A Comparison of Task Management and Lexical Search Mechanisms in Novice and Professional Translators/Interpreters

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There is a fair amount of evidence available from past studies on the way language and translation students', i.e. 'novice translators' handle the task of translation. The paper first examines this evidence in an attempt to summarise typical novice-translator behaviours in managing a translation task and lexical searches. We then present the results of a qualitative analysis of two professional translators/interpreters, who were subjects in a think-aloud study of 14 subjects in 2002 focusing on the way they manage lexical searches during a translation task as well as the time and manner of processing the source language text and target language text. Finally, the performance of the two professionals is compared with the performance of novice translators with the aim of identifying differences that might be responsible for higher speed and quality of target text output by professionals.

1. Task management and lexical search mechanisms in 'novice translators'

1.1 Time management

Following Jakobsen (2002: 192-193) we will divide the translation process into three phases: (1) **orientation**—time between the moment the source text is seen by the translator and the moment s/he starts writing the first version of the target text; (2) **drafting**—until the final word of the first version of the target text is produced; and (3) **revision**—until final revision of the target text is completed. We will now examine how novice translators manage the orientation and drafting phases of a translation task on the basis of available evidence.

Kiraly (1995) found that all of his subjects "read through the entire source text before beginning to translate. (…) Only four of the subjects verbalized a translation expectation

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structure at the beginning of the task. Several subjects identified particular translation problems after the first reading, but none looked up any words in the dictionary before beginning to translate, and none produced tentative translation solutions to problem units before initiating the translation with the first source text unit" (Kiraly 1995: 87). This is confirmed by Jensen's (1999) and Jakobsen's results. Jensen found that "All informants read the source text before beginning to translate. However, no pattern could be found as to how much time was spent on reading before they started translating. This varied from 2-5 minutes." (Jensen 1999: 111). Jakobsen confirms that "(…) the group of student translators (…) devoted between 1% and 3% of their total production time to the initial orientation phase, the average being 1.7%. Between 73% and 85% was allocated to the drafting phase." (Jakobsen 2002: 193-194).

1.2 Progression through text in the drafting phase

Two of the above mentioned studies looked at the way novice translators progressed through the text in the drafting phase. Both Kiraly and Jensen found that "The subjects progressed through the text in a basically linear fashion, producing translation solutions to individual elements as they appeared sequentially in the text." (Kiraly 1995: 87-88).

1.3 Lexical search mechanisms

1.3.1 Frequent Lexis Store

Every translator and interpreter has a fair amount of linguistic knowledge in at least two working languages, including lexical knowledge. Some of this lexical knowledge and links between lexical items of the two languages is available for immediate access in what Bell calls a Frequent Lexis Store (FLS) which is a kind of "(...) mental (psycholinguistic) correlate to the physical glossary or terminology database, i.e., an instant look-up facility for lexical items both words and idioms." (Bell 1991: 47). This lexical knowledge covers a core of most frequently used general vocabulary and, depending on experience, one or more areas in which a translator or an interpreter specialises.

One would expect a much more diversified and richer content in a professional translator's/interpreter's FLS than in novice translators. And, indeed, a vocabulary test we administered to our subjects demonstrated that, on the average, novice translators had less than half the FLS content than experienced professional subjects and, as a result, novice translators needed approximately twice as many dictionary consultations than the professionals. (cf Ronowicz et al. forthcoming). This is confirmed indirectly by Jensen (1999:113) reporting 45 dictionary consultations in novices as opposed to 18 by expert translators working on the same text.

1.3.2 Lexical search strategies

Unfortunately, the fact that novice translators consult dictionaries more frequently than professional translators, does not necessarily lead to good solutions as evidence collected by researchers seems to indicate. Krings (1986:270) reports that most of his student subjects "immediately made use of dictionaries when they encountered lexical items they didn't know." As for decision-making strategies Krings says "the subjects tended to resort to specific types of decision-making strategies that might be labelled 'translation principles'. (…) They are reducible to imperatives such as: '**If all competing potential equivalents turn out to be equally appropriate or inappropriate, take the most literal one!'** or alternatively: **'Take the shortest one!'** A further principle is concerned with reference books stating: **'If all equivalents concerned are in the dictionary, take the one that precedes the others!'** " (Krings 1986: 273).

The use of principles like those mentioned above provides a good explanation why Livbjerg and Mees (1999 and 2002) concluded that even though novice translators use dictionaries more frequently than professionals, they do not make good use of them as "for 98 cases out of 121, the solution chosen was not changed by the dictionaries (81%)." (Livbjerg and Mees 2002: 162). Jääskeläinen summarises novice translators' strategies rather well: "Genuine novices in translation problematise relatively little. As a result, they translate quickly and effortlessly (and perhaps wrongly, depending on the difficulty of the task), i.e. novices are blissfully unaware of their ignorance." (Jääskeläinen 1996: 67). As the results of our analysis of professional translators/ interpreters demonstrates, this is not the case with professionals translators/interpreters.

