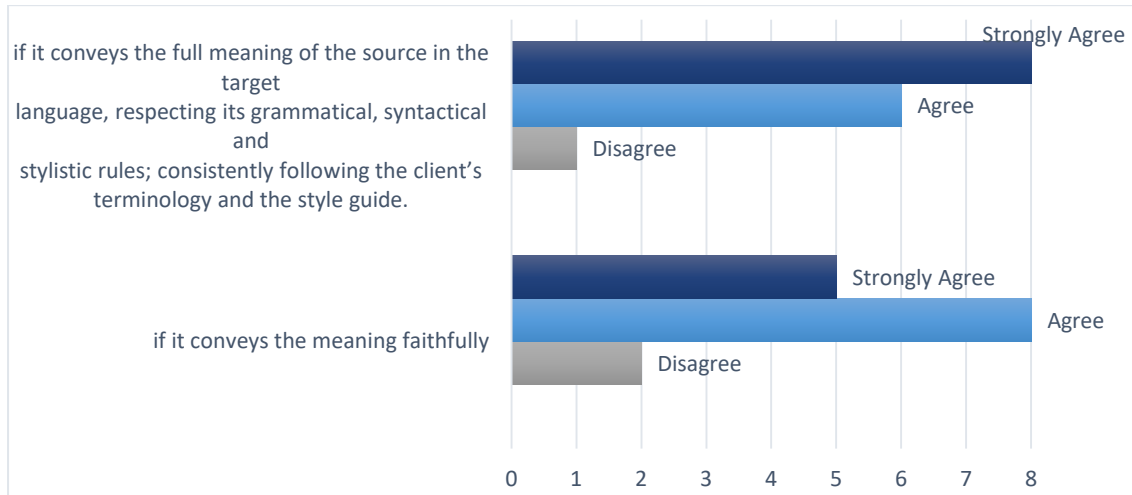
**Normative attitudes of novice and experienced translators about what reviewers should do**

— In general, what criteria do you think reviewers should use to judge the quality of a translation?

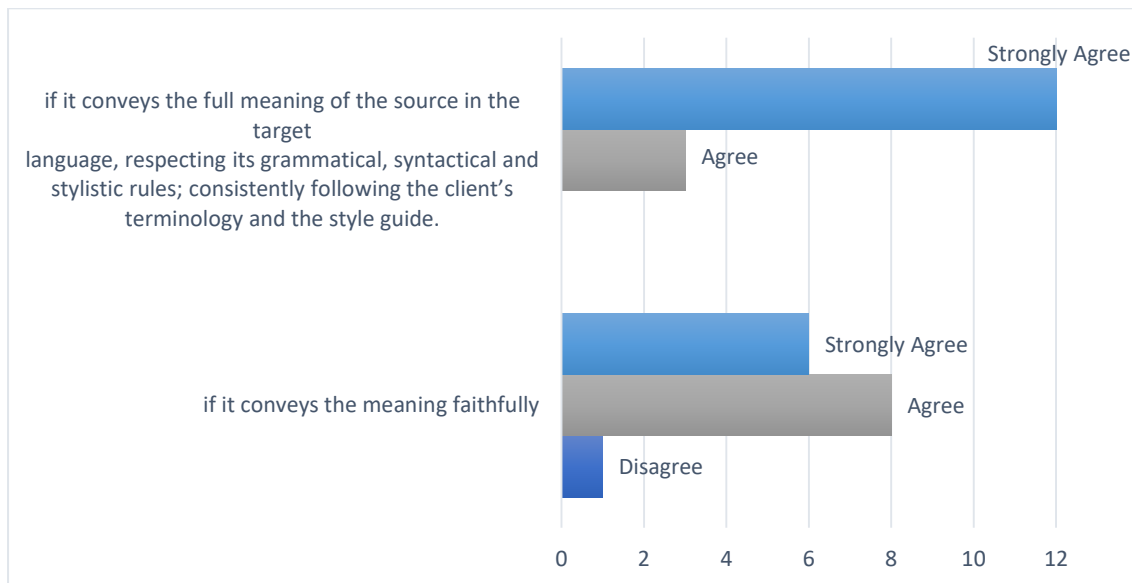


— Below you will find a number of statements regarding how reviewers should assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement. Reviewers should consider a translation appropriate:

**Novice translators**

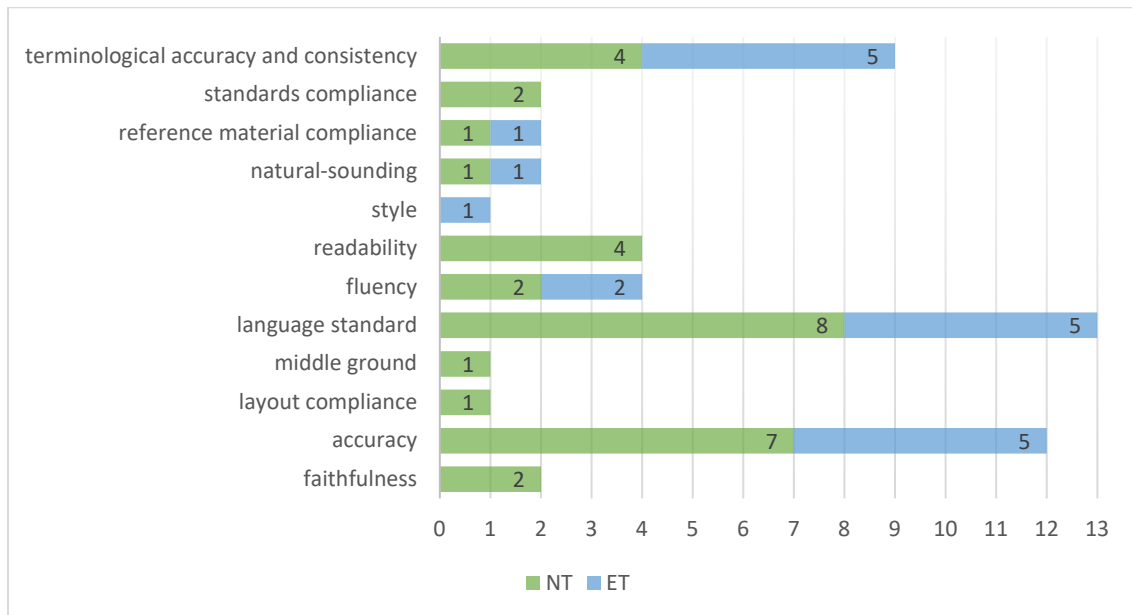


**Experienced translators**

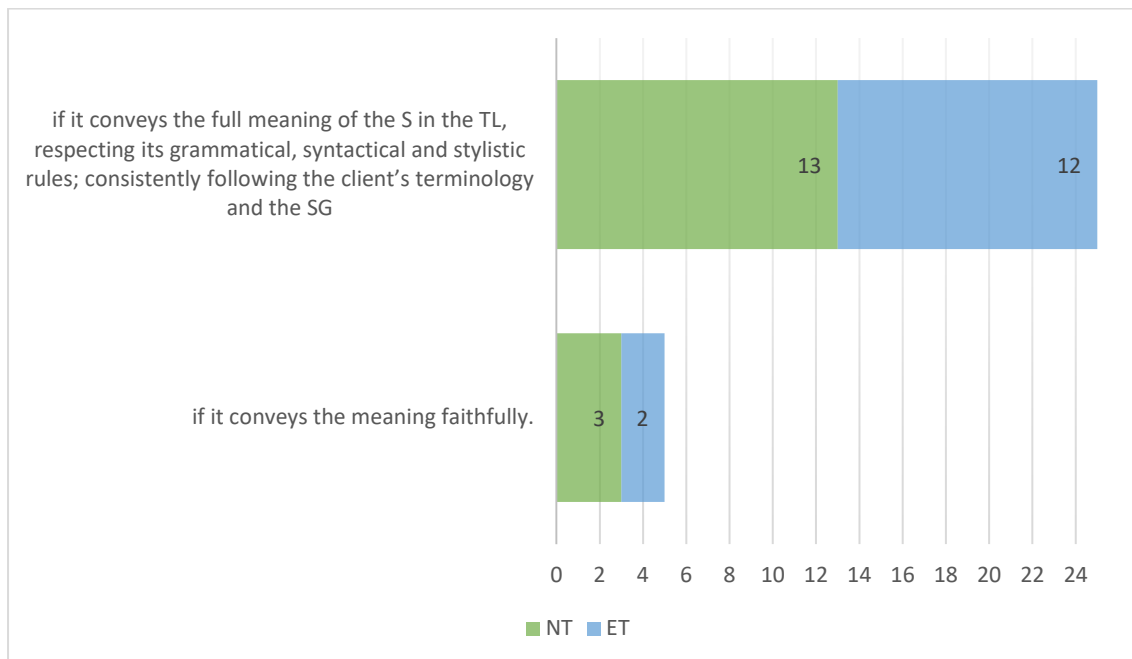


**Empirical expectations of novice and experienced translators about what reviewers do**

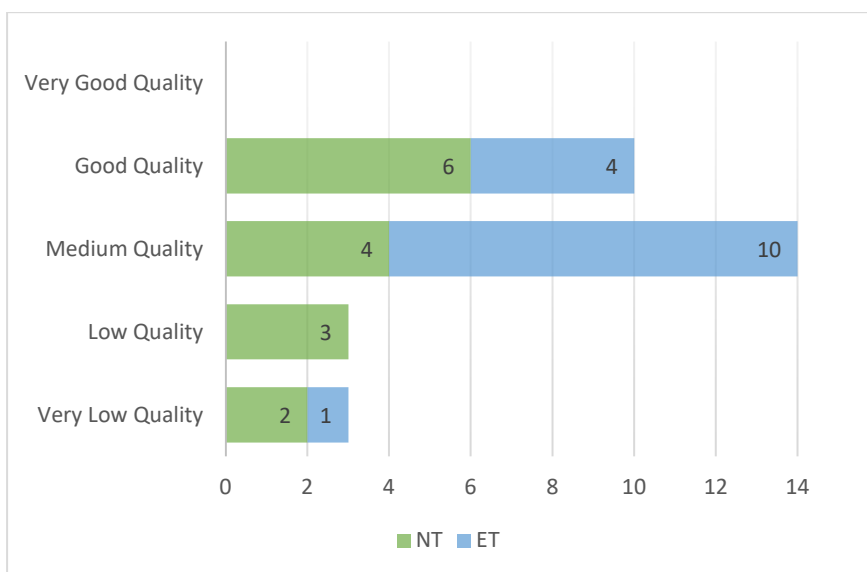
**— In general, how do you think reviewers assess a translation?**



**— Please select from the following statements those statements that best describe how reviewers assess a translation. Please select only one statement. Reviewers actually consider a translation appropriate:**

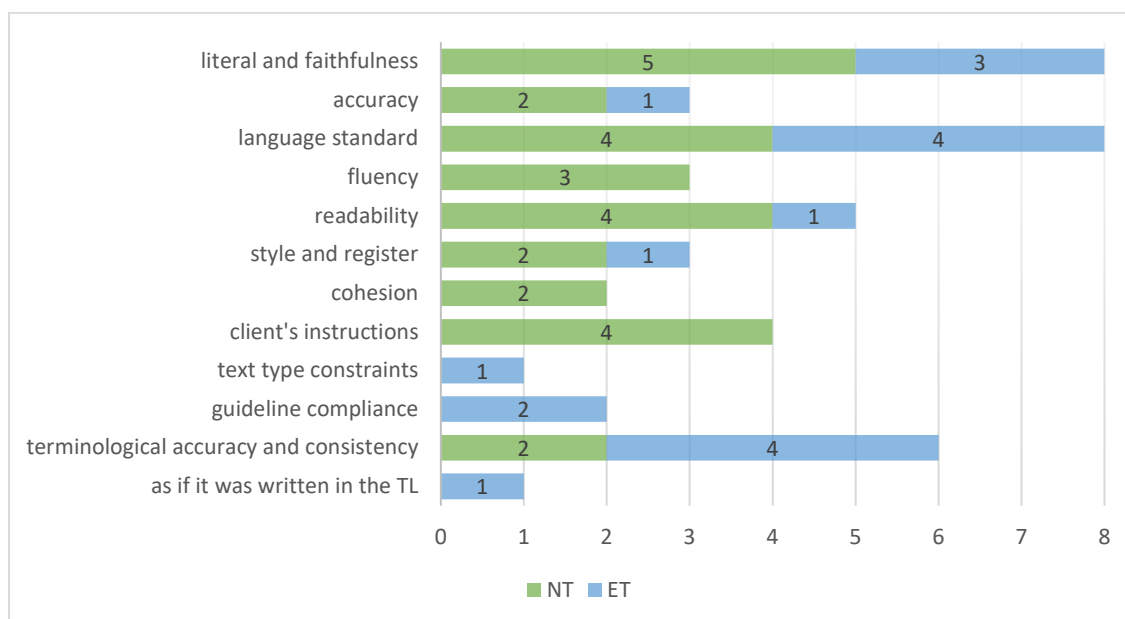


— How do you think reviewers assess a faithful, literal translation?



