

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **2.0 Introduction**

This chapter gives a brief overview of the definitions of translation and the translation theories of the 21<sup>st</sup> century. Besides these, the translation process, language learning and translation strategies and translation models by various experts on translation are also discussed. Past studies done outside Malaysia, which used the Think-Aloud Protocol (TAP) technique for the investigation of the translation process are also discussed. Furthermore, this chapter also explores some past studies on translation of English language scientific texts into the Malay language in Malaysia. These studies generally used the questionnaire and interview methods as their research instruments.

#### **2.1 Definitions of Translation**

Brotherton (1988) has written an overview of what a translation is. Here, the researcher gives most of the definitions of translation by various authorities in the field of translation as cited in his work. Brotherton (1988:55) suggests that:

the diversity of definitions of translation presented in numerous books and articles during the last thirty years not only reveals a wide difference of opinion both on the nature of translation and on methods of translating, but also reflects a certain convergence towards a systematic approach to theory and practice.

According to Brotherton (1988:55), translation definitions have been based on aspects such as text substitution, dynamic equivalence, reader orientation, communication of meaning, using the genre-oriented and purpose-oriented approaches and interlingual and intercultural communication. These aspects are discussed in sections 2.1.1 to 2.1.6 in the following pages.

##### **2.1.1 Translation as a Text Substitution Process**

Catford (1965:1) proposes that, "translation is an operation performed on languages: a process of substituting a text in one language for a text in another". The

researcher understands this as transferring the message correctly, clearly and naturally from a source language text (for example from English language), into a target language text, (for example to the Malay language).

### **2.1.2 Dynamic Equivalence and Reader-Oriented Translation**

Nida (1959:19), an American missionary linguist, defines translation as, “translating consists in producing in the receptor language the closest natural equivalent to the message of the source language, first in meaning and secondly in style”. This definition allows freedom for the concept of “dynamic equivalence” expounded in his *Toward a Science of Translating*, a concept appropriate to Nida’s (1964:166) objective of producing “the closest natural equivalent to the source language message”, a rendering in which “the focus of attention is directed not so much toward the source message as toward receptor response”.

A comparable emphasis on reader reception is also apparent in the definition given by Jumpelt (1961:66, cited in Brotherton 1988:57), who states that, “translation is not a transfer of lexical forms or content but a reconstruction or recasting of the patterns in original texts”. Jumpelt (1961, cited in Brotherton 1988:57), deals only with texts on technical or scientific subjects and his objective is to provide renderings considered acceptable to target language readers. Jumpelt (1961:177 cited in Brotherton, 1988:57) suggests that “the translation must be designed as to have on the reader the same effect as a text with the same content written in the reader’s native language”. As the style of texts on technical and scientific subjects often leaves much to be desired, Jumpelt (1961:40 cited in Brotherton 1988:58) insists that “form defects” must be set aright in target language renderings for the benefit of the readers, but at the same time asserts that “the text type is the factor determining all criteria”.

Whilst starting from a completely different standpoint, Wilss (1977 cited in Brotherton, 1988:58), in proposing a translation method based on text analysis in terms



of syntactic, semantic and textpragmatics (or stylistic) dimensions, agrees with Jumpelt (1961 cited in Brotherton, 1988:57), when he also recommends that ill-written, non-literary source texts, should be edited in the process of translation so as to allow more readable target language renderings (Wilss 1977:165 cited in Brotherton 1988:58).

Like Nida (1959,1964 cited in Brotherton 1988:58), Jumpelt (1961 cited in Brotherton, 1988:57), adheres to the reader-oriented “principle of similar effect” and more or less parallel terms of reference are clear in the definition by Jager (1975:36 cited in Brotherton, 1988:58) who asserts that:

Translation is essentially a means of achieving communication so applied as to ensure by procedures of linguistic delimitation that the communicative function of a given text in language LA is retained in the process of transcoding into LB so that LA-text and LB-text are communicationally equivalent.

LA in Jager’s (1975 cited in Brotherton 1988:58) definition refers to the source text while LB refers to the translated target text. Here, the communication of the message is emphasised.

