

A study of the translation process through translators' interim products

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The Monitor Model (Tirkkonen-Condit, 2005; Tirkkonen-Condit, Mäkisalo, & Immonen, 2008) shows that, translations and translators are highly restricted by linguistic constraints of the source language in the course of the translation process. The translator's first attempt is to copy the syntactic pattern of the source text, i.e. to produce a literal translation, and then the translator immediately revises the emerging syntactic pattern so that the result is a participial pre-modification (ibid.). This assertion can potentially be applied to broader processes of translation, including its drafting and revision stages (cf. Jakobsen, 2002). This study will elucidate dynamic aspects of the translation process, by analyzing data obtained from an experiment with 4 translators. The detailed account of the interim process was made possible by the use of a computer screen recording technology. The result will demonstrate that the way target texts are formed is shaped by the order in the source language syntax and that translator's interim product that emerges in the drafting stage is also much more faithful to the source language.

1. Introduction

Translation is a norm-governed activity (Toury, 1995: 56), which inevitably involves at least two languages and two cultural traditions. A translator may yield either to the norms of the original text [...] or to those active in the target culture (ibid.). Thus, it is a task of the translators to make decisions about the target product, taking into consideration translational norms that may impose certain 'prescriptive' guidelines on themselves (Baker, 2001). However, the process of making these decisions is not monolithic; rather, the translator goes through several steps of interim decisions and negotiates potential norms to create the target product in a more dynamic manner.

It is no longer held that a finished translation is formed as 'sense' in the translator's mind, as described in the Interpretive Model presented by Seleskovitch (1986) and Lederer

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(1994/2003). In this model, the translators/interpreters detach themselves from the linguistic elements of the source texts and express the sense in the target language by means of a so-called 'de-verbalization' and 're-verbalization' of the sense. Some may argue that concepts of de-/re-verbalization were developed solely for theorizing the activity of (verbal) interpreting, thus not applicable to (written) translation activities. However, Lederer states that "Deverbalization may well be less obvious in translation than in consecutive interpreting but it is just as present. For interpreters and translators both, 'understanding' is arriving at a mental representation" (1994/2003: 13). Therefore, translation process is said to be accounted for by the Interpretive Model.

Among the critics (e.g. Newmark, 1981; Jensen, 1985; Toury, 1995; Mizuno, 1997/2004, and many others) of this radical model are Tirkkone-Condit, Makisalo, and Immonen (2008), who provide empirical evidence that refutes its claims. Their research shows that, in practice, translations and translators are highly restricted by linguistic constraints of the source language. In the translation process, the influence of the source text is monitored by the translator so that unnecessary literal or formal equivalents are omitted from its rendering in the target language (*ibid.*: 2). This hypothesis is referred to as the Monitor Model, as opposed to the Interpretive Model. It clearly shows that the translation process consists of layers of interim decisions made by the translator before reaching a final decision.

The Monitor Model focuses particularly on the immediate self-editing/monitoring of a relatively small unit of translation, such as a word or phrase. This assertion can potentially be applied to broader processes of translation, including its drafting and revision stages (cf. Jakobsen, 2002). If we look at changes in a product through the translator's interim decisions, we find that the translation and the translator's decision making-process contain a lot of interplay with interference from the source text.

This present study will elucidate various aspects of the translation process, focusing on the translator's production style and the changes made in interim decisions. The data from an experiment that involved 4 translators will be analyzed. The detailed account of the interpreting process was made possible by the use of a computer screen recording technology. The obtained result in turn will demonstrate that the way target texts are formed is highly shaped by the source language (word order), and that translator's interim product that emerges in the drafting stage is also much more faithful to the source language.

2. Defining translation process

The translation process, in a broader sense, is a series of translating activities involving three phases: pre-translation, translation, and post translation, according to Gouadec (2007: 12-3). Pre-translation includes anything that takes place up to the moment the translator actually receives the material for translation, and post-translation covers all activities that follow the delivery of the translated material (*ibid.*). Translation with which my study is concerned is the

one in the middle of the two phases, and which in turn is divided into three stages: 1. Pre-transfer, 2. Transfer, and 3. Post-transfer. Each stage corresponds to what Jakobsen (2002) calls: 1. Pre-drafting (start-up), 2. Drafting (writing phase), and 3. Post-drafting (revision phase), respectively. The first stage refers to all operations prior to the actual 'translating', including preparation of the material, pre-reading of the text, terminology searches to obtain key words in the source text, etc. The second, 'transfer' or 'drafting', is the core activity of translation, shifting to another language-culture combination. The third, revision phase, is related to editing and corrections that are to be made to meet the client's quality requirements.