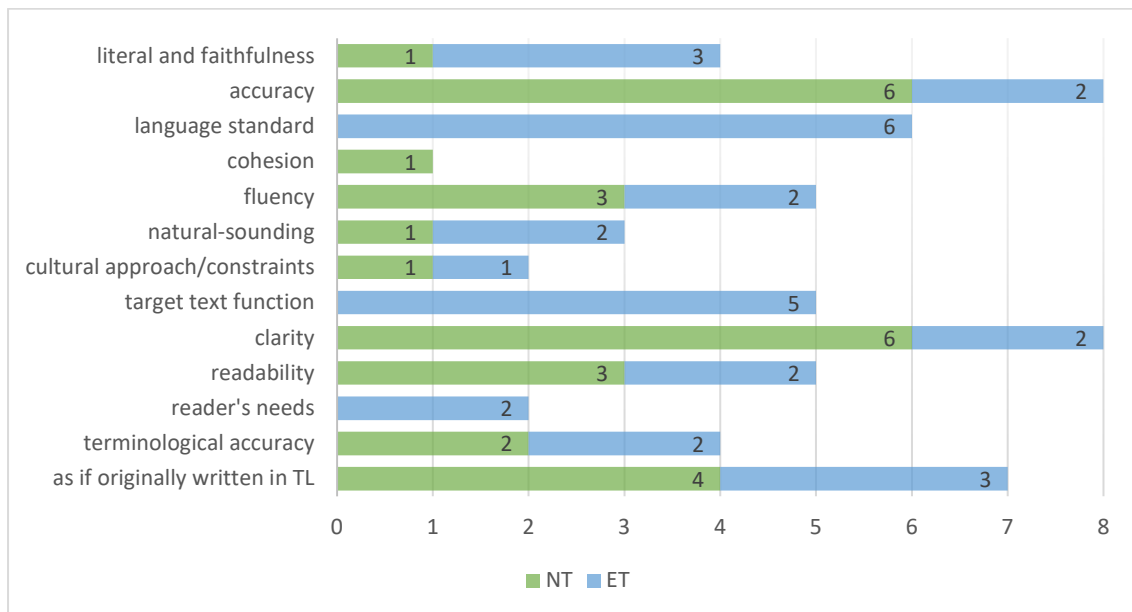
Normative expectations of novice and experienced translators about reviewers' beliefs

— In general, what expectations do you think reviewers have of your work?



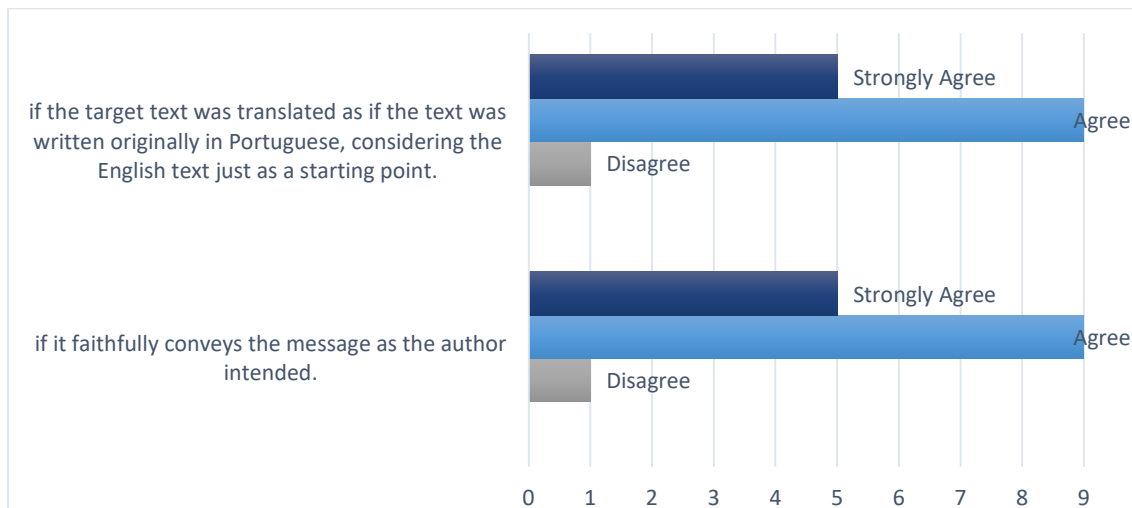
Normative attitudes of novice and experienced translators about what readers should do

— In general, what criteria do you think the reader of the translation should use to judge the quality of a translation?

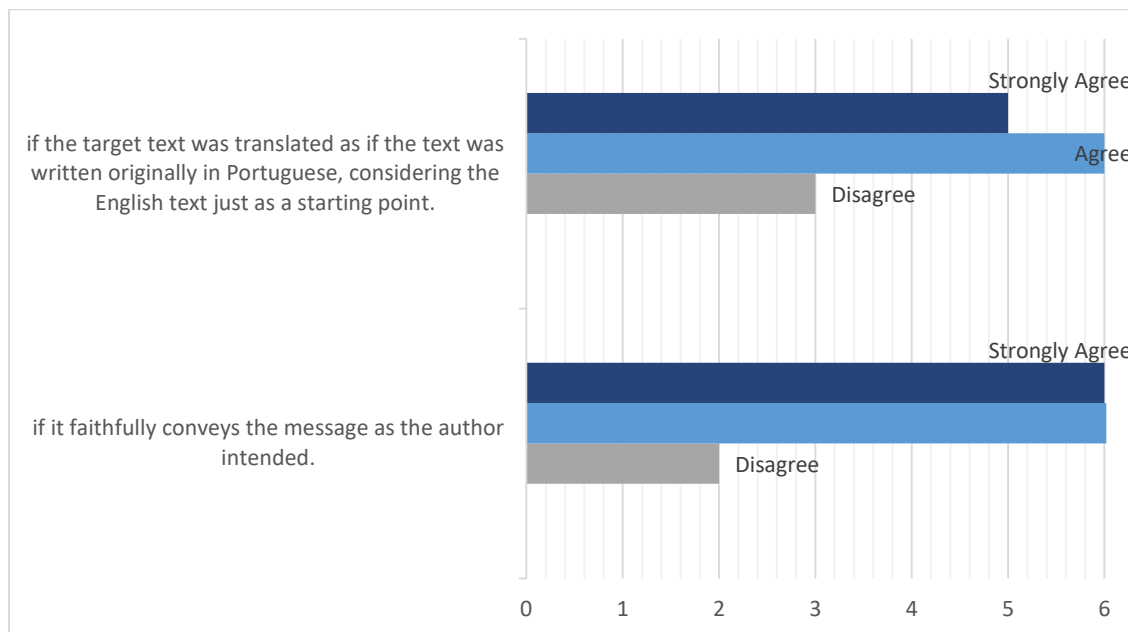


— Below you will find a number of statements regarding how the readers of translations should assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement. The readers of the translation should consider a translation appropriate:

Novice translators

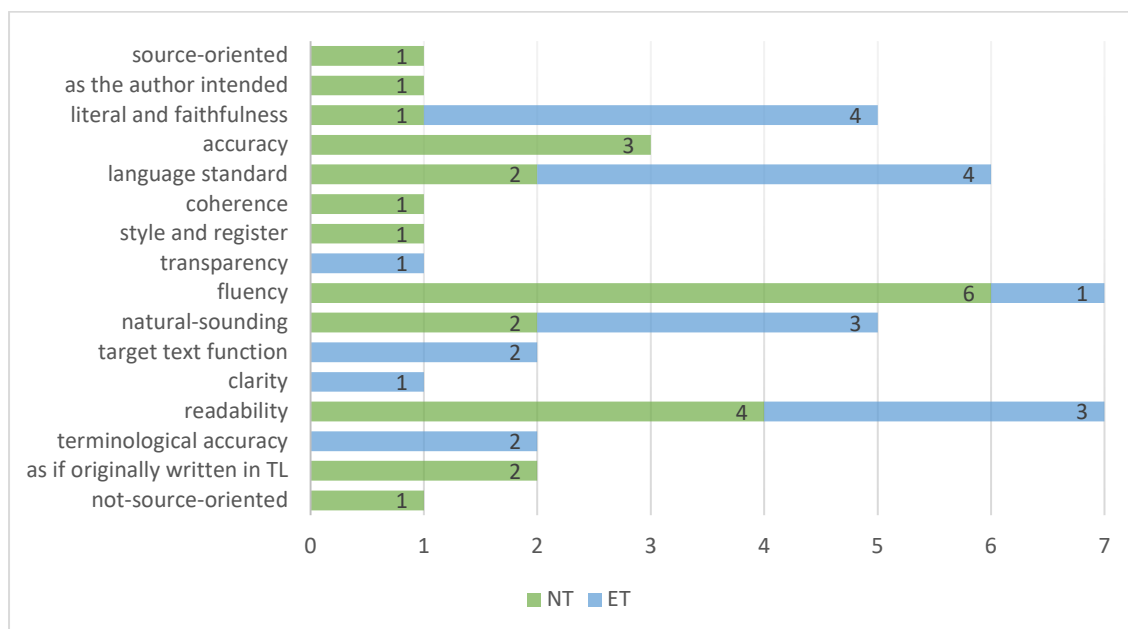


### Experienced translators

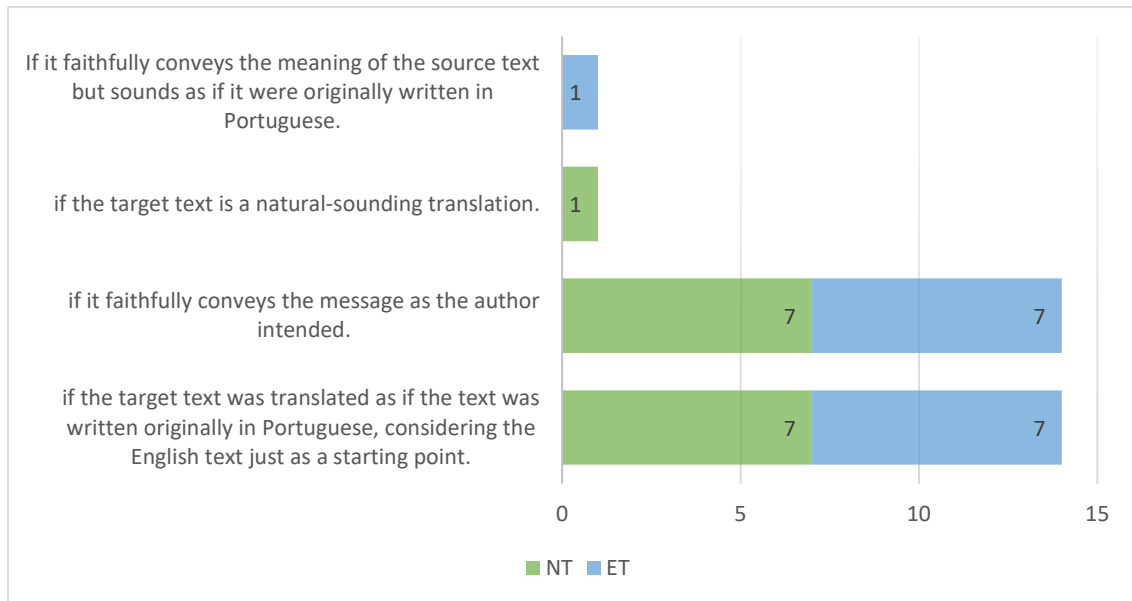


### Beliefs of novice translators about readers' actions: what the novice translator believes about what readers do, i.e., empirical expectations

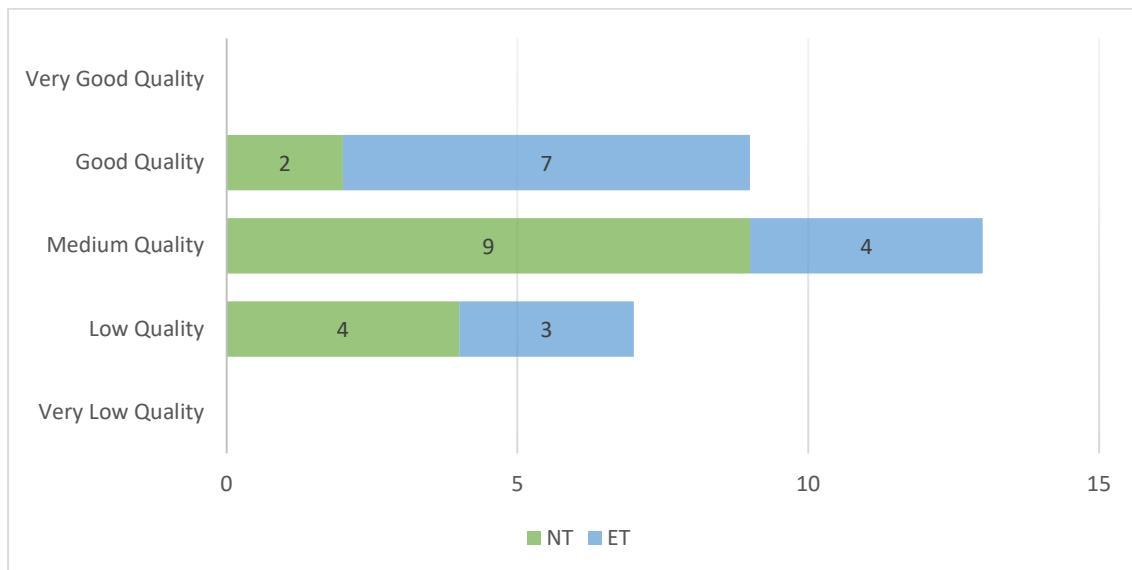
— In general, how do you think the readers of the translation assess a translation?