2. Experimental design

2.1 Think-aloud protocol methodology

There are a number of publications discussing think-aloud methodology, its advantages and shortcomings, in great detail (for theoretical foundations of the method, see Ericsson and Simon 1984 (rev. 1993), for discussion and criticism, see Toury 1991, Jääskeläinen 2000 and Bernardini 2001, Ronowicz et. al. forthcoming). The method is one of several introspective techniques aiming at tapping the translator's mind while s/he is at work. This is done by asking subjects to verbalise everything that comes to their mind while performing a translation task—hence the name of the technique—think aloud. The whole session is recorded, usually both audio and video, and transcribed in the form of a protocol, which is then analysed by the researcher assisted by the video that shows the translator's behaviours and can assist in explaining both the verbalisations and moments of silence (e.g., when the subject is checking a dictionary or writing the target text).

2.2 The subjects

The two subjects are professional translators/interpreters, one Japanese (PJ), one Korean (PK), both very experienced—16 and 17 years experience respectively, and accredited to translate and interpret both ways: from and into English. However, PK holds a higher level of accreditation (conference interpreting) and interprets more regularly and at the highest level (including international conferences, state leaders, business meeetings) in and out of Australia. PJ has a full-time job involving, among others, translation from Japanese into English and, as a result, interprets less frequently and mainly within Australia.

2.3 Vocabulary pre-test

A short vocabulary test was administered to the subjects before they saw the text to be translated, in which they were shown 40 words taken from the text. The words were displayed in a random sequence on a computer screen for seven seconds each. The subjects were asked to read out each word aloud and write down its translation into Japanese/Korean while it was on the screen. Our third semester students, who were co-investigators in the project, identified 20 words from the text as potential translation problems; the problem words were then mixed with 20 easier words (see Appendix 1, p. 33) The vocabulary pre-test was designed to find out if our subjects had those potential problem words readily available for immediate use to assist us in understanding better the nature of their processing during translation.

2.4 The task

The subjects were asked to translate a 377 words long economic text taken from *The Economist* (see Appendix 2, pp. 33-34) and verbalise all their thoughts while translating. After the vocabulary pre-test, a demonstration video and a short explanation subjects were given a 10 minute practice session to get them used to the task and the environment, followed by test proper, in which they were given a maximum of 90 minutes to translate the text. The whole session was audio- and video-taped.

2.5 References available

As required by the think-aloud methodology, we tested our subjects in an environment which was as close as possible to their normal working environment; that is, a collection of dictionaries was available on the desk for their use:

- Japanese subject: 9 dictionaries ranging from small to large: *Shogakukan's Trend: Dictionary of Current Terms* (Japanese-English), *Kenkyusha's Reader's* (English-Japanese), *Kenkyusha's Shin-eiwa-chuu-jiten* (English-Japanese), *Shunjusha's New Dictionary of Economic and Business Terms* (English-Japanese), *Sanseido's Shinmeikai-kokugo-jiten* (Japanese-Japanese), *Kokuminsha's Gendaiyougo-no-kisochishiki: Encyclopedia of Contemporary Words 2002 and Kadokawa's New Thesaurus* (Japanese-Japanese), *Oxford English Dictionary* (English-English) and *Cobuild Dictionary* (English-English).
- Korean subject: 8 dictionaries: *New Oxford English Dictionary*, *Collins Cobuild English Dictionary*, *2002 Economics New Word Dictionary*, *Minjung's Essence Korean-English Dictionary*, *Minjung's Essence English-Korean Dictionary, Minjung's Essence Korean Dictionary, Dictionary of Business Terms* (Korean version), *Prime English-Korean Dictionary.*

3. The results

3.1 Results of the vocabulary pre-test

Both the professional subjects scored extremely well in the vocabulary pre-test. PJ got all the 40 words right, PK got 39 right in the pre-test and did not provide a translation for one. In other words, unlike student subjects in the larger study (the range for new students, last semester students and young, inexperienced professionals was from 7 to 30 correct answers), both our subjects had all or all but one of the potential problem words readily available **before they saw the text**. This difference has significantly influenced work in both the orientation and drafting phases of the process as will be shown below.

3.2 Management of the orientation and drafting phases of the task

Both our professional subjects read or scanned the whole text, which took them approximately three minutes. Due to the fact that they scored extremely well in the vocabulary test, one can assume they reached general comprehension of the content of the text as a whole by the end of this silent reading period. In other words, once the first reading of the text was accomplished, our subjects were processing smaller chunks of the text **within the context of the whole text.** We have marked this in the diagrams below by wrapping the context of the text as a whole around each activity undertaken by the translator like this: **{ }**

The two professional translators then proceeded to analyse the text by sight-translating and identifying and researching problematic parts of it, with one difference between them. PJ worked paragraph by paragraph (four in all) following exactly the same pattern: sight-translation of the paragraph and lexical searches followed by linear translation of the paragraph in question. He completed the whole task in 80 minutes.