In a traditional view of translation process, for example, in Vinay and Darbelnet's 'A methodology for translation' (1995), a number of strategies for text transfer are introduced to account for translation procedures. However, their view is problematic and not in line with my stance for two reasons. First of all, in Vinay and Darbelnet's view, only a 'drafting' phase is assumed to represent a whole translation process, and neither a start-up nor a revision stage is considered. The second reason is that their categories are only concerned with transferring procedures from the source language to the target language; no influence from the target text is taken into account. The translation methods in their list are, in fact, ordered hierarchically, starting at the top with 'borrowing', which may be described as the most literal translation (or 'direct' in their definition), and ending at the bottom with 'adaptation', free or 'oblique' translation (ibid.: 41). However, this ordering does not explain that the translators' strategy switches according to the change of transfer phase from drafting to the revision stage. In this regard, the scope covered in this present study is a wider range of the transfer process.

Although my study covers a broader span, it is not so much concerned with the 'translatorial' dimensions of the translation process, advocated by German Functionalists such as Verrmeer (1989/2000). In her view, 'process' should include all actions relevant to the discourse of translation. For instance, Skopos theorists may claim that the purpose of translation affects the translator's behavior as well as the translation product. Likewise, from Functionalist theorists' point of view, the translator's understanding of the job's instructions (from a translation company) is as critical as comprehending the source material. Those activities are called 'translatorial' actions, differentiated from translational. One could interpret these actions as the social aspects or macro-context of translation. There is certainly a close correlation between 'translatorial' actions and translation process/product, but not a lot of empirical research has yet been conducted to prove this point thus far. In my research experiment (to be discussed later), translatorial factors are treated as fixed variables, since the set-up simulates an instance of average localization business tasks, using authentic text, brief, and so forth.

3. Relevant literature

Some of the previous empirical studies involving interim decisions in the translation process

are reviewed in this section. First of all, Tirkkonen-Condit, Mäkisalo, and Immonen's research on detailed process (2008) is one incentive for my present study. Their research uses a keystroke logging technology called Translog, which was developed by Jakobsen and Schou (1999) for recording all keyboard activities and cursor or mouse movements in relation to time with an accuracy of 10 milliseconds. The registered data is saved in log files, which can be displayed and analyzed in various ways for research purposes. With the use of the software, Tirkkone-Condit's group investigated the detailed process at the re-verbalization stage of the translation process by looking at sequences of keystrokes input by translators. Their assumption was that, if the Interpretive Model was assumed, the Translog data would not manifest any "instances of revisions which turn a word or an expression from a literal or word-for-word version into a version which detaches itself from it" (ibid.: 3). The results show that literal-translation revisions occupy about 20% of all revision keystrokes (ibid.: 4), and the data exhibit that "the translator's first attempt is to copy the syntactic pattern of the source text, i.e. to produce a literal translation," and that "the translator immediately revises the emerging syntactic pattern so that the result is a participial pre-modification" (ibid.: 8)

Their study is closely related to researches on translation unit or segment, for which a translation equivalent in general is searched as well as which can be a cognitive unit processed in the translator's mind. Again using the Translog tool, Dragsted (2004, 2005) studied the average length of translation units, which are often strings of words marked by a pause of a certain length (i.e. 5 seconds or more (Jakobsen, 2003) or less (Dragsted, 2005)). She found that the translation unit consists most frequently of two or three words regardless of the translators' experience; however the professional translators process the same unit more quickly. Her finding was confirmed by Dimitrova (2006), who added that segments tend to get longer towards the end of the translation regardless of translation experience.

Immonen's study (2006) was also in the same vein. She compared the pause length in translation and monolingual text production. The results illustrate that pauses in translation are longer at locations such as word and clause boundaries, whereas pauses at the end of sentences and in-between paragraphs are longer in monolingual text production. The result is apparently in accord with the previous studies above. Translation, unlike monolingual writing, requires more cognitive attention to smaller linguistic units or segments.

This is also evident from a study of second language learning by Uzawa (1996), who analyzed the distribution of second language learners' attention during L1 (Japanese) and L2 (English) writing, comparing it with translation. Her results show that language learners pay more attention to language use (i.e. vocabularies, grammar) during translation than the L1 and L2 writing. A language learner's attention level to linguistic elements below a sentence is twice as high in the translation as in the L1 and L2 writing. This conclusion confirms Immomen's observation.

From these studies, we can draw a tentative generalization that a translator processes a

unit of normally 2 or 3 source words, renders a more literal or word-for-word translation, and then monitors and revises it immediately afterwards. The reason for such behavior has yet to be determined. One suggestion made by Englund Dimitrova (2005) (quoted in Tirkkonen-Condit, Mäkisalo, and Immonen, 2008) states “the literal translation is used as a strategy to expand the translator’s working memory (WM), while s/he is generating the target text.” This in turn leads us into an analogy from simultaneous interpretation tactics: FIFO, first in first out, which is also used to increase interpreters’ WM capacity under time pressure. Compared with interpreting, translation breaks loose from time restrictions; however, all translators’ time and capacity are inevitably limited in one way or another.