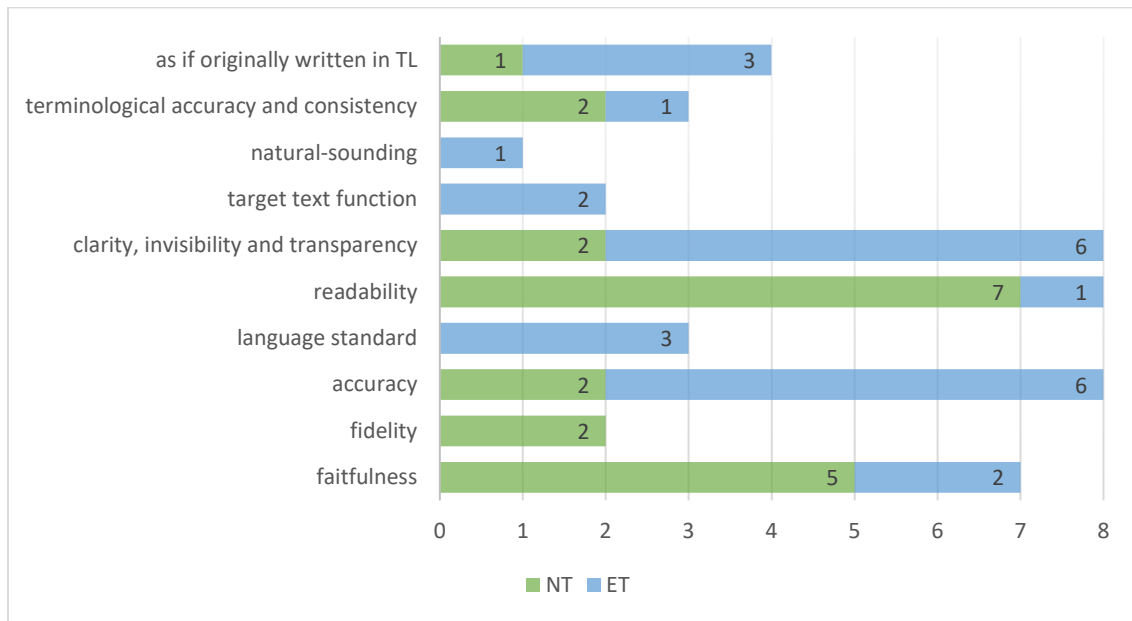
— Please select from the following statements those statements that best describe how the readers of the translation assess a translation. Please select only one statement. The readers of the translation actually consider a translation appropriate:



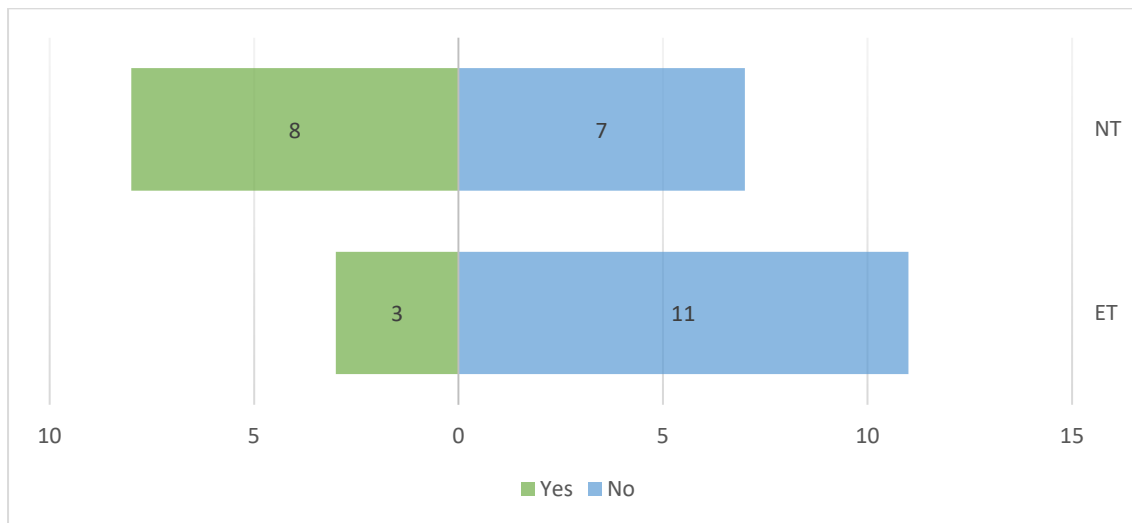
— How do you think readers assess a faithful, literal translation?



— In general, what expectations do you think the readers of the translation have of your work?



— If you knew reviewers evaluated positively non-faithful translations, would you translate freely?





## Analysis of the findings of the surveys to the reviewers

### Belief statements about textual preferences

— Below you will find three translation options for the same source text. Please read the instructions given to the translator and from the translation options choose the one you consider the most appropriate.

The instructions given to the translator were the following:

Please translate the text bearing in mind that if this was a real situation your translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience is health professionals. Your client has not sent any resources or additional information other than the text itself.

Source text:

The Film Dressing with Non-Adherent Pad is designed for covering acute wounds. Follow your “gauze and tape” protocol for use. This product is not designed, sold or intended for use except as indicated.

Option A: No participant selected this option.

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11B] está concebido [TO7] para aplicação [TO7] sobre feridas agudas [SO1c]. Para o uso correto [TO8a] siga o seu protocolo “gaze e adesivo” [SO1b]. Este produto não foi concebido nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option B is prevalingly target-oriented, with the majority of target-oriented translation solution types (7 in 9).

Option B: No participant selected this option.

A película [TO8c] com compressa [TO7] não-aderente [SO1b] é desenhada [SO1c] para cobrir [SO1b] feridas agudas [SO1c]. Siga o seu protocolo “gauze and tape” para utilização [SO1]. Este produto não é desenhado [SO1], vendido [SO1b] nem destinado a utilização exceto como indicado [SO1a].

Option B is the most source-oriented option, with the majority of source-oriented translation solution types (8 in 10) in comparison with the remaining statements presented.

Option C: 11 participants selected this option.

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11B] foi concebido [TO7] para ser aplicado [TO7] em feridas graves [TO7]. Para uma utilização correta [TO8a] siga o protocolo da sua instituição [TO8a] para a aplicação de gazes e adesivos [TO8a]. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option C is the most target-oriented option, with 10 in 10 of the translation solution types identified being target-oriented.

Alternative statements provided by reviewers:

(a) O penso de película com almofada não aderente foi concebido para ser aplicado em feridas agudas. Para uma utilização correta siga o protocolo da sua instituição para a aplicação de gaze e fita. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados. (Cátia)

(b) O penso com compressa não-aderente foi concebido para ser aplicado em feridas agudas. Siga o seu protocolo habitual para a aplicação de gazes e adesivos. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados. (Isaura)

(c) A película com compressa não-aderente foi concebida para cobrir feridas agudas. Utilize-a de acordo com o protocolo de gazes e adesivos. Este produto não foi concebido, nem pode ser vendido ou utilizado exceto como indicado. (Mário)

(d) A película com compressa não-aderente foi concebida para a aplicação em ferimentos profundos. Para o uso correto, siga o protocolo de gazes e adesivos. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins. (Octávio)

— Again, below you will find two translation options for the same source text in the same translation situation with the same instructions as above. From the translation options please choose the one you consider the most correct.

Source text:

Precautions:

1. Stop any bleeding at the site before applying the dressing.
2. Do not stretch the dressing during application as tension can cause skin trauma.

Option A: 12 participants selected this option.

Precauções: [SO1b]

1. Estancar [TO8c] hemorragias [TO7] localizadas [TO10] antes da aplicação do penso [SO1b].
2. Não distender [TO7] o penso durante a aplicação [SO1B] devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão [TO12].

Option A is the most target-oriented option, with 5 in 8 of the translation solution types identified being target-oriented.

Option B: No participant selected this option.

Precauções: [SO1b]

1. Para qualquer sangramento no local antes da aplicação da película [SO1a].
2. Não esticar [SO1b] a película [TO11] durante a aplicação porque a tensão pode causar [SO1a] traumas [TO3] na pele [SO1b].

Option A is the most source-oriented option, with 5 in 7 of the translation solution types identified being source-oriented.

Alternative statements provided by reviewers:

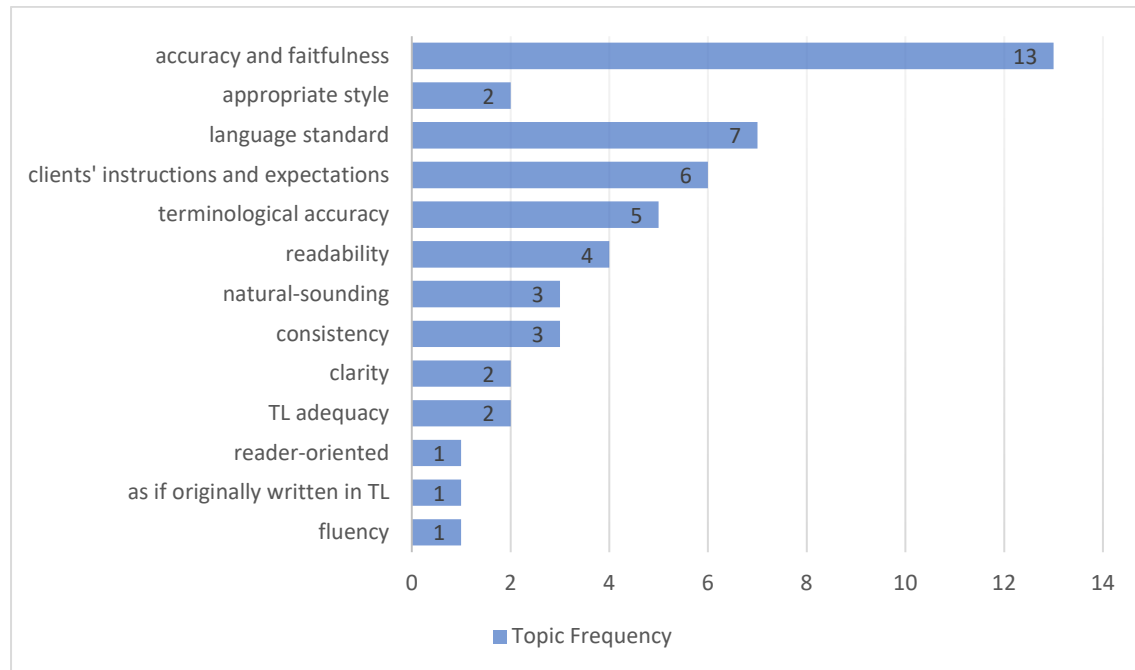
(a) Precauções: 1. Fazer hemostase localizada antes da aplicação do penso. 2. Não esticar o penso durante a aplicação devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão. (Cátia)

(b) Precauções: 1. Estancar qualquer hemorragia local antes da aplicação do penso. 2. Não esticar o penso durante a aplicação porque a tensão pode causar lesões na pele. (Isaura)