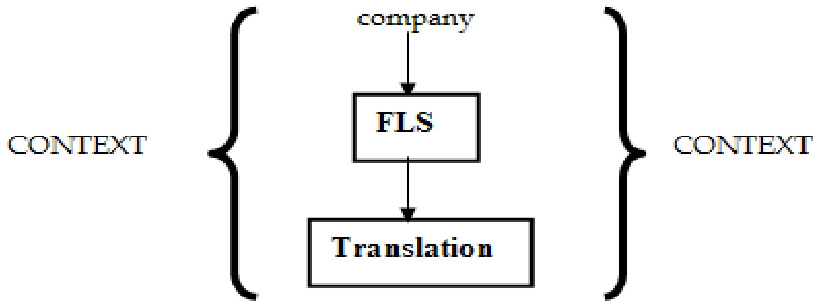
PK on the other hand, began by sight-translating the whole text, also marking potential problems, but then she spent about 20 minutes deliberating or searching through dictionaries to resolve all the problems. Having done that, she translated the whole text at remarkable speed and managed to produce a high quality target text in just 56 and a half minutes.

3.3 Lexical search mechanisms

Quite a few of the strategies employed by the two professionals followed the same or similar pattern and hence, rather than analyse a long list of all the 37 sequences of processing of every problematic item, we will present below all the patterns (or strategies) of processing we were able to identify with specific examples from either one or the other subject's work with the text. The list of processing strategies presented below is based on our data alone, i.e. it is not a complete list of all strategies used by professionals. The ideas for names and definitions, which we felt free to modify, narrow down or expand as our data required, are based on lists produced by a number of researchers in the past, which we have indicated by bibliographical notes whenever applicable.

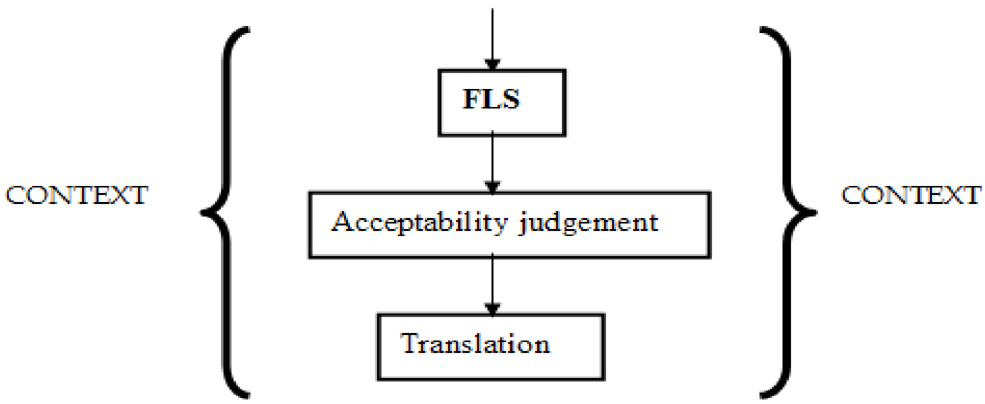
3.3.1 Automatic processing

If a lexical item and its target language equivalent are available in the Frequent Lexis Store (FLS) and do not pose a problem, that item will be processed automatically. This is subconscious activity, unavailable for analysis on the basis of our data and hence we will not deal with those words and phrases. The way these unproblematic items are dealt with can be illustrated as follows:



3.3.2 Acceptability Judgement

As mentioned above, if a word or phrase and their equivalents were readily available in the Frequent Lexis Store (FLS), the translator would process them automatically. If, however, the FLS contained more than one equivalent, or the equivalent raises doubts, **the translator makes an intuitive conscious decision as to whether any of the available target language equivalents fit the situation** (cf. Kiraly 1995:78). This can be illustrated as follows:



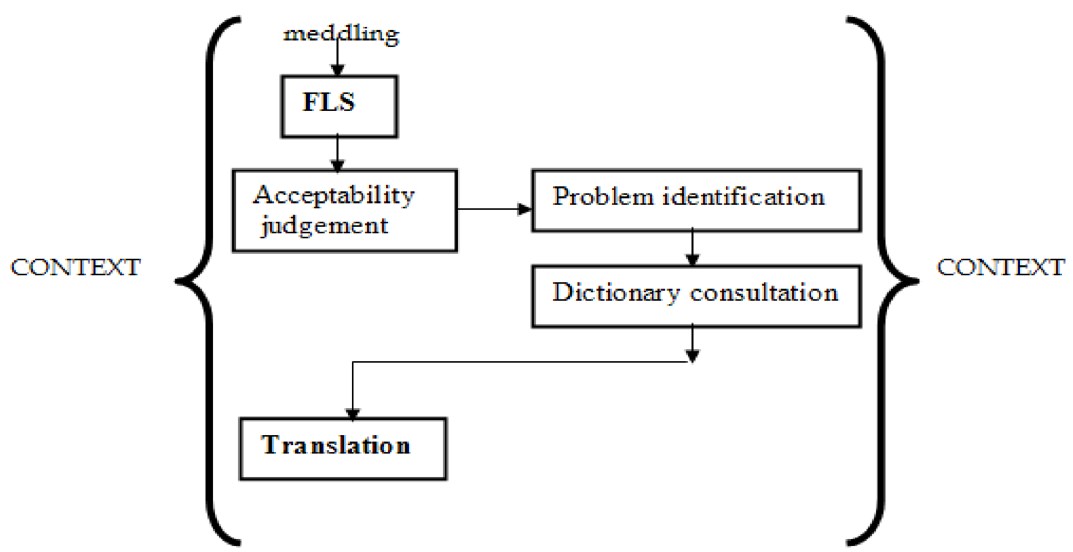
We do not have a properly documented example of positive acceptability judgement alone leading to a correct translation in our data. This is probably caused by the fact that, in case of a positive acceptability judgement, the process is almost instantaneous and not verbalised.

3.3.3 Dictionary consultations

PJ needed to resort to researching of 27 words and phrases and made 32 dictionary consultations. PK needed to process 10 items and made 17 dictionary consultations.

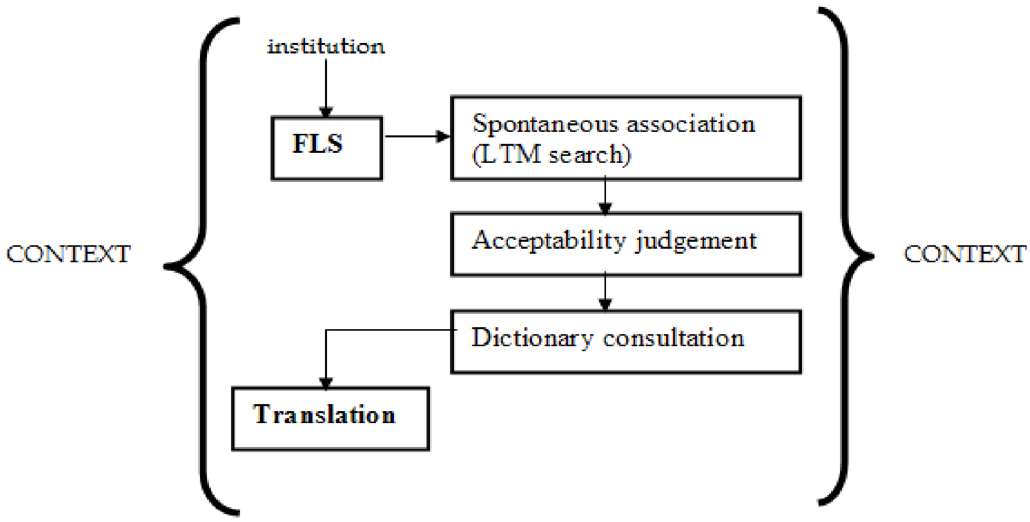
Some of the differences between the two professionals may have been caused by individual differences in translator competence levels in the area of business, others by different problems posed by translating into Japanese and Korean. Moreover, as the number of consultations indicate, dictionary checks were not always accepted as the final solutions, they were part of a systematic and well organised process of achieving the best possible comprehension of the item in context and/or finding the right equivalent in the target language.

In case of our two professionals, dictionary consultations were always the result of **problem identification—identification of a difficulty with source language comprehension or finding an adequate equivalent in the target language.** (cf. Gerloff 1986: 253). Problem identification was always proceeded by either a negative acceptability judgement or realisation that a particular item was unavailable either in the FLS or in long term memory. Here is an example relating to comprehension of the source language text, and subsequent production of a target language equivalent involving an acceptability judgement, problem identification and dictionary consultation leading to a solution. PK had a comprehension problem with the word "meddling" in the context of 'sceptical of government meddling'. She resolved it by checking its meaning in an English-English dictionary and commenting: "…*Yi* 'meddling' *yiran maree yugieseo ouimihanumge… Naega akka sangakhan ghe matnun gu katne.* (this 'meddling' here, I think what I thought was right)" and proceeded to use the word she had in her FLS. Her intuitive acceptability judgement and reference book check pattern leading to a successful solution can be illustrated as follows:



3.3.4 Spontaneous association

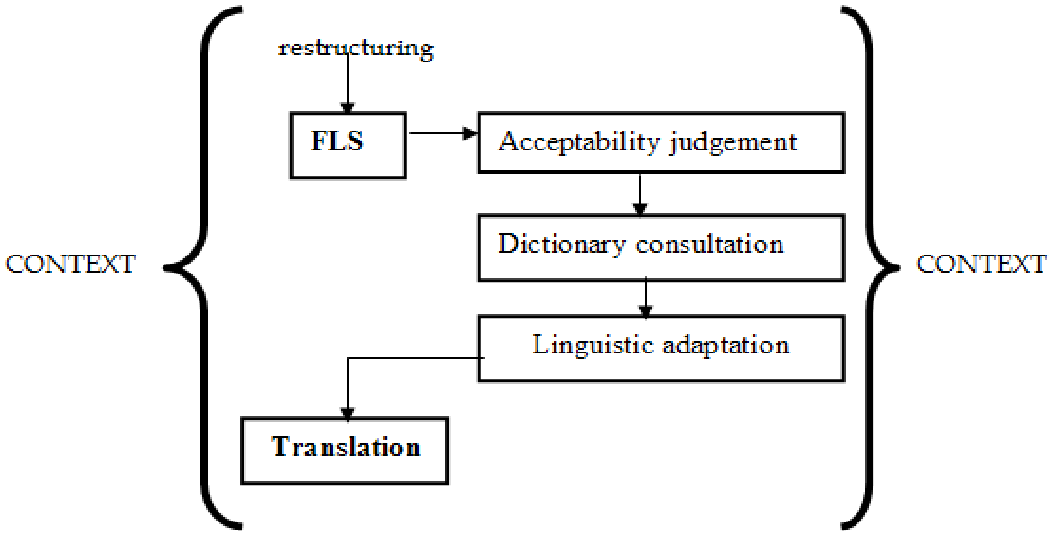
"Spontaneous association (...) resembles brainstorming. The translator is well aware that she is faced with a problem and she operates on the basis of associations which come to her spontaneously; She scans the field and may retrieve several possibilities that she has to choose from" (Mondahl and Jensen 1996: 103). Spontaneous association is the result of searching Long Term Memory (LTM) for possible solutions based on previous experience. In other words, the translator uses linguistic and external knowledge accumulated in the past (cf. Gile 1995: 83-85). We have a good example of this from PJ's tackling the translation of the word "institution" in the context of 'Stanford's Hoover Institution'. The subject's answer in the vocabulary test is *soshiki* (organization). He obviously knew of Stanford University (external knowledge) and made a spontaneous association reflected in his comment, **"It must be the research centre attached to the university"**. He then decided *soshiki* was not acceptable and checked the word institute with an English-Japanese dictionary, and quickly translated it as *kenkyūjyo*. This sequence can be illustrated as follows:



3.3.5 Linguistic and/or Cultural Adaptation

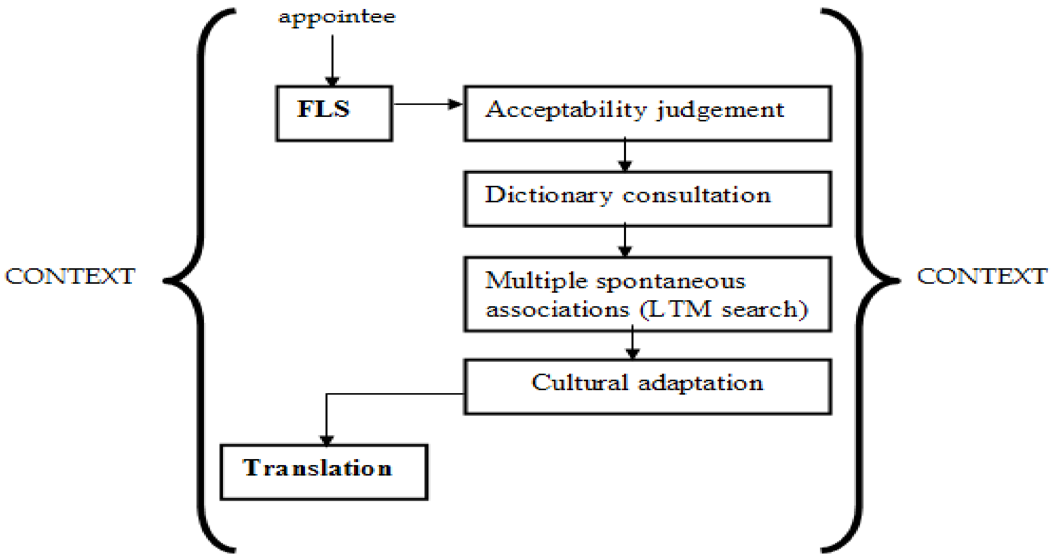
Compensation for linguistic and/or cultural differences between two languages on the basis of personal experience or results of a search (cf. Jensen 1999: 110). We have two good examples of this strategy leading to a linguistic and cultural adaptation provided by PJ's work. The first one is from processing of the word "restructuring" in the following context: 'When companies default on their debts there is a clear procedure to guide a restructuring'.