In addition to the translation unit and immediate revision procedures, one other interest of my study is time allocation during the process of translation. Again, according to Jakobsen (2002: 192-193), it is possible to divide the translation process into three specific phases: (1) the initial orientation phase, which is the time delay between the moment the source text is received and the moment when the subject produces the first character of the text; (2) the drafting phase, which is the duration of time from the first keystroke to the moment the final punctuation mark is typed for the first time; and (3) the final phase of revision and monitoring, which lasts from the end of the drafting until the subject considers the text to be ready.

Jakobsen’s division corresponds to Mossop’s classification of translators’ strategies (2001) that is based on Chandler’s writing style chart (1993), as illustrated below (Fig. 1).

Figure 1 Translation style (Mossop, 2001)

<i>Writing Strategy</i>	<i>Planning before drafting</i>	<i>Self-editing</i>
Architect	Major	Minimal, after drafting
Bricklayer	Major	Major, during drafting
Watercolorist	Minimal	Minimal, during drafting
Oil painter	Minimal	Major, during & after drafting

Mossop states that successful writers (not translators) who forestall writing errors think through their message carefully by planning ahead, as the ‘Architect’ and ‘Bricklayer’ strategies indicate in the matrix (ibid.: 3). In contrast, the ‘watercolourists’ and ‘oil painters’ are quite different; they tend to think by writing, so there is little planning, they simply start writing (ibid.).

Translators’ production style is in accord with the latter case, closer to the ‘watercolourists’ and ‘oil painters’. They just start translating with spending little time on planning in advance. Along with this, Jakobsen (2002) found that professional translators spent more time on the post-drafting phase, while introducing fewer changes, and also complete the drafting phase faster than novice translators. A similar finding was made by Asadi and Séguinot (2005) that some translators left most documentation (i.e. terminology

search) and revision work until the post-drafting phase, while others just monitored the translation during the last phase, but did not introduce any major changes. Immonen (2006) also pointed out that the revision and monitoring time was greater in translation than in monolingual text production and that less time was spent for ‘planning’ in both cases.

From these assertions, the translator’s production strategy in relation to time allocation corresponds to the ‘Water colorist’ and ‘Oil painter’ types in Mossop’s chart, where planning before drafting is minimized, and more focus is placed on revision and editing. Jensen (2000) adds to this characterization by claiming that under time-pressured environments, translators reduce their planning and problem-solving activities. To a certain degree, the professional translator’s environment is always a time-restricted setting, and this may explain why an expert translator is engaged in less planning with more focus on drafting and self-editing.

4. Research design

4.1 Hypotheses

Certain patterns and behaviors of translators in the translation process have been reviewed based on the findings of existing literature. In regard to the translation unit, a relatively small linguistic chunk is taken at a time and rendered rather literally with interferences from syntactic structures of the source language. Immediately after that, the segment is self-monitored and revised online. Repeating this procedure eventually forms a sentence and discourse, and then editing work is performed during either the drafting or the revision stage, depending on what types of production strategy the translator selects. Each stage leaves some kind of trace in the written text form as a translator’s interim decision. By screen-recording the entire translation process, the detailed production patterns and procedures are made available for analysis.

The main purpose of this study is to see whether these behaviors and strategic patterns are replicated in the translation from English into Japanese. My hypotheses are as follows: 1) literal translation or similar behavior is observed in the translators’ interim product, and 2) ‘Water colorist’ and ‘Oil painter’ types of production style are dominant in English to Japanese translation.

4.2 Experimental design

The research involved four Master’s student translators at the Monterey Institute of International Studies. They were asked to translate an approximately 200-word-long English text into Japanese. The provided text was authentic IT-related material, part of an Anti-virus software online help document. All of the subjects’ operations taking place on their PC screens were recorded using software called BB Flashback¹. It records searches of electronic resources, cursor movements and clicks, as well as the production of the translation. BB Flashback that is installed on each subject’s computer works in the background so that it does not affect the

subject's natural work environment². The recorded data were analyzed to trace the history of each translator's interim decisions in the target text production.

The experimental set-up was designed to reflect the translators' natural working environment. Subjects were allowed to use their own computers and permitted access to their usual reference materials, including the Internet, and translation-aided tools. Along with the source text, a work instruction (brief) was also prepared. It was the same as the one used for the actual practice. However, the subjects knew in advance that their translations would be used for my research project, and that the subjects had to work on the assignment in a classroom with other translators, so a certain degree of peer pressure or performance anxiety was unavoidable.

In addition, some may question why 'student' translators were used for this research. Although it might have been better if professional translators were used, it is debatable who to define as 'professional'. In Tirkkonen-Condit's research (1991) aiming at comparing the translation behavior of professional and non-professional translators, second-year students represented the 'professional translators'. According to Lörscher (1996), who compared the translation processes and strategies used by non-professionals and professionals, both have many features in common, and the mental processes of the two kinds of translators do not show any significant difference as far as their strategies are concerned. In my experiment, two subjects were second-year students, and one had more than 4 years of professional experience. It is safe to assume their skill level is near professional.