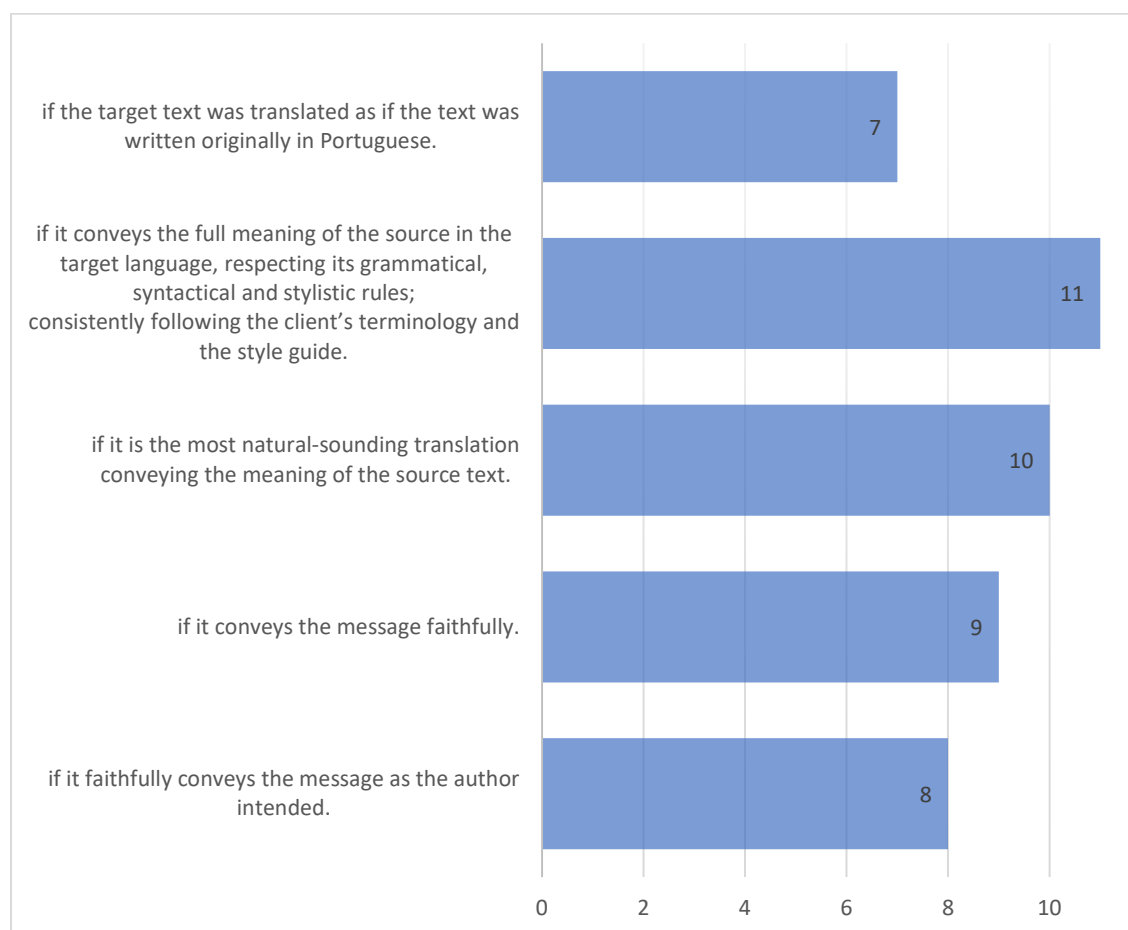
(c) 1. Estancar hemorragias antes da aplicação do penso; 2. Não esticar o penso na aplicação, a tensão pode causar traumas na pele. (Octávio)

**Beliefs of reviewers about themselves: What the agents believe about what they themselves do, i.e., personal empirical beliefs**

**— How do you assess translations?**

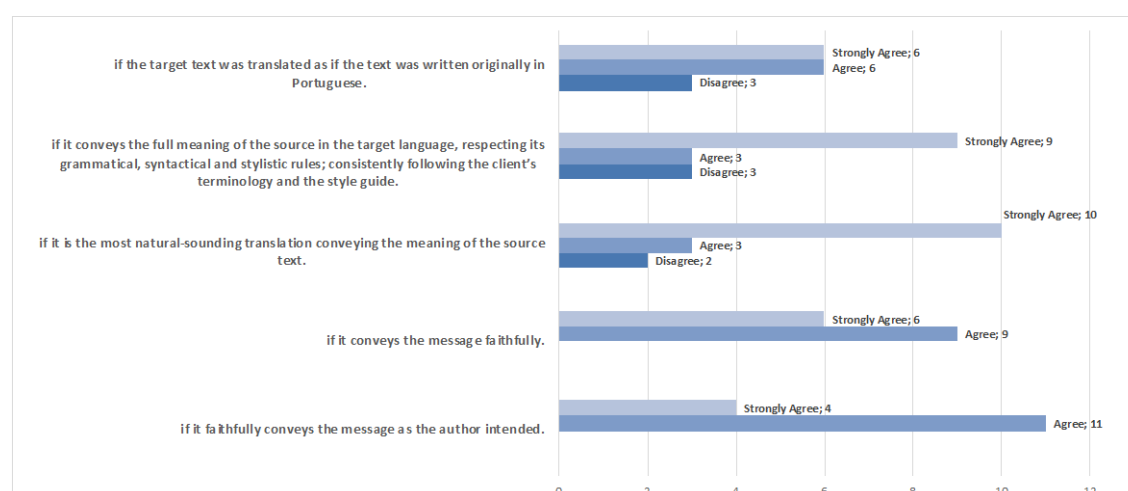


— Please select from the following statements those statements that best describe how you actually assess translations. You can select more than one statement. You consider a translation appropriate:



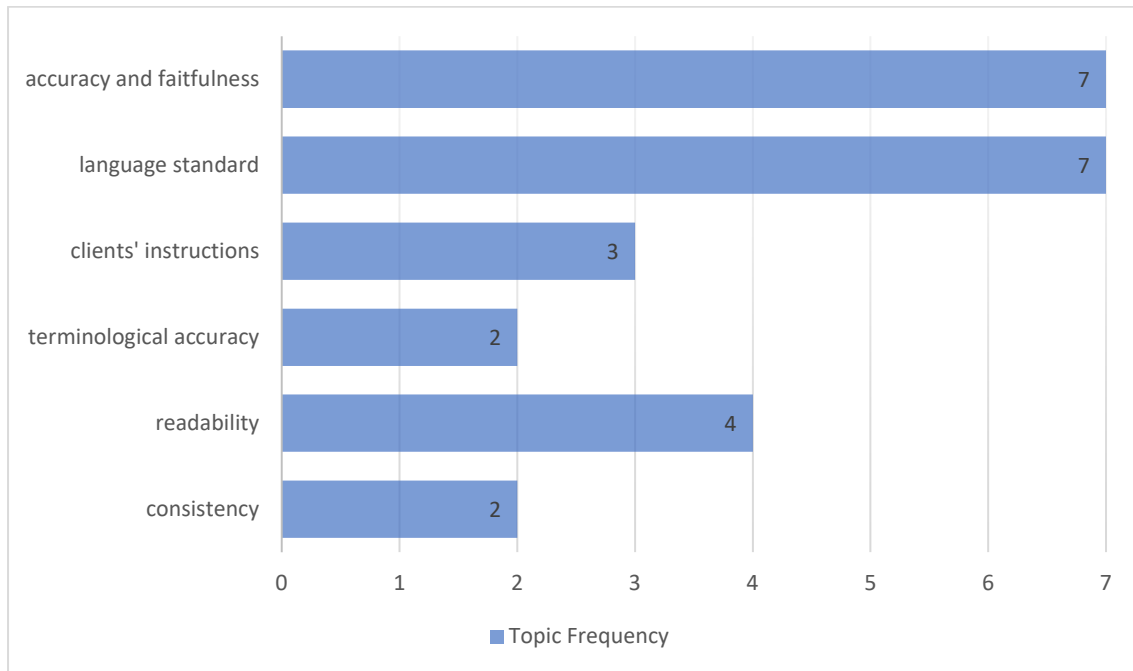
**Beliefs of reviewers about themselves: What the agents believe about what they themselves should do, i.e., personal normative beliefs**

— Below you will find a number of statements regarding how reviewers *should* assess translations in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement. You/other reviewers *should* consider a translation

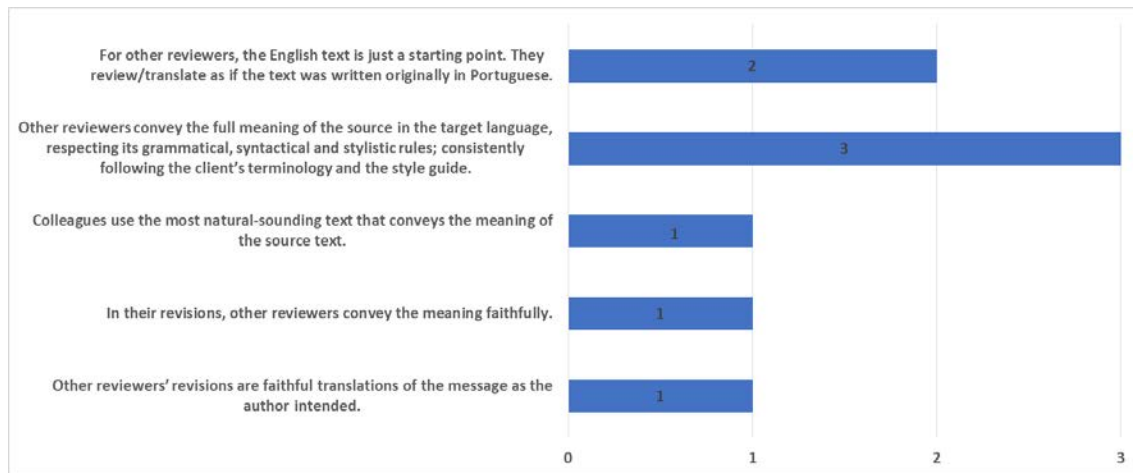


**Beliefs of reviewers about other reviewers' actions: what the agents believe about what reviewers do, i.e., empirical expectations**

**— How do other reviewers assess translations?**

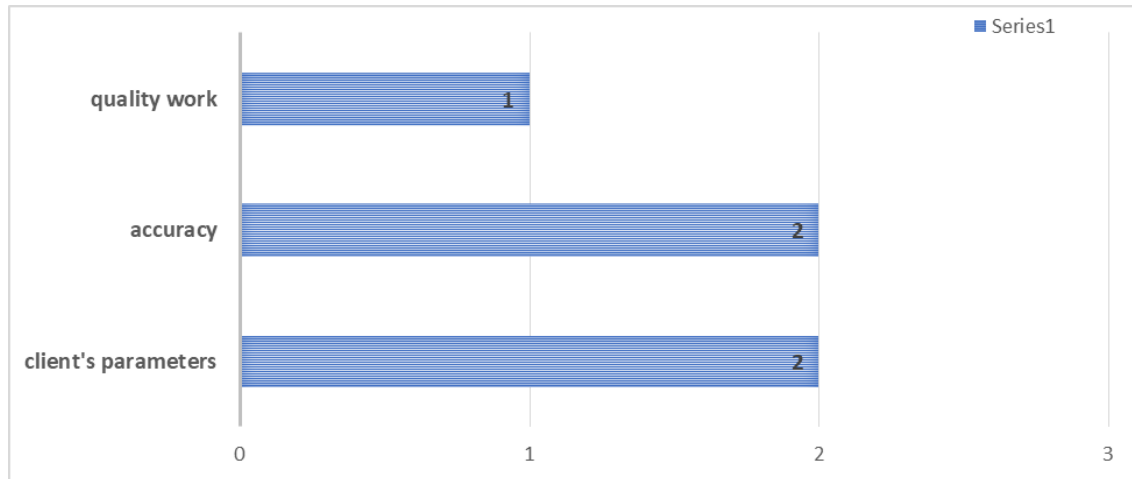


**— How other reviewers with a similar experience as you review? Do you know? You can select more than one of the below statements.**



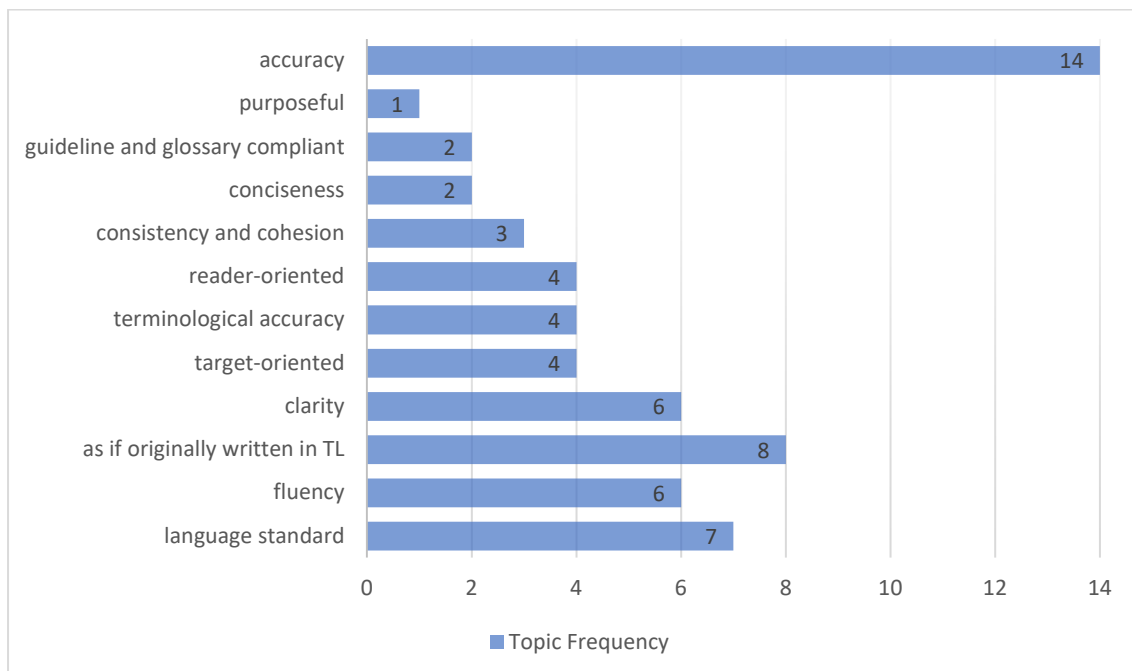
**Beliefs of reviewers about other reviewers' beliefs: what the agents believe about what other reviewers think they themselves should do, i.e., normative expectations**

— And what about other reviewers, project managers or leads: what expectations do you think they have of your work? (Please answer the one that best applies to you.)