In Japanese, restructuring has become a loan word. It is written in *katakana* script and is generally referred to simply as *risutora*. This is such a common word that the subject answered it in the way we had expected in the vocabulary test. However, after a dictionary consultation, *risutora* proved to be a false friend, as it means redundancy. PJ realised that and he adapted his translation by using a different word: rebuilding. The process can be illustrated as follows:



PJ also selected the strategy of adaptation in translating the word "appointees" in the phrase 'Two Bush appointees…'. His answer in the preceding vocabulary test was *Ninmei sareta hito* (the person who is appointed). He commented that "*Ninmei sareta hito* does not make sense in Japanese," thus indicating a negative acceptability judgement. He then consulted an English-Japanese dictionary, which did not provide him with a satisfactory answer either: he was confronted with a non-equivalence.

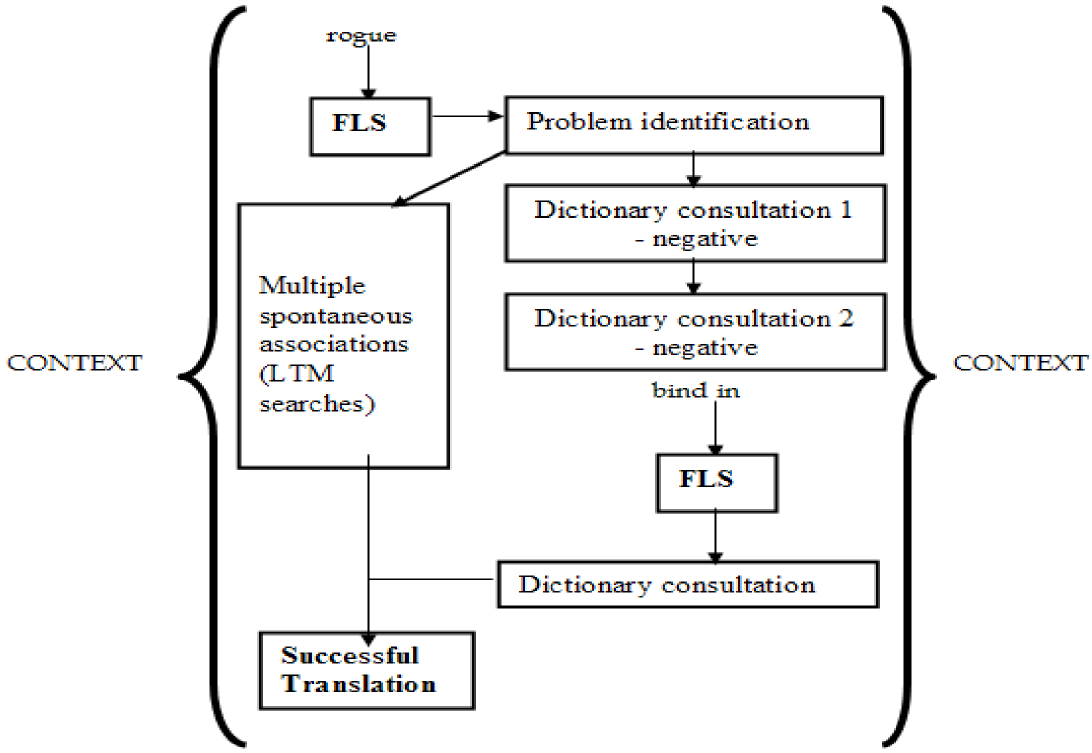
The next phase of his work involved a search for a synonym and a good Japanese equivalent by means of a series of spontaneous associations which are reflected in his recorded behaviour and comments. The term *hi-ninmeisha* that he found in the dictionary was not satisfactory. He then mentioned *shimon kikan* (advisory organization) as one possible equivalent, but realised appointee is not an organization and finally settled for the word *komon*. The above sequence of action involves a combination of several strategies leading to cultural adaptation and can be illustrated as follows:



3.3.6 Parallel attendance to more than one problem using different strategies simultaneously

PK provides a good example of this as she works on the following two sentences containing several problems: 'Bonds governed by New York law traditionally encourage rogue creditors. Improving the procedure for sovereign defaults means finding ways to bind in the rogues'. Similarly to all other translators, PK had a problem with the word 'rogues' and the phrase 'rogue creditors', as well as with the phrase 'bind in' which was not included in the vocabulary test, but which she did not understand.

When PK encountered the term rogue, (translated as Mubupdgashik), she started looking up Collins dictionary, then moved on to an English-Korean dictionary. Using the dictionaries she went through the set phrases related to rogue. When she realised that her dictionary search did not help, she went back to the text and read out the whole sentence where the word was used, then the next one, where the expressions bind in and rogues were used, and checked bind in in a dictionary (translated as Kusokhada). Even as she was looking through the dictionaries, her mind was briskly at work on rogue: she did not stop verbalising alternative solutions for rogue and rogues and used dictionaries mainly to confirm her predictions, then to find the equivalent for bind in. Once she found the equivalent for bind in, she was also ready to decide on the translation of rogue and translated both sentences. This multi-layer process can be illustrated as follows:



4. Discussion — a comparison of novice and professional translators' task management and lexical search mechanisms.

The evidence we have presented indicates major differences between novice and professional translators that influence the outcomes of the orientation and drafting phases of the process. These differences have been summarised below:

1) Professional translators have a large number of lexical items stored for immediate use in the FLS and an even larger store in long term memory (LTM). This cannot be said about most novice translators: their knowledge of general and specialised vocabulary is poor compared to professionals.
2) Professional translators are capable of reading general texts and texts in their areas of specialisation with ease and full or almost full comprehension after the first reading, while novice translators gain little from the first reading of the text to be translated. They encounter vocabulary problems too frequently to be able to form a general idea about the content of the text they are reading.
3) As a result of the orientation phase, professional translators gain knowledge of the context of the whole or selected larger chunk of the text to be translated,

while novice translators, due to shortcomings in vocabulary knowledge gain at best a rough idea of the source language text content.

4) Professional translators work by first analysing, then drafting larger chunks of text (e.g. paragraph-by-paragraph or even the whole text, if it is not too long), while novice translators work in a linear fashion, word-by-word, phrase-by-phrase, at most, sentence-by-sentence.
5) Professional translators identify comprehension and translation problems in the context of the SLT as a whole and before they begin drafting, while novice translators, at least initially, work out of the context of the whole text and, as a result, they often fail to identify translation problems relating to the whole text.
6) Professional translators use their considerable linguistic and world knowledge to make conscious acceptability judgements, spontaneous associations and to identify problems requiring special attention, while novice translators reach for a dictionary each time they have a comprehension or production problem.
7) Professional translators use dictionaries in deliberate and diversified ways, while novice translators use dictionaries in haphazard, often inconsistent ways.
8) Professional translators do not have absolute faith in dictionary solutions, they check and re-check difficult items more than once if necessary and use their own good judgement when making the final decision, while novice translators have a high degree of trust in dictionary solutions and hardly ever check them.

In a recent publication Séguinot points out that "all translation cannot be accounted for by a theory which likens the process to the biting off of a piece of text, chewing it, and spitting it out transformed." (Séguinot 2000: 146). On the basis of the evidence we have presented above, one might say that it is novice translators that often subscribe to this philosophy. They do not seem to realise that professional translation is a deliberate process based not only on extensive linguistic and extralinguistic knowledge, but also on the ability to apply creatively and deliberately specific routines or strategies of solving translation problems as they arise and on good management skills.

Séguinot based her conclusions on a study of two professional translators working together as a team on the same text. Our study, which was conducted on two professional translators working independently, seems to confirm her finding that, while working on one problem, a translator may have another part of their mind continue processing some other problem, making guesses about a solution, often on the basis of information unfolding as they read the source language text or produce a target language output. In other words, translation is a non-linear task and involves a managerial function. (cf. Séguinot 2000: 147). Our evidence, however, does not support her statement that "translation involves a managerial function rather than a series of procedures." (ibid.) We would suggest that translation involves both.

The timing of the different phases of the translation task by our subjects does indeed suggest mainly a managerial function, but the lexical search mechanisms we identified in our data are clearly procedures. In this instance, the managerial function would be the creative combination of such procedures depending on the nature of problems identified by the translator. This is, clearly what our two subjects did: they not only demonstrated flexibility in ordering the various procedures while solving the task, they also demonstrated the ability to pursue two or three pathways to a solution simultaneously.

Finally, apart from translation experience, our two subjects have had extensive experience in both translating and interpreting and this seems to have influenced their manner of work:

1) **Both our subjects sight-translated the text** paragraph by paragraph (PJ) or the whole text (PK) marking potential problems – something interpreters might do if they receive a written version of the speech they are to interpret early enough to prepare themselves like this. Professional translators usually perform this task silently.
2) They **both marked and attempted to resolve potential problem words and phrases within the chunk of text they were dealing with prior to attempting a written translation**. None of the studies known to us report this pattern of work – translators, students and professionals alike, usually read the text for comprehension in the orientation phase, then they translate it in a linear fashion, sentence by sentence even if, like PJ, they take some time to read again the paragraph they are about to translate.
3) **Our two subjects did not feel they needed a revision of the final version of the text.**

Summing up, it seems that both our subjects' timing and manner of work in the translation task was influenced by their interpreting skills and that these have benefited them in terms of the speed of translation: **our two subjects were the only ones of all 14**

subjects in the larger study, who managed to produce a high quality full translation of the text well ahead of the time limit and PK, who sight-translated and researched the whole source language text before writing the translation, needed less than 65% of the allocated time to finish the job to a very high standard. Since we do not have access to adequate comparative data, we cannot say whether time spent additionally on revision would have improved the already high quality of the target text even further.