One advantage to having used student translators is that their subject-specific knowledge is almost on the equal level. Because the material chosen for the experiment was an IT-related topic, none of those translators is an expert in this field. Yet, they have been exposed to some extent of variety of subject matters. In this sense, they are not inexperienced in this topic either.

5. Results

5.1 Time distribution and translation style

We will first look at the amount of time it took each subject to complete the translation and the breakdown of the time spent for each stage in the process. On average, the four subjects spent a total time of 1:02.36 (1 hour 2 minutes and 36 seconds) for translating 211 words. Subject A finished the earliest in 55.12 (55 minutes and 12 seconds). The slowest was the translator B with 1:14.54. The average professional is said to translate about 2000 words per day; that is 250 words per hour. Compared to this figure, their overall speed attests to the subjects' satisfactory performance.

The total production time is divided into three phases – orientation, drafting, and revision – as detailed in the figure below.

Figure 2: Time distribution in three phases

Subject	Total	Orientation	Drafting	Revision
A	0:55:12	-	0:22:23	0:32:49
B	1:14:54	-	0:49:29	0:25:25
C	1:04:31	0:01:40	0:25:16	0:37:35
D	0:55:45	-	0:29:04	0:26:41
Average	1:02:36	0:01:40	0:31:33	0:30:37

As shown in this chart, the time spent on drafting and revision was almost equally distributed, with an average of 31.33 minutes for drafting vs. 30.37 for revision. Nearly 50% of the total production time was used for post-drafting revision. This ratio does not exactly match with Immonen's study (2006) result with drafting at 63% vs. revision at 24%. However, a general statement that translation requires more time for revision and less time for drafting (ibid.) seems applicable here, although our research did not compare the case with monolingual text production.

One unpredicted result was that almost no time was recorded for the orientation phase. Only subject C performed an approximately 2-minute scanning of the whole text before starting drafting. The remainders of the subjects did not show any activity for pre-drafting. This may be because, prior to the experiment, I allowed all of the subjects to briefly look at the material to ask questions about the task, although no questions were raised. Or another possible reason may be that those subjects with no recorded orientation time did not start the screen recording until they had completed their orientation. In either case, the duration of the time between the inquiry session and the actual start was less than 5 minutes; thus, it was safe to assume that the time used for the orientation phase was minimal.

When we look into each individual subject's distribution pattern, there are variations in time. In the case of subjects A and C, the revision time lasted approximately 1.5 times longer than the drafting time. An opposite outcome was found with subjects B and D. Translator D spent almost an equal amount of time for both drafting and revision. Amongst all, subject B's pattern was distinguishable for the drafting time being double that of the revision. These differences were interpreted to represent translators' work style, as discussed in Mosopp's chart. Since subjects A and C spent the majority of the time on revision, they belong to the 'Oil painter' category, in that the translator put equal emphasis on both drafting and editing. On the other hand, the pattern of subject B corresponds to the 'Water colorist' with minimal self-editing; the subject focuses on 'drafting' rather than 'post-editing'. Translator D can be said to fall in-between the two scenarios. However, these observations are based solely on respective time allocation. We need to look into more qualitative data of the product before

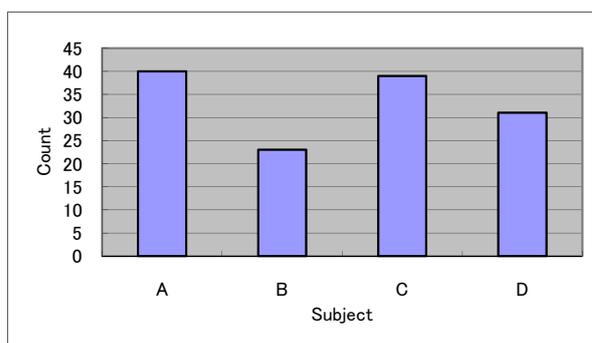
reaching conclusions.

5. 2 Interim decision; transitions from drafting to revision.

In the next two sections, we are going to examine the products, and more precisely how the products change throughout the process. Translators make interim decisions and self-edit the product in the course of translation process, and editing is performed either in the middle of the drafting phase or in the revision stage. Our interest here is to find out the correlation between the time distribution and number of corrections introduced during each phase. I hypothesize that the 'Oil painter' group (subjects A and C) would introduce the largest number of modifications because their revision time was longest, whereas the 'Water colorist' (subject B) with minimal editing time would make the least number of revisions.

For this analysis, I compared the interim version of the product and the final version, and counted the number of revisions (different portions of text) they made. The interim version was obtained from the screen-recording movie. It was a tentative draft that emerged right after the subject finished drafting the whole target text and right before moving onto the revision stage. Using a text comparison tool, the interim draft and the final product were compared. The tool highlights different portions of text in red. The way to identify the differences is rather subjective and perceptual, without basing on any categorization rule for types of changes. Thus, any degree of grammatical or syntactic shift or significance is not considered. The counted number is valid only for the sake of making a qualitative comparison for this particular study. A summary of the results is shown in the chart.