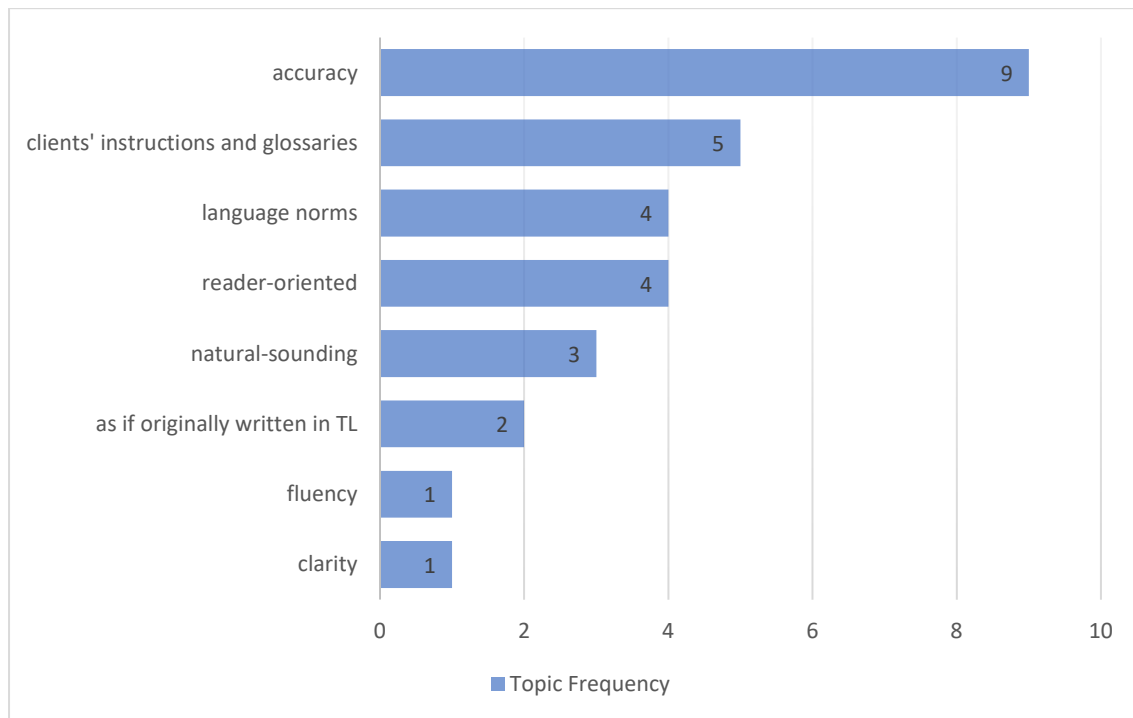


**Beliefs of reviewers about translators' actions: what the reviewers believe about what translators should do, i.e., normative attitudes**

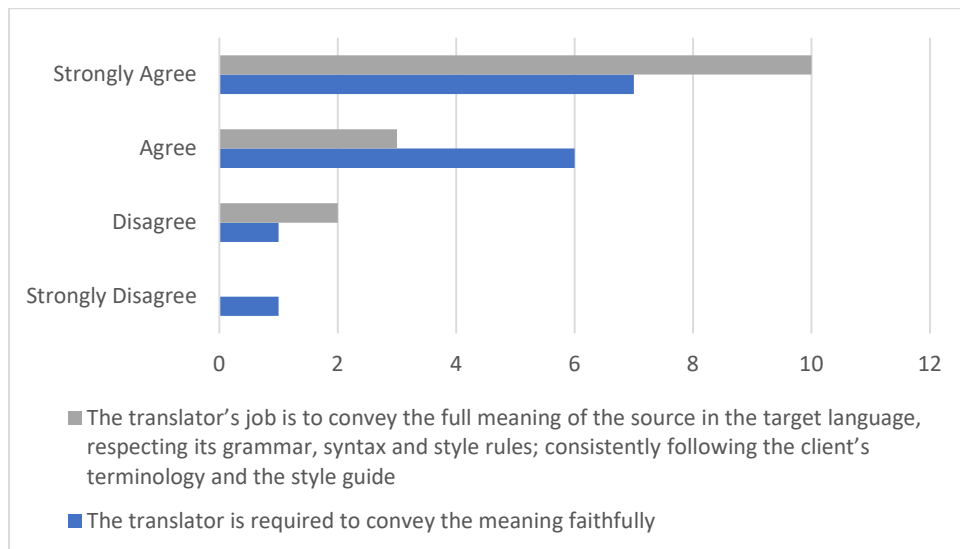
— In general, what are the essential characteristics of a good translation?



— In general, how do you think translators *should* translate?

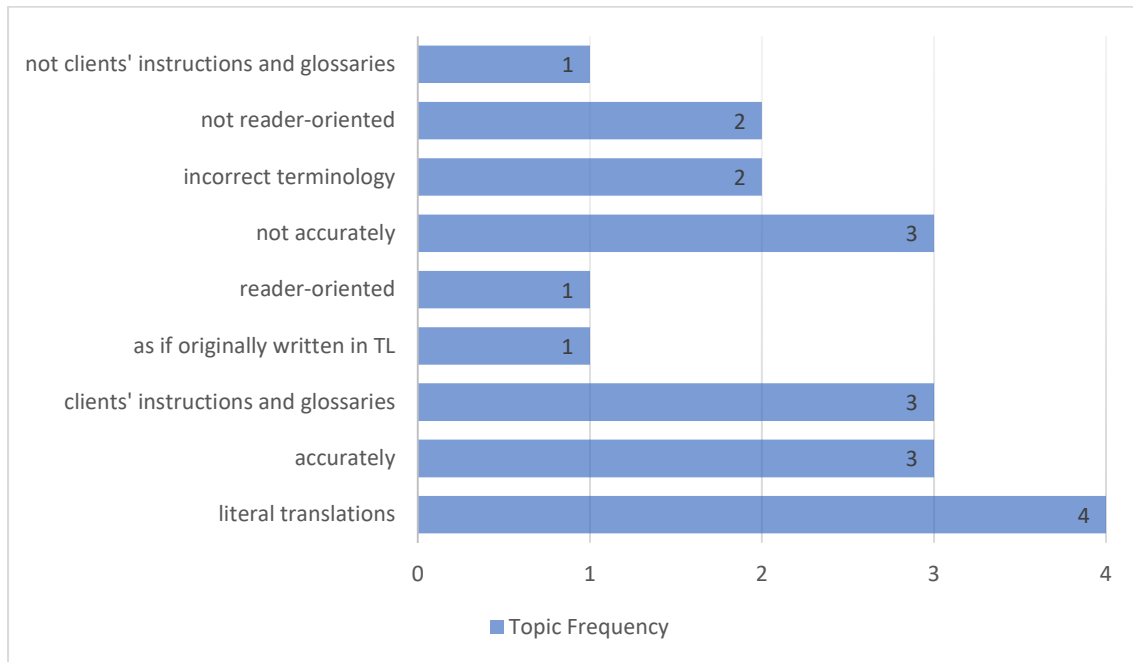


— Below you will find a number of statements regarding how translators should translate in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

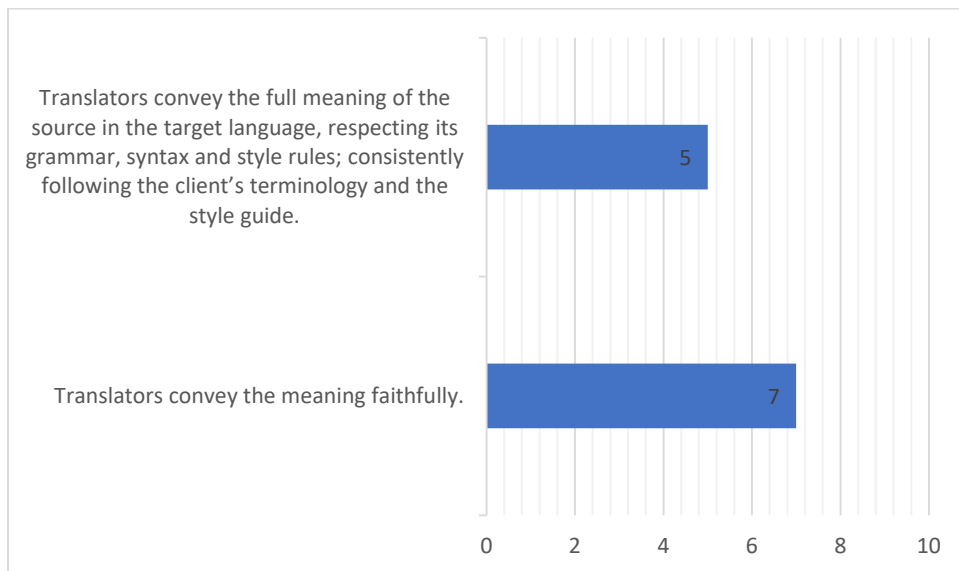


**Beliefs of reviewers about translators' actions: what the agents believe about what translators do, i.e., empirical expectations**

— In general, how do you think translators *actually* translate?

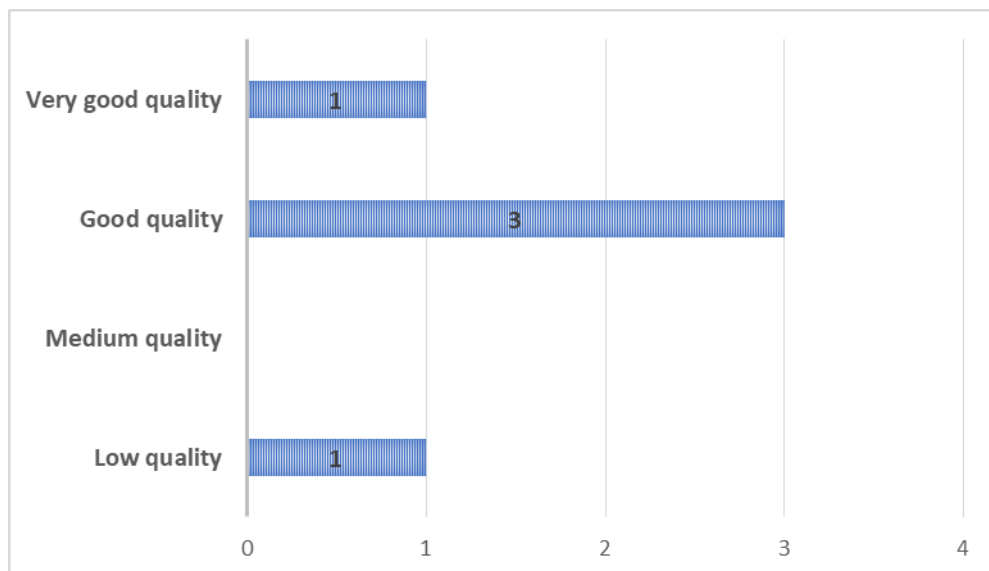


— Please select from the following statements those statements that best describe how translators *actually* translate. You can select more than one statement.



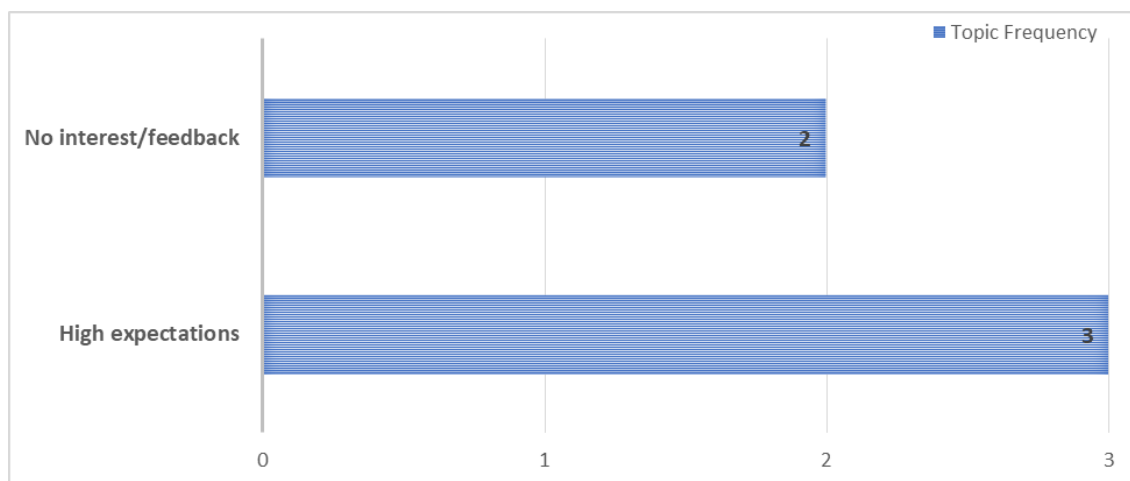


— How do translators consider a faithful, literal translation?