Professional translators do not usually sight-translate the text—they read it silently for comprehension, then proceed to the drafting phase. In this context, it would be interesting to conduct further quantitative studies on a larger number of subjects, testing whether sight-translating and researching potential problems in the orientation phase have a positive effect on the speed and quality of translation. Should this be confirmed, we would gain empirical evidence supporting the current practice of some programs of requiring translation students to do at least one semester of interpreting.

5. Conclusion

While there are obvious differences between translating and interpreting situations, both require good task management skills and use of individual lexical resources and outside sources of reference. In case of simultaneous and consecutive interpreters, this is often done during preparation for the job, rather than on the job. Translators, on the other hand, deal with these matters on the job and with less time constraint. But the nature of the task is similar in many respects and skilful use of lexical search mechanisms is of crucial importance in both lines of work whenever a written text is involved. Hence our findings may be of interest to students and teachers of both translation and interpretation.

Our results have clearly demonstrated that it is not enough to know routine lexical search procedures applied by experienced professional translators and interpreters (and described in many textbooks) in order to achieve good comprehension and produce a high quality target text. The main advantages of professionals over students and inexperienced translators/interpreters in this area seem to be:

1) **Extensive knowledge of general and selected specialised vocabulary.** There are many ways in which young translators and interpreters can improve on this, but in particular, they should be encouraged to do a lot of intensive reading in both their native and working languages.

2) **Knowledge of a variety of lexical search procedures and ability to combine them creatively depending on the nature of the problem**. One way of teaching this might be to ask students to read research-based papers like this one and follow them with hands-on exercises that would illustrate to students how they can apply different combinations of search procedures to specific problems selected by the teacher.
3) **Appreciation of the importance of, and ability to use the orientation phase in, acquiring an understanding of the context of the whole source language text.** This could be taught by setting up translation exercises in a manner that forces students to write down their text analysis **before they are allowed to translate it**—this could easily be done if, at least initially, a translation task is worked on during three meetings with students rather than two, which is usually the case.

Finally, periodical empirical assessment of student behaviour during translation, which can easily be done with tools like Translog (cf. Jakobsen 1999) might be helpful in giving advice on possible improvements to individuals on the basis of evidence collected from them in an objective way (by a computer software).

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Kyoko Imanishi was a 2002 research methods student and contributed significantly to the project presented in the paper.

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Appendix 1 List of words to be used in the word-translation test

1. sovereign
2. bankruptcy
3. appointee
4. institution
5. reform
6. eminent
7. conservative
8. economist
9. sceptical
10. meddling
11. administration
12. fund
13. treasury
14. insolvent
15. similarly
16. debt
17. restructuring
18. crisis
19. vacuum
20. protracted
21. negotiations
22. market
23. attraction
24. jurisdiction
25. collective
26. creditor
27. debtor
28. payment
29. rogue
30. asset
31. legal
32. radical
33. proposal
34. international
35. court
36. adjudicating (E-J)
37. undermine
38. rights
39. contend
40. co-ordination

Appendix 2 Source text used in the experiment

Economic Focus: Sovereign Bankruptcies

<u>Two Bush appointees are at loggerheads about how best to reform the international financial system</u>.

Anne Kreuger and John Taylor share remarkable similarities. Until recently both were colleagues at Stanford's Hoover Institution. Both are eminent conservative economists, generally sceptical of government meddling. Both were picked for public service by the Bush administration: Ms Kreuger as number two at the International Monetary Fund and Mr Taylor as the top international man at the Treasury department. This week the two had a public split over how best to deal with insolvent countries.

When companies default on their debts there is a clear procedure to guide a restructuring. Not so with countries. In the debt crisis of the 1980s, the resulting vacuum meant protracted negotiations with banks. Since the 1990s, when emerging market bonds became popular, the situation has only worsened. Organising the disparate owners of diverse bonds in different jurisdictions has proved a nightmare. Though sovereign restructurings are possible-Russia, Ukraine and Ecuador have all recently restructured their debts -the process clearly needs improvement. For conservatives the idea holds particular attraction, since, in their view, it might lessen the need for IMF rescues.

A big challenge is how to encourage collective action among creditors. Although it may be in the interest of creditors as a whole to co-operate with each other and the debtor country in a restructuring, it can be in the interests of an individual creditor to hand on and demand full payment—the last-man syndrome. Bonds governed by New York law traditionally encourage rogue creditors. Improving the procedure for sovereign defaults means finding ways to bind in the rogues. Ideally, agreements would be binding across different asset classes and jurisdictions, and would provide a legal framework for countries to tap new debt.

More radical proposals for sovereign-debt reform involve changing international law, either by creating an international bankruptcy court or by giving the IMF adjudicating powers. More cautious reformers are leery of statutory solutions and of undermining creditor rights. They contend that creditors should still control the terms of restructuring and they propose reforms that improve co-ordination among creditors. A popular proposal is to encourage countries to adopt "majority-action" clauses in their bond contracts. Theses clauses prevent rogue creditors subverting a restructuring. (Total 377 words/99min)

Extract: *The Economist*, April 6, 2002.