Figure3: Count of revisions made in the revision phase



The overall results conformed to our prediction. Translators A and C, the 'Oil painters', changed their completed drafts the most, making about 40 changes during the revision phase. In a similar manner, subject B, the 'Water colorist' with minimal editing time in the revision stage shows the least number of changes, 23, and again subject D's count was in-between the two. It is evident from these results that the number of revisions made is proportional to the time spent in the revision phase.

This outcome may be just stating the obvious, but one study (Hansen, 2002) alleges that

the more time spent on revision, the worse the quality of the translation becomes. Although quality³ is not the main focus in this study, the result of this experiment implies that longer revision time produces more modifications. From a pedagogical standpoint, there is room left for further investigation to find out what the best ratio of drafting and revision time is for producing quality translation.

5. 3 Types of revisions

In terms of types of revisions the translators made, we find differences among the same-grouped translators. As seen above, subjects A and C are categorized as ‘Oil painters’ in regard to both their distributions of time and their numbers of revisions; however, the types of corrections they made were dissimilar.

Sample sentences extracted from screen-recording data in the figure below show transitions of the product from the interim to the final versions in the cases of subjects A and C. Shaded areas indicate changes of word, terminology or noun phrase. Portions marked in the box stand for changes such as function words and cohesive devices that have to do with the flow of text. Corresponding numbers indicate the areas modified in the revision phase. An English back-translation is also provided for non-Japanese speakers.

Figure 4: Types of revisions in comparison

Source text

The Internet Security is an essentially new approach to data security.

The program's main feature is that it unites and noticeably improves the existing features of all the company's products in one protection solution.

The program ensures not only anti-virus protection but protection from spam and hacker attacks.

Subject A

Interim draft	Final product
<p>プログラムの主な feature は(1)当社の既存の products(2)全てを unite(3)し、その feature(4)顕著に向上させ、(5)一つの protection(6)ソリューションすること(7)です。</p> <p>Program's main feature is(1) to unites(3) our company's existing products(2) to(5) noticeably improve the feature(4), and to(7) make it one protection (6) solution.</p> <p>このプログラムにより、ウイルスに対する(8)保護のみならず、spam(9)やハッカーから(10)保護が(11)得られます。</p> <p>With this program, not only protection against (8) virus, but also(11) protection from(10) spam(9) and hacker can be obtained.</p> <p>新しいモジュールはユーザーを未知の脅威、フィッシング、悪意(12)ある行為(activity masks)(13)から保護します。</p> <p>New modules protect users from unknown threats, phishing, malicious(12) activity masks (activity masks to be confirmed(13)).</p>	<p>プログラムの主な特徴は(1)、当社の既存の製品(2)全てを統合(3)し、その特徴(4)を顕著に向上させて(5)一つの保護(6)ソリューションにしていること(7)です。</p> <p>Program's main feature is(1) to unites(3) our company's existing products(2) and(5) noticeably improves the feature(4), making(7) it one protection (6) solution.</p> <p>このプログラムにより、対(8)ウイルス保護のみならず、スパム(9)やハッカーからの(10)保護も(11)得られます。</p> <p>With this program, not only anti (8)-virus protection, but protection from(10) spam(9) and hacker also(11) can be obtained.</p> <p>新しいモジュールはユーザーを未知の脅威、フィッシング、悪意の(12)ある行為(13)から保護します。</p> <p>New modules protect users from unknown threats, phishing, malicious(12) activity masks (13)..</p>

Subject C

Interim draft	Final product
<p>このプログラムの(1)主な特徴は、会社のすべての既存製品の★★(2)を一つ(3)のデータ保護ソリューションとして統合し、全体的に(4)飛躍的に改善させることに(5)あります。</p> <p>This program's(1) main feature is that it(5) unites and totally, noticeably(4) improves the existing ★★(2) of all the company's products in one protection solution.</p> <p>当プログラムは、(6)ウイルスのみならず、(7)スパムやハッキングによる攻撃などからもコンピュータを保護します。(8)</p> <p>This program(6) protects the computer from not only(7) virus but also spam and attacks by hacking.</p> <p>また(9)新モジュールが、未知の攻撃の恐れ(10)やフィッシング、悪意ある隠れたアクティビティからユーザーを守ります。</p> <p>Also(9), new modules protect users from unknown attack threats(10), phishing, and malicious-masked activity.</p>	<p>その(1)主な特徴は、会社のすべての既存製品の機能(2)をひとつ(3)のデータ保護ソリューションとして統合し、飛躍的に(4)改善させることに(5)あります。</p> <p>Its(1) main feature is that it(5) unites and noticeably(4) improves the existing features(2) of all the company's products in one protection solution.</p> <p>(6)ウイルスのみならず(7)スパムやハッキングによる攻撃などからもコンピュータを保護し、(8)(9)新モジュールが、未知の攻撃の可能性(10)やフィッシング、悪意のある隠れたアクティビティからユーザーを守ります。</p> <p>---(6) protects the computer from not only(7) virus but also spam and attacks by hacking, and(8)(9), new modules protect users from unknown attack possibility(10), phishing, and malicious-masked activity.</p>