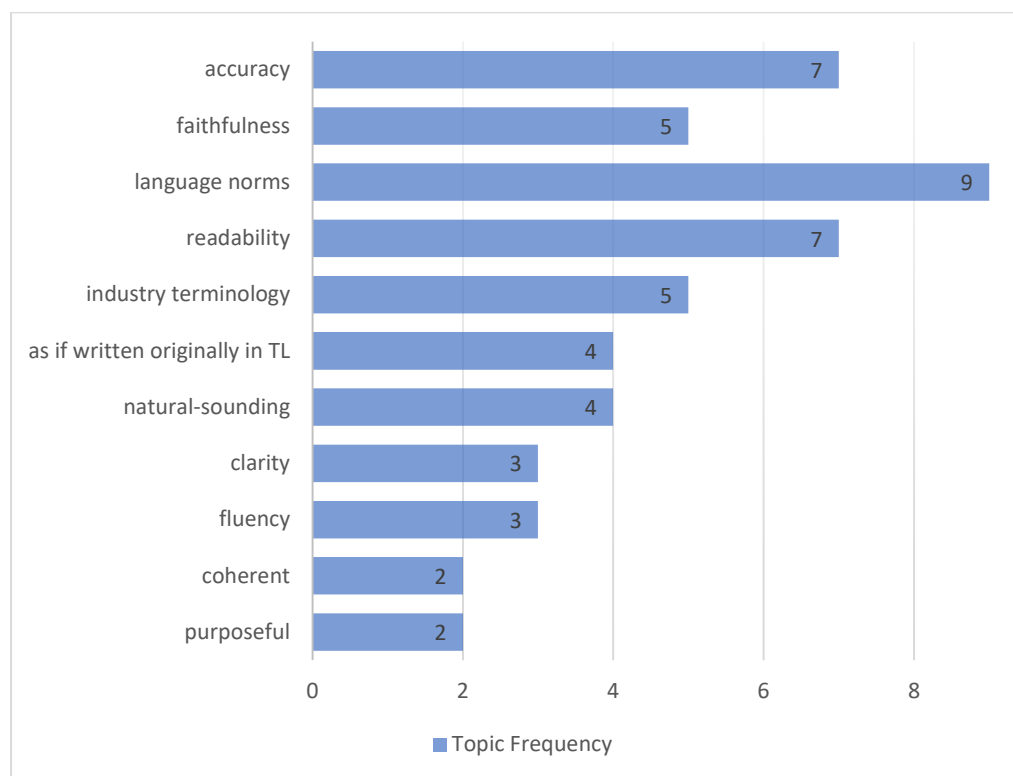
Beliefs of reviewers about translators' beliefs: what the agents believe about what others think they themselves should do, i.e., normative expectations

— What expectations do you think translators have of your work?



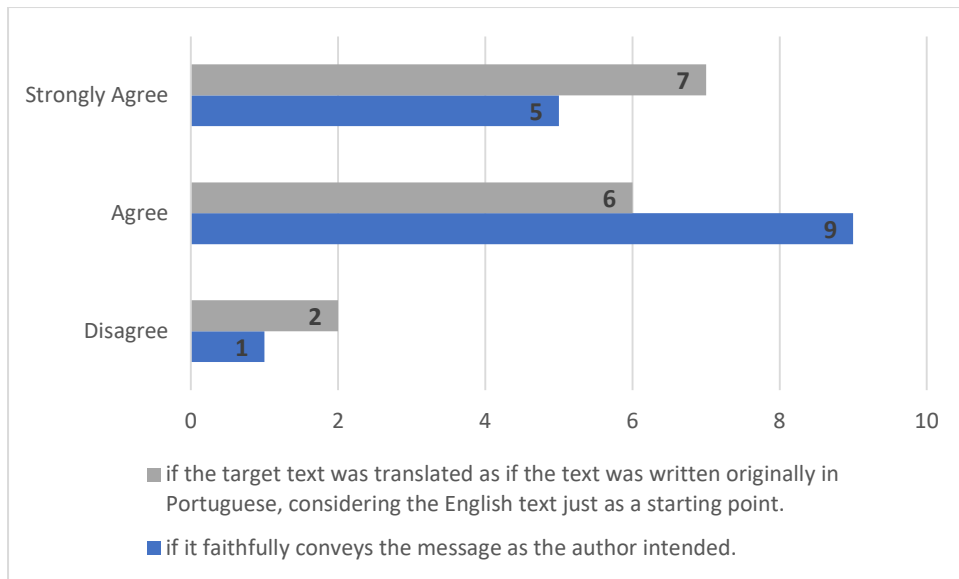
**Beliefs of reviewers about readers' actions: what the agents believe about what readers should do, i.e., normative attitudes**

— What criteria do you think the reader of the translation *should* use to judge the quality of a translation?



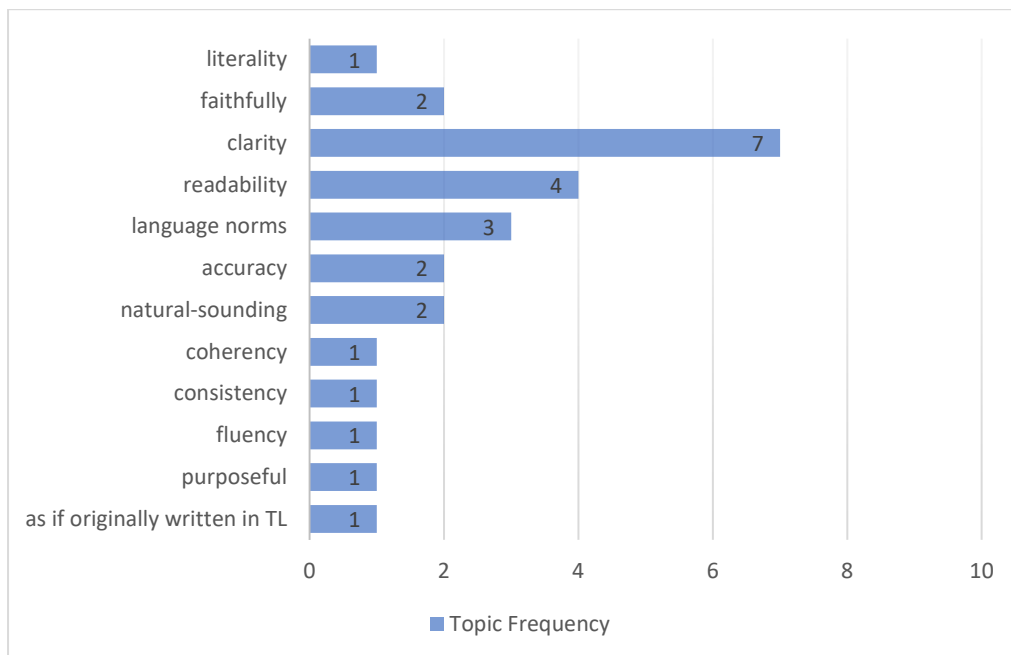
— Below you will find a number of statements regarding how the readers of the translation *should* assess a translation in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.

The readers of the translation *should* consider a translation appropriate:



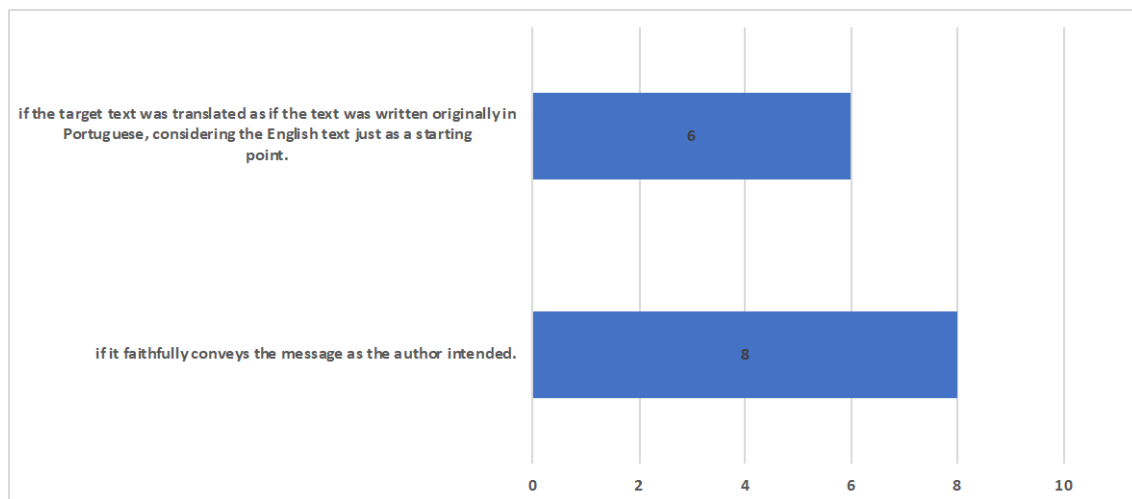
**Beliefs of reviewers about readers’ actions: what the agents believe about what readers do, i.e., empirical expectations**

— In general, how do you think the readers of a translation *actually* assess it?

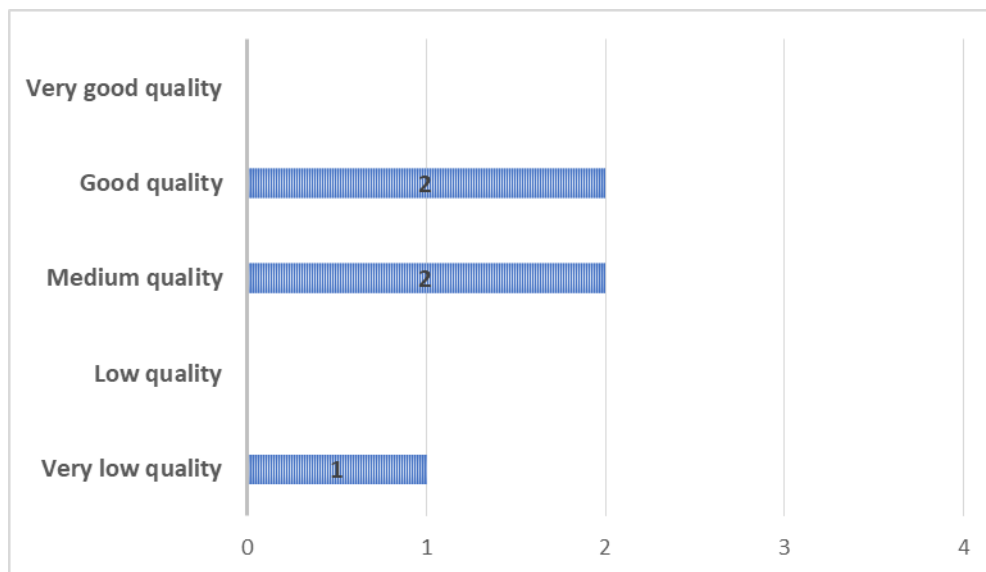


— Please select from the following statements those statements that best describe how the readers of the translation *actually* assess a translation. Please select only one statement.

**The readers of the translation *actually* consider a translation appropriate:**

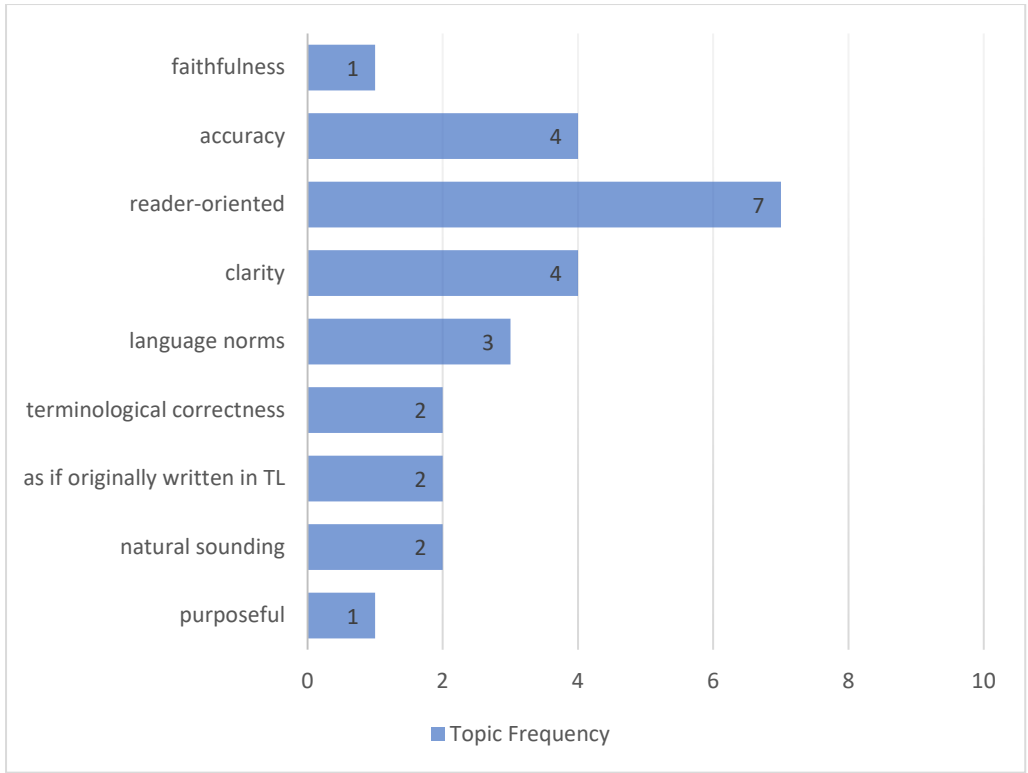


— And how do readers' of the translation consider a faithful, literal translation?