### **2.1.3 A Systematic Approach to Translation**

Other recent definitions are more indicative of the trend towards a systematic approach, such as the one provided by Wilss (1977:72 cited in Brotherton 1988:58), who proposes that:

Translation is a phased process comprising two basic phases: an analysis phase in which the translator analyses the stylistic and semantic aspects of the source language text, and a reformation phase, in which the translator reproduces in the target language, with optimal implementation of the requirements of communicative equivalence, the stylistic and semantic aspects of the source language text.

This definition is relevant and significant to this study as it will be seen how in the think-aloud protocols (TAPs), the participants analyse the difficult expressions in each sentence and think on how best they can be conveyed into the target language.

Delisle (1980:68 cited in Brotherton 1988:58) supports the trend towards a systematic approach when she asserts that, “Translation can be defined as an operation

in which, firstly, the meaning of linguistic signs in a message is interpreted in terms of relevance to the intent concretised in this message, and secondly, the given message is integrally reconstituted with the sign of another language”.

Another supporter of this trend, House (1982:29 cited in Brotherton 1988:58), agrees with Wilss (1977 cited in Brotherton 1988:58) and Delisle (1980 cited in Brotherton 1988:58), when she acknowledges that “translation is the replacement of a text in the source language by a semantically and pragmatically equivalent text in the target language.”

#### **2.1.4 Genre-Oriented Translation**

Like the reader-oriented approach, the genre-oriented approach is a common denominator for a range of terminological and conceptual diversity. Jumpselt (1961:24 cited in Brotherton 1988:59) feels that “the text type is the factor determining all criteria”. Wilss (1977 cited in Brotherton 1988:59) proposes a semiotic-based general methodology, but makes methodological distinctions between literary, scientific and biblical texts. Delisle (1980:22-24 cited in Brotherton 1988:59), uses the term “pragmatic” to categorise “pragmatic texts” as a genre distinct from literary and biblical texts by reason of being specifically informative and instructive, whereas Wilss (1977 cited in Brotherton 1988:59) uses the term “pragmatic” as a synonym for “stylistic”.

The genre-oriented approach has been explained at some length by Katharina Reiss in booklets and articles (1976,1978 cited in Brotherton 1988:59). Taking Bühler’s three-category model (the triad of expression, appeal, and reference or representation), Reiss suggests a text classification consisting of three categories: informative texts (subject matter focus) to be translated so as to re-phrase the content; expressive text (author focus) to be translated on the same aesthetic level; and motivating texts (persuasion focus) texts so as to ensure the same evocative effect - a classification that is strikingly similar to that suggested in 1953 by Fedorov (cited in

Brotherton 1988:59) with the prescribed criteria of correspondence of content for scientific and technical texts. While conceding the vagueness of any dividing line between genres and the variability of “communicative function” in individual texts, Reiss (1976:19 cited in Brotherton 1988:59) claims that correlation of text type and specified norms constitutes a determining factor in translation procedure.

### 2.1.5 Purpose-Oriented Translation

Reiss and Vermeer (1984 cited in Brotherton 1988:59) emphasise the “reader response” approach. Without prejudice to the genre-oriented approach, Reiss and Vermeer (1984) maintain that the purpose to be fulfilled by a target language rendering of any given source text determines decisions as to what will be included in the target language rendering and how the target language rendering is formulated. If “the target language rendering of a technical text written in the source language for experts is also intended for experts there would be an equivalence between the source text and the target language rendering, if a target language rendering of the same text is intended for non-experts the rendering will be so formulated as to be understandable for this group”. In this case “the translation is adequate”, it is a rendering “syntactically, semantically and pragmatically appropriate to the specified reader group” (Reiss and Vermeer, 1984:137). The *skopos* or aim for the target text need not be identical with that attributed to the source text; but unless the *skopos* for the target text is specified, translation cannot, properly speaking, be carried out at all. When talking of purpose of a translation, strategies that are often listed under adaptation, for example reformulation, paraphrase and textual explication will come in naturally as part of translation.