During the drafting phase, subject A left a number of words untranslated, choosing to keep certain English words in the target text as they were. It seemed that translator A concentrated on forming target sentences with the aim of grasping overall meaning, rather than spending a lot of time looking up terminology. Thus, once she entered the revision phase, her focus was placed on word search. As a result, most of the corrections made in the revision stage were word replacement, while the sentence structure remained unchanged.

In comparison, translator C introduced many changes to the target text flow and 'discourse'. Although some unknown word searches were performed like subject A, the majority of the corrections were associated with the flow of text. For instance, the first phrase "This program's main feature" was replaced with "Its main feature". In the second sentence, the "This program" that appeared in the interim version was omitted in the final product. And most noticeably, the second and third sentences were jointed together into one sentence. Perhaps subject C was concerned about the difference in discourse structure between English and Japanese; somehow, repeating the same subject, "program," in consecutive sentences was unnecessary, rendering weakened cohesiveness in Japanese text.

Supposedly, translator C intended to improve the readability and enhance cohesive ties in the target text. In other words, subject C had already established her own 'translational norm' to apply to target renditions so that the final product would become more 'acceptable' for the target culture's audience. However, as far as word-for-word equivalence between the source and the target text is concerned, those omissions and sentence mergers reduce the accuracy of the translation to the source language. This discussion between 'literal' vs. 'free', 'adequate' vs. 'acceptable' etc. is an old debate in translation studies. Yet, a point to be noted here is the fact that such manipulation (i.e. making the text more 'acceptable') was

implemented only during the revision phase, and not in the drafting stage. That is to say, the first interim product looked much closer to ‘literal translation’ at the beginning, and then turned into a more acceptable translation in a later stage. This evidence suggests that translation is not produced with re-verbalization of the de-verbalized ‘sense’, but through changes of tentative decisions on linguistic elements. In fact, the translation product transmutes itself from ‘literal’ into ‘free’ as proceeding from the drafting to the revision phase. There is a possibility that translator’s cognitive process also moves in accord with this processing flow.

5. 4 Sentence forming procedures

Thus far we have compared the interim version of the product that emerged at the end of the drafting phase and the final version after the revision phase. In this last section, we are going to look closely at how each sentence is constructed on the level of a translation unit or segment during the draft phase. The description of those steps will in turn prove my first assertion that literal translation or similar behavior is observed in the translators’ interim product.

Each step is divided by a) a relatively a long pause (5 seconds or longer), or b) a cursor movement or c) a deletion key input (excluding typing error deletion). Underlined segments indicate newly added segment(s) from the previous step. English back translation is provided for the purpose of understanding the stages in which the sentences were formed. The examples that follow are only from subjects A and C, but similar steps were observed with all of the translators.

Figure 5: Sample steps of target sentence forming

Source text: Sentence 1

The Internet Security Setup Wizard starts at the end of program installation.

Subject A: Sentence 1

Step 1	Internet Security セットアップウィザード (Internet Security Setup Wizard)
Step 2	Internet Security セットアップウィザードはプログラムインストールの終わりに (Internet Security Setup Wizard is, at the end of program installation.)
Step 3	Internet Security セットアップウィザードはプログラムインストールの終わりに開始されます。 (Internet Security Setup Wizard is, at the end of program installation, started.)

Subject C: Sentence 1

Step 1	インターネットセキュリティの (Internet Security’s)
Step 2	インターネットセキュリティのセットアップウィザードは (Internet Security’s Setup Wizard is)
Step 3	プログラムのインターネットセキュリティのセットアップウィザード (program’s Internet Security’s Setup Wizard)
Step 4	プログラムのインストール後に、インターネットセキュリティのセットアップウィザード (At the end of program’s installation, Internet Security’s Setup Wizard)
Step 5	プログラムのインストール後に、インターネットセキュリティのセットアップウィザード が起動します。 (At the end of program’s installation, Internet Security’s Setup Wizard starts)
Step 6	プログラムのインストール後、インターネットセキュリティのセットアップウィザードが起動します。 (At the end of program’s installation, Internet Security’s Setup Wizard starts)