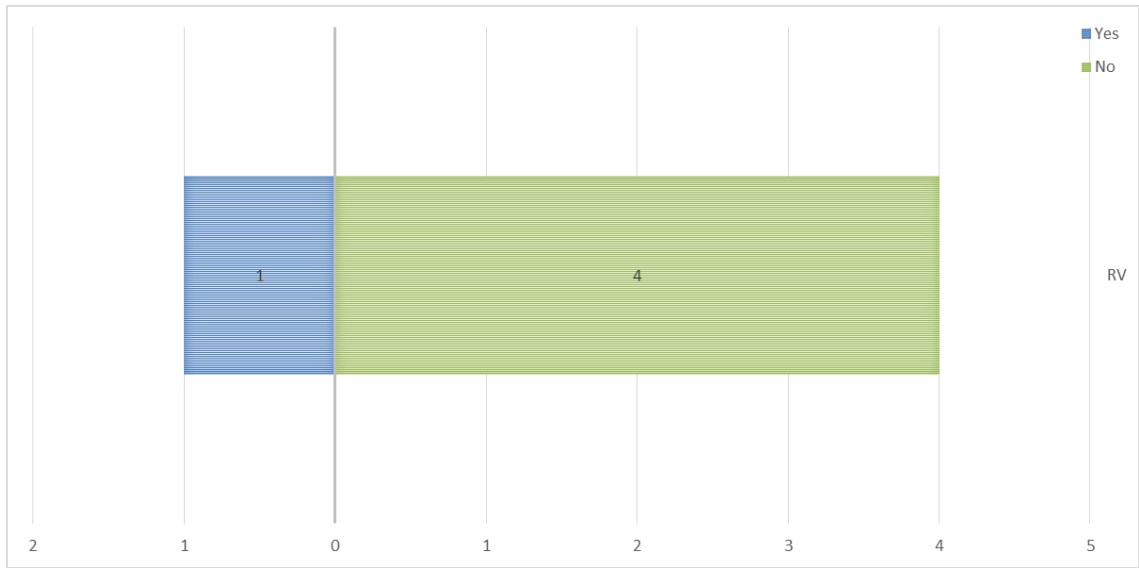
**Beliefs of reviewers about readers' beliefs: what the agents believe about what readers think they themselves should do, i.e., normative expectations**

— In general, what expectations do you think the readers of the translation *have* of your work?



**Impact of beliefs**

— If you knew other reviewers, project managers or leads evaluated positively non-faithful translations, would you assess positively non-faithful translations?



## Analysis of the findings/results of the surveys to the readers

### Belief statements about textual options

— Below you will find three translation options for the same source text. Please read the instructions given to the translator and from the translation options choose the one you consider the most appropriate.

The instructions given to the translator were the following:

Please translate the text bearing in mind that if this was a real situation your translation would be published in a leaflet, printed on paper and published online for distribution by an international biopharmaceutical company. The intended audience is health professionals. Your client has not sent any resources or additional information other than the text itself.

Source text:

The Film Dressing with Non-Adherent Pad is designed for covering acute wounds. Follow your “gauze and tape” protocol for use. This product is not designed, sold or intended for use except as indicated.

Option A: Four participants selected this option.

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11B] está concebido [TO7] para aplicação [TO7] sobre feridas agudas [SO1c]. Para o uso correto [TO8a] siga o seu protocolo “gaze e adesivo” [SO1b]. Este produto não foi concebido nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option B is prevalingly target-oriented, with the majority of target-oriented translation solution types (7 in 9).

Option B: Two participants selected this option.

A película [TO8c] com compressa [TO7] não-aderente [SO1b] é desenhada [SO1c] para cobrir [SO1b] feridas agudas [SO1c]. Siga o seu protocolo “gauze and tape” para utilização [SO1]. Este produto não é desenhado [SO1], vendido [SO1b] nem destinado a utilização exceto como indicado [SO1a].

Option B is the most source-oriented option, with the majority of source-oriented translation solution types (8 in 10) in comparison with the remaining statements presented.

Option C: Nine participants selected this option.

O penso transparente [TO8a] com compressa absorvente [TO11a and TO11B] foi concebido [TO7] para ser aplicado [TO7] em feridas graves [TO7]. Para uma utilização correta [TO8a] siga o protocolo da sua instituição [TO8a] para a aplicação de gazes e adesivos [TO8a]. Este produto não foi concebido, nem pode ser vendido ou utilizado para outros fins que não os indicados [TO12].

Option C is the most target-oriented option, with 10 in 10 of the translation solution types identified being target-oriented.

— **Again, below you will find two translation options for the same source text in the same translation situation with the same instructions as above. From the translation options please choose the one you consider the most correct.**

Source text:

Precautions:

1. Stop any bleeding at the site before applying the dressing.
2. Do not stretch the dressing during application as tension can cause skin trauma.

Option A: Thirteen participants selected this option.

Precauções: [SO1b]

1. Estancar [TO8c] hemorragias [TO7] localizadas [TO10] antes da aplicação do penso [SO1b].
2. Não distender [TO7] o penso durante a aplicação [SO1B] devido à possibilidade de desenvolvimento de traumatismos cutâneos provocados pela tensão [TO12].

Option A is the most target-oriented option, with 5 in 8 of the translation solution types identified being target-oriented.

Option B: Two participants selected this option.

Precauções: [SO1b]

1. Para qualquer sangramento no local antes da aplicação da película [SO1a].
2. Não esticar [SO1b] a película [TO11] durante a aplicação porque a tensão pode causar [SO1a] traumas [TO3] na pele [SO1b].

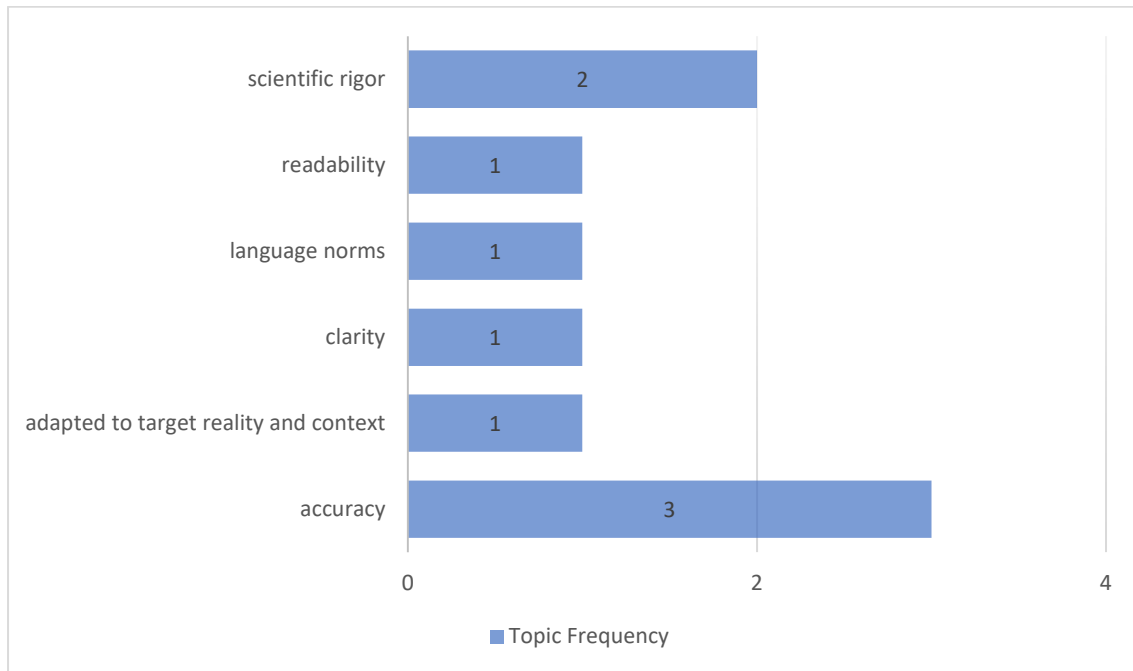
Option A is the most source-oriented option, with 5 in 7 of the translation solution types identified being source-oriented.

Alternative statement provided by health professionals:

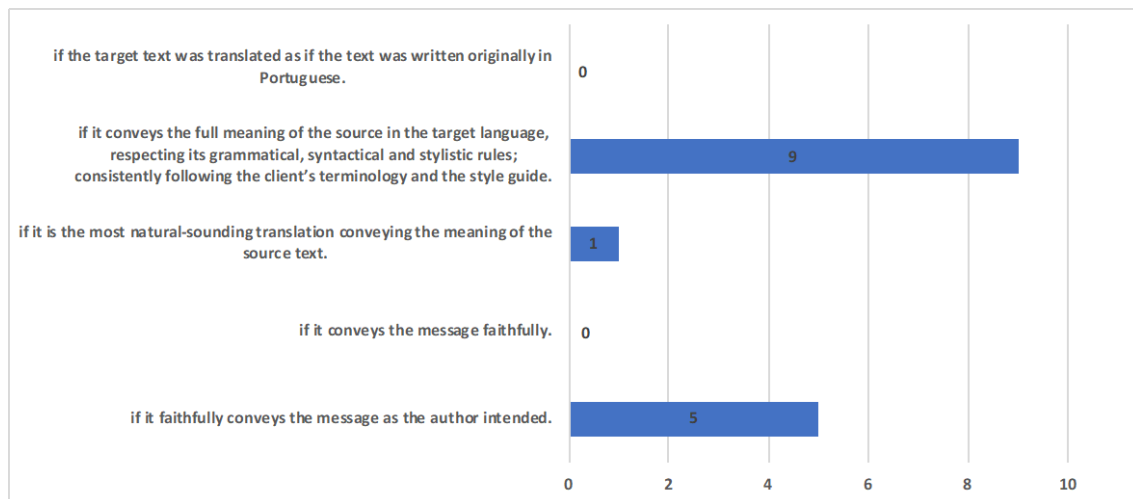
(a) Precauções: 1. Estancar hemorragias localizadas antes da aplicação do penso. 2. Não esticar a película durante a aplicação porque a tensão pode causar traumas na pele. (Bruno)

**Beliefs of readers about themselves: What the agents believe about what they themselves do, i.e., personal empirical beliefs**

**— How do you assess translations?**



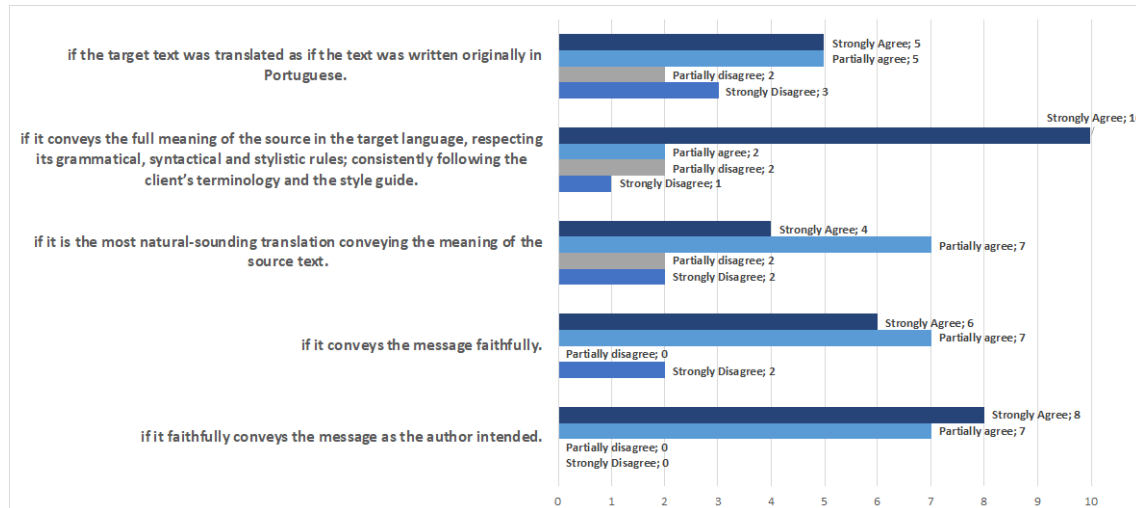
**— Please select from the following statements those statements that best describe how you actually assess translations. You can select more than one statement. You consider a translation appropriate:**