A text, according to Reiss and Vermeer, (1984/1991:76 cited in Baker, 2000: 236) is viewed as “an offer of information made by a producer to a recipient”. According to them, translation is then characterised as, “offering information to members of one culture in their language (the target language and culture) about

information originally offered in another language within another culture (the source language and culture)". They suggest that "a translation is a secondary offer of information, imitating a primary offer of information". In other words, "the translator offers information about certain aspects of the source-text-in-situation according to the target text *skopos* specified by the initiator" (Reiss and Vermeer, 1984/1991: 76 cited in Baker, 2000:236). They feel that "neither the selection made from the information offered in the source text, nor the specification of the *skopos* happens at random; rather, they are determined by the needs, expectations etc of the target-text receivers".

In this study, the purpose or *skopos* of the translation was always kept in mind by the participants while translating as they knew that their translated version of a text must be understood by their target readers and they worked towards this objective.

#### **2.1.6 Translation as Mediated Interlingual and Intercultural Communication**

Viaggio (1995 cited in Kurz 1996:1) suggests that "both translation and interpretation are mediated communication, and both translators and interpreters are specialists in mediated interlingual communication". According to Kurz (1996:1), "the syntactic, semantic and pragmatic processing of the textual input and the transfer of the source text into the target text require various interactive domain-specific and procedural skills including linguistic, extralinguistic, situational (sociocultural) and rhetorical or stylistic knowledge". Kurz suggests that both translators and interpreters "must possess a set of skills enabling them to develop a potential for recognising translation/interpretation problems" and to create ways and means of overcoming these problems, thereby building up an inventory of translation techniques which is frequently referred to as "translation routine" (Wilss 1996 in Kurz 1996: 2).

According to Viaggio (1998:2), a translator at the United Nations, "translation has been regarded exclusively or, at least, mainly, as a linguistic operation". According to him, translators are well aware of the fact that knowledge of the source and target

languages is important but besides this, knowledge of the subject matter and its terminology is equally or even more essential. According to Viaggio (1998:2), translators are specialists in “mediated interlingual/intercultural communication”. He feels that it is this “crucial additional communicative competence” that sets translators apart from “everybody else who knows languages, terms and things”.

## **2.2 Translation Theories of the 21<sup>st</sup> Century**

In the 21<sup>st</sup> century, some authorities in the field of translation are looking into the *Skopos* Theory again and it is gaining momentum, especially at the United Nations. The other theory which Darwish (1999) is still working on is the “Translation Theory of Constraints”.

### **2.2.1 The *Skopos* Theory of Translation**

According to Hans Vermeer (1978 cited in Baker 2000:235), the founder and developer of the *skopos* theory, the term *skopos*, derived from Greek, means end, aim and purpose. In the *skopos* theory, “*skopos*” is used as the technical term “for the purpose of a translation”. Vermeer (1978 cited in Baker 2000:235) suggests that the *skopos* theory “is an approach to translation” which was developed in Germany in the late 1970s. He writes that it reflects a general shift from predominantly linguistic and rather formal translation theories to a more functionally and socioculturally oriented concept of translation. Vermeer (1978 cited in Baker 2000:235) further adds that this shift “drew inspiration from communication theory, action theory, text linguistics and text theory, as well as from movements in literary studies towards reception theories”.

Vermeer (1978:100 cited in Baker 2000:236) postulates that “as a general rule it must be the intended purpose of the target text that determines translation methods and strategies”. From this postulate, Vermeer, 1978:100 (cited in Baker 2000:236) derives the *skopos* rule: “Human action (and its subcategory: translation) is determined by its purpose (*skopos*) and therefore it is a function of its purpose. The rule is formalised

using the formula, i.e.  $IA(Trl) = f(Sk)$ . He explains that the main point of this functional approach is the prospective function or *skopos* of the target text as determined by the **initiator's** (commissioner of the translation task), that is the client's, needs. Consequently, he writes that the *skopos* is largely constrained by the target text user (reader/listener) and his/her situation and cultural background.

According to Vermeer (1978 cited in Baker 2000:236), two further general rules are the coherence and fidelity rules. According to Vermeer (1978:100 cited in Baker 2000:236), the **coherence rule** stipulates that "the target text must be sufficiently coherent to allow the intended users to comprehend it, given their assumed background knowledge and situational circumstances". Vermeer (1978:100 cited in Baker 2000:236) suggests that the starting point for a translation is a text as part of a world continuum, written in the source language. He strongly believes that the source language text has to be translated into a target language text in such a way that it becomes part of a world continuum which can be interpreted by the recipients as coherent with their situation.