Subject A: Sentence 2

Step 1	このタスクは、最初のコンフィギュレーション (This task is the initial configuration)
Step 2	このタスクは、最初のアプリケーションパラメータのコンフィギュレーション (This task is the initial application parameter's configuration)
Step 3	このタスクは、自身の最初のアプリケーションパラメータのコンフィギュレーション (This task is <u>your</u> the initial application parameter's configuration)
Step 4	このタスクは、コンピュータの最初のアプリケーションパラメータのコンフィギュレーション (This task is <u>the computer's</u> the initial application parameter's configuration)
Step 5	このタスクは、コンピュータのタスクと feature に基づいて最初のアプリケーションパラメータのコンフィギュレーション (This task is, <u>based on</u> computer's task and feature, the initial application parameter's configuration)
Step 6	このタスクは、コンピュータのタスクと feature に基づいて最初のアプリケーションパラメータのコンフィギュレーションを行うことです。 (This task is, on a basis of computer's task and feature, <u>to perform</u> the initial application parameter's configuration)

Subject C: Sentence 2

Step 1	初期設定 (initial configuration)
Step 2	アプリケーション初期設定 (application initial configuration)
Step 3	アプリケーションのパラメータの初期設定 (application's parameter initial configuration)
Step 4	ユーザーアプリケーションのパラメータの初期設定 (user application's parameter initial configuration)
Step 5	コンピュータの特定のアプリケーションのパラメータの初期設定 (computer's specific application's parameter initial configuration)
Step 6	コンピュータの特定のプログラム (特徴?不フィーチャ) やタスクに基づき、パラメータの初期設定 (based on computer's specific application's (feature?) and task, parameter initial configuration)
Step 7	コンピュータの特定のプログラム (特徴?不フィーチャ) やタスクに基づき、パラメータの初期設定を行う (based on computer's specific application's (feature?) and task, parameter initial configuration is performed)
Step 8	コンピュータの特定のプログラム (特徴?不フィーチャ) やタスクに基づき、パラメータの初期設定を行う際のサポートがその趣旨 (based on computer's specific application's (feature?) and task, parameter initial configuration is performed <u>with support as intended</u> .)
Step 9	コンピュータの特定のプログラム (特徴?フィーチャ) やタスクに基づき、パラメータの初期設定を行う際のサポートがその目的です。 (based on computer's specific application's (feature?) and task, parameter initial configuration is performed <u>with support as its task</u> .)

When looking at these steps of the translation product formation, we find a general pattern of the sentence forming order; a target product (sentence) is not constructed linearly but rather follows the order of the source text syntax – that is, the order in which a translator comprehends the source sentence. It is traditionally said that translators translate sentence by sentence (Séguinot, 1990), but it is not true. Translators actually take a certain chunk of words as a working segment and translate segment by segment as they comprehend the source text in its syntactic order.

For instance, let us take a look at the first sentence from subject A. In Step 1, a chunk of “Internet Security Setup Wizard” was translated as typed on screen. At this point, subject A already mentally processed up to “Internet Security Setup Wizard starts”. This may be the translator’s presumed working segment. Then subject A was faced with the following segment, “at the end of program installation”, paused for a moment, and retained the word “starts” in mind (or in WV) until he or she produced the translation of the new segment (Step 2). Finally, in Step 3, the translation of the retained word, “starts”, was produced. It is noted here that the

FIFO strategy was used in this case so that the target sentence forming order became almost linear. In other words, the forming order was shaped strictly by the source text syntax.

In the case of subject C, the relationship between the target sentence forming order and the source language syntax was more vivid. When subject C tackled the segment, “at the end of program installation” (Step 2), the translator moved the cursor to the beginning of the target sentence, the location at which the translation of the segment was to be inserted. Because Japanese syntax is different from that of English (i.e. SOV vs. SVO), it is sometimes successful if one translates backward from the end of an English sentence, although the effectiveness of this method is still under debate⁴. Subject C then typed the translation of the given segment at the selected location (Step 4), and afterwards, returned the cursor to the end of sentence. There, the subject typed the retained word, “starts” (Step5). In this example, it is obvious that the target sentence was not formed in a linear way from the sentence’s beginning.

One additional remark to be addressed is the difference in the number of steps each subject required. Subject A took 3 steps and 6 steps for the first and the second sentence, respectively, whereas subject B went through 5 steps and 9 steps. This difference can be attributed to the length of the working segment or translation unit chosen by each translator. Translator C paused more often and performed more terminology searches, probably because the subject was unfamiliar with the specialized terminology of the subject matter. According to Dragsted (2004), the length of the translation unit decreases as the level of difficulty of text increases. This assertion is applicable in this case.

In sum, the fact that the target sentence is actually formed in the source text syntactic order has been clarified from those examples. In some cases, once translators type a segment, they self-monitor the chunk on screen, and then revise it immediately (see steps 3 and 4 of the second sentence in subject A, in that a word “your” as in “your computer” was first rendered, but immediately deleted in the following step, because it sounded unnatural to use “your” in Japanese language in this context). In these examples, we can conclude that the interim product and translators’ behavior are highly restricted by linguistic elements of the source language during the drafting both on the segment and sentence level. Then, when translators move on to the revision phase, they will be somewhat released from the source text constraints, and focus either on terminology searches or on the flow of translated text. Those operations occurred during the revision stage are associated more with the target discourse; the aim is to make it more ‘acceptable’ to the target culture and norms.