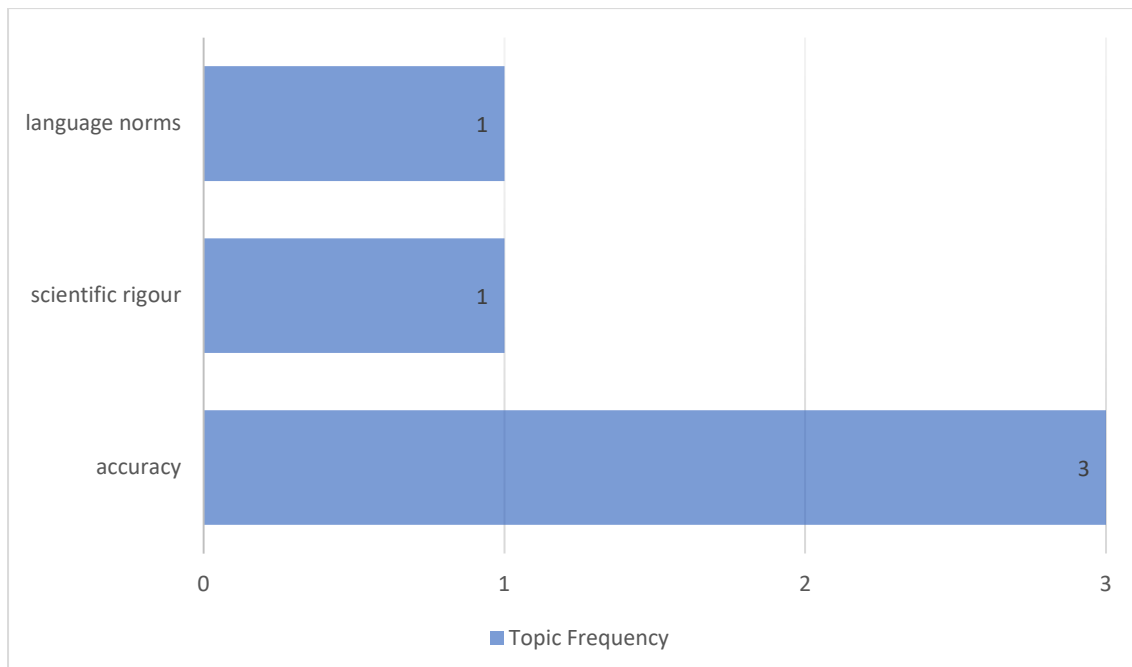
**Beliefs of readers about themselves: What the agents believe about what they themselves should do, i.e., personal normative beliefs**

— Below you will find a number of statements regarding how readers *should* assess translations in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement. You/other reviewers *should* consider a translation



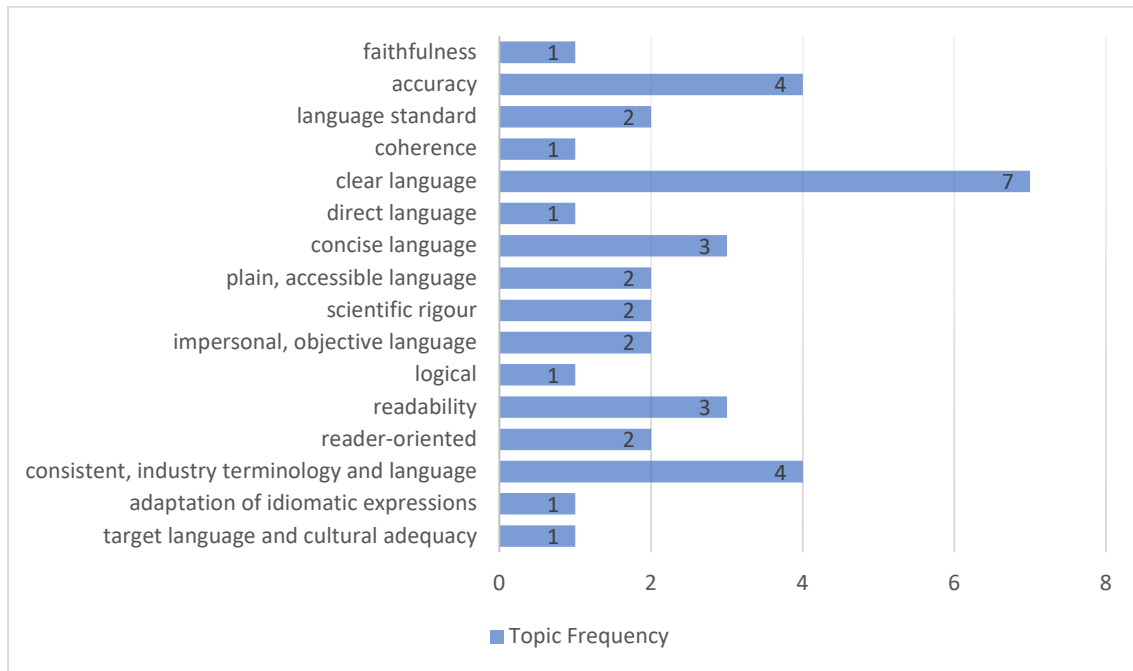
**Beliefs of readers about other readers' actions: what the agents believe about what readers do, i.e., empirical expectations**

— How do other health professionals assess translations?

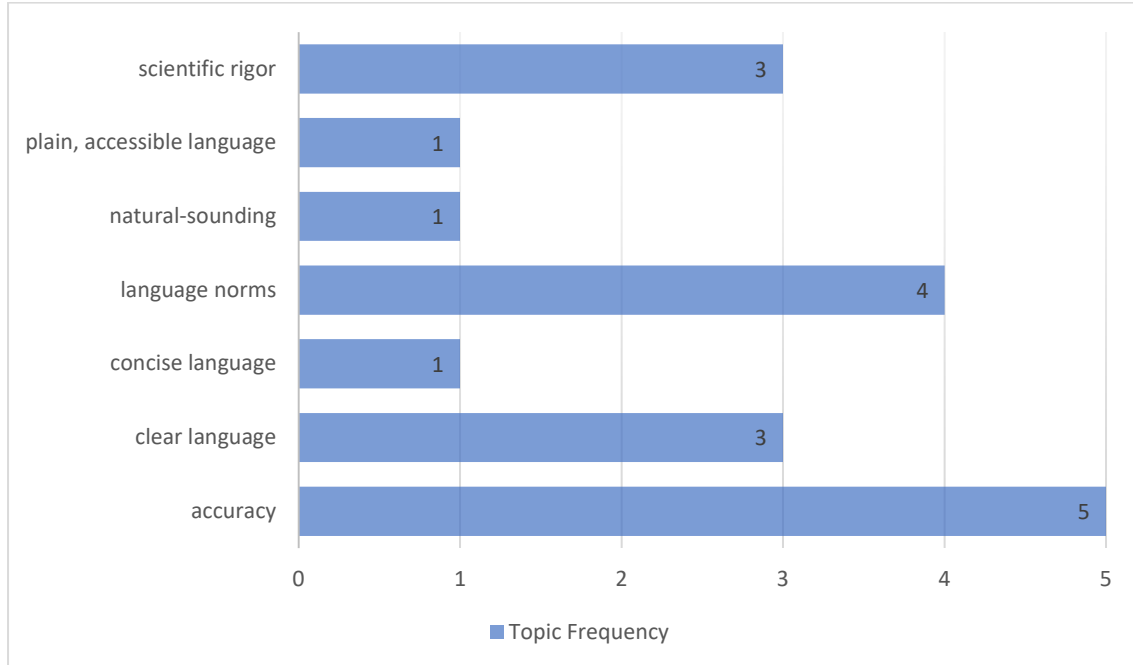


**Beliefs of readers about translators' actions: what the readers believe about what translators should do, i.e., normative attitudes**

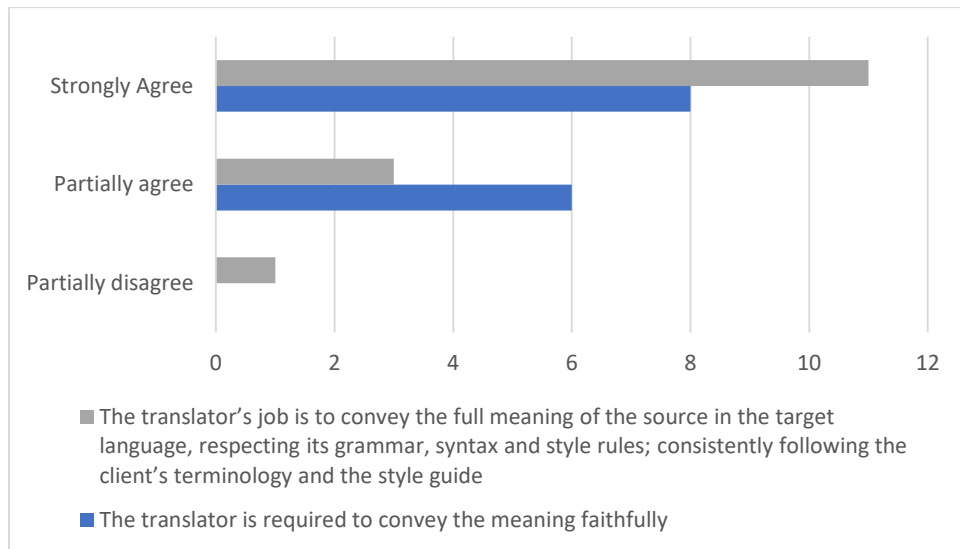
— In general, what are the essential characteristics of a good translation?



— In general, how do you think translators *should* translate?

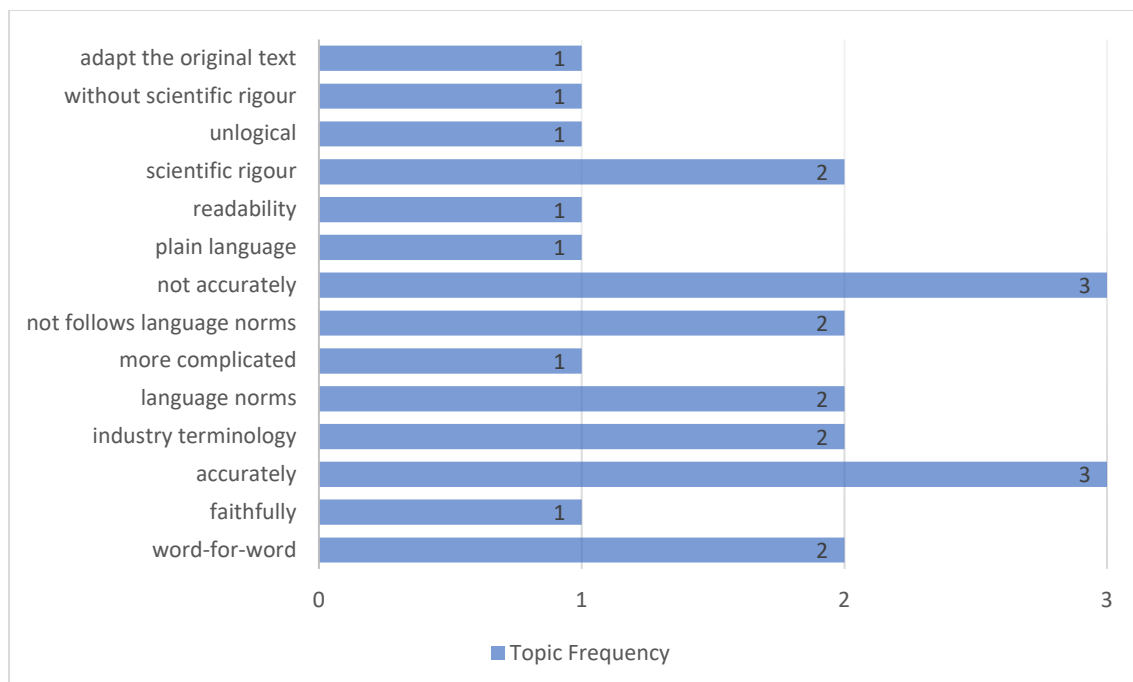


— Below you will find a number of statements regarding how translators should translate in general. Read each one and indicate to which extent you agree or disagree with each statement. Please assess each statement.



**Beliefs of reviewers about translators' actions: what the agents believe about what translators do, i.e., empirical expectations**

— In general, how do you think translators *actually* translate?



— Please select from the following statements those statements that best describe how translators *actually* translate. You can select more than one statement.