6. Concluding remarks and further study.

This paper has revealed the fact that the process of translation is not monolithic nor in harmony with the Interpretive model where the translator de-verbalizes the text and re-expresses it all at once by means of re-verbalization. Rather, in conformity with the Monitor model, the production process proceeds segment by segment, guided by the source language

syntactic order. For this reason, renditions that are produced during the drafting phase seem, overall, closer to literal translation. And then, the production stage is shifted to the revision phase, the translator's focus is placed more on beyond-sentence level or discourse. As a result of textual manipulation in this phase, the product becomes 'free' translation (free from the source text constraints). Although the behavioral patterns may vary depending on the text type or genre of the source text (i.e. literary text might require for translators more time to scan the text during pre-drafting phase), a certain extent of generalization can be made out of this study result. Also thanks to screen recording technology, recording this entire dynamics in change of process is made possible. With that, we are able to capture all of the detailed translating activities.

One question that remains untouched, however, is the reasons for these behaviors. With reference to translators' pattern, as described in the Monitor Model, for which they type a small chunk of translation on screen before self-monitoring it, Asadi and Séguinot (2005) attributes this to translators' production style and strategy. They refer to this type of style as 'Translating On-screen', as opposed to 'Prospective Thinking'. The 'Translating On-screen' type of translator works on translation as they type interim decisions on screen. In contrast, 'Prospective Thinking' type of translator thinks before typing. Interestingly, Asadi and Séguinot point out that "prospective thinking" styles were formed during a pre-computer era. Historically, translators using a typewriter were forced to translate first mentally, taking in large chunks of text and reading ahead for comprehension before beginning to type (ibid.). In the computer era, translators think after typing, making use of online revision as a shortcut, which gives them the ability to produce text segments quickly and make changes as they go (ibid.: 531). Once the operation becomes an automated skill as a shortcut, it may bypass the short-term memory (cf. Ericsson & Simon, 1980), which in turn reduces cognitive load. This is only one piece of evidence that accounts for those activities. Further investigation needs to be conducted for full explanation on the cause of behaviors.

It is also interesting to see how development of technology shapes translators' behavior. Because in recent years, it is becoming very common to make use of computer-aided translation and translation memory system in the actual practice, the effect of those tools on the translation process is also another area of study that needs to be addressed.

In conclusion, a finding from this present study may help us get back on the right track or redefine the answer to basic questions: what is translation, what makes (inter-lingual) translation different from monolingual communication, and ultimately, what kind of 'translation' should Translation Studies (TS) deal with? Since the 'Cultural Turn'⁵, the scope of research focus has been taken somewhat too broadly, including 'cultural translation', that uses the term 'translation' only metaphorically without any reference to finite text (e.g. Bhabha, 1994/2004). Although I am not in a position to claim what is right or wrong nor do I insist that TS restore another 'Linguistic Re-turn', yet the result of this study indicates that the

relatively high level of linguistic restrictions are incurred in the process of translating, and that is undoubtedly a particular feature that ‘translation does not share with non-translational case (i.e. normal communication)’ (cf. Malmkjær, 2000). That is why study of translation process is interesting and also in need of further investigation.

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Notes

1. BB Flashback is a product of Blueberry Software. The Advantage of the screen recorder over existing methods such as Translog is its capability of capturing all actions and operations on computer screen, including not only key logging but also the Web search and folder navigations, etc. Translog can only record keyboard inputs. In order to type Japanese characters, a dedicated input method softwar (i.e. IME) is required. With it, we first need to type alphabetical characters to get Japanese syllabic scripts, and then convert it into Chinese characters if needed. Considering these consecutive typing steps, it is doubtful about how accurately Translog’s data can serve the purpose. In addition, my research focus is beyond key logging. In this regard the screen recording technology is advantageous.
2. Asadi and Séguinot’s research (2005) used both the screen recording and Think-aloud (TA) protocol. However, TA is said to delay the translation process by about 25%, and have significant effect on segmentation (Jakobsen, 2002). Because my study aimed at creating a natural work environment for subjects, TA was not considered as an option.
3. Quality of translation is not easy to define and a debatable topic, too. At the point of this research, I did not take this aspect into consideration. This should be incorporated into my forthcoming research because quality is a potential variable that affects on the translation process. Speaking for the sake of this paper on the basis of my own judgment, the product quality of the translations submitted by four translators was evenly near the professional level. None of their products was significantly better than another. Hence, it is fair to say that the ‘quality’ factor was a minimal variable in this particular experiment.
4. For discussion in detail, see Tamaki (2004), Tanabe (2007), and Mizuno (2008).
5. Cf. Mary Snell-Hornby (2006)

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