The researcher agrees with Vermeer's proposal and suggests that if the source language text (in this study, any scientific text) is not coherent, then the translator has to edit it first to make it coherent before he or she starts translating. Even Jumpselt (1961:40) who deals only with texts on technical or scientific subjects insists that "form defects" must be set aright in target language renderings for the benefit of the readers and the researcher agrees with his stand. Even the participants for this study note this point and made it clear to the researcher that they always try their best to get in touch with the author of the source language scientific text if they find his or her text incoherent. The researcher feels that this is important for translation purposes because the translators must make sure that the idea communicated in the target text is coherent

and relevant to the needs of the target readers in terms of their culture, situation, language proficiency level, intellectual level etc.

According to Baker (2000:236), the **fidelity rule** concerns “intertextual coherence” between the source language text and the translated target language text or *translatum*, and stipulates merely that some relationship must remain between the two once the overriding principle of *skopos* and the rule of (intratextual) coherence have been satisfied.

If coherence and fidelity are at odds in the target translated text, then the researcher feels that the translator has not done a good job because the target readers will have difficulty in understanding the content presented in the target text.

In combining Vermeer’s general *skopos* theory of 1978 with the specific translation theory developed by Katharina Reiss, Reiss and Vermeer (1984/1991 cited in Baker 2000:236)) arrive at a translation theory that is sufficiently general and complex to cover a multitude of individual cases. They abstract from phenomena that are specific to individual cultures and languages, an account of general factors determining the translation process, to which special theories that concern individual problems or subfields can be linked consistently.

According to the *skopos* theory then, Baker (2000:237) suggests that a translation is the production of a functionally appropriate target text based on an existing source text, and the relationship between the two texts is specified according to the *skopos* of the translation.

Viaggio (1991:14) suggests that a translator while translating has, “to retain the *skopos* of the text, the function it is to perform in the target culture and its type”. Viaggio (1998:9) thinks that a translator must know the *skopos* or the aim of his translation (to inform, persuade, describe etc) and this *skopos* determines his overall

strategy; all his tactical decisions are governed by it: he will not translate the same way for the layman and the initiated in order to inform and convince.

The researcher agrees with Viaggio (1991:14) and suggests that in the *skopos* theory, the aim of the translation and the end-user perspective are emphasised. Here she feels that the target readers of the translated version are given emphasis and the translation must be suited to their needs. The translator, the researcher feels, has to ensure that the content delivered and the language used, for example, a translator translating a science text meant for year one university students, must ensure that the terms he or she uses in her target translated text has to meet the intellectual level and language proficiency level of year one university science students. This will ensure that the translated target text is understood by the target readers, that is it fulfills their purpose or *skopos*.

This was further reinforced during the First Seminar on Translation Theory and Applications when Mohammed Didaoui (1995:3) said that there was a general consensus that translation at the United Nations is governed by conventional rules and protocols and that extra-textual help and advice should be sought and the *skopos* theory was emphasised. Translation is effected by the purpose and situation and the end-user focus in translation was considered primordial (Snell-Hornby and Viaggio 1998:3).

The researcher is of the opinion that the United Nations (UN) adopts its own approach to language and translations because it deals with people from all races and cultures and for the authorities at UN, the decisions made by them must be accurately conveyed in other languages to all the people of the world and it is important that to ensure peace, the message conveyed in the target language must be clear, accurate and it must be easily understood by the target audience. In other words, the *skopos* or purpose of the message is always emphasised.



### 2.2.2 Darwish's Theory of Constraints in Translation

Darwish (1999:1) is still working on a Theory of Constraints in Translation in which he puts forward the idea that:

translation is a process that is foiled by many constraints at different levels and various stages. These constraints affect the perceived and desired quality of translation and dictate the choices and decisions the translator makes. The ultimate goal of any translation strategy is to manage and remove these constraints. Understanding how these constraints work within the translation system and how they can be managed and ideally removed within a model or a framework of constraint management certainly benefits the translator and the translation assessor.

Darwish (1999:19) proposes that:

translation is basically a decision-making process under constraints such as space, time, quality of information, problem-solving aptitude and so on. These constraints affect the quality of performance and the quality of the translation product and always circumvent the realization of an optimal translation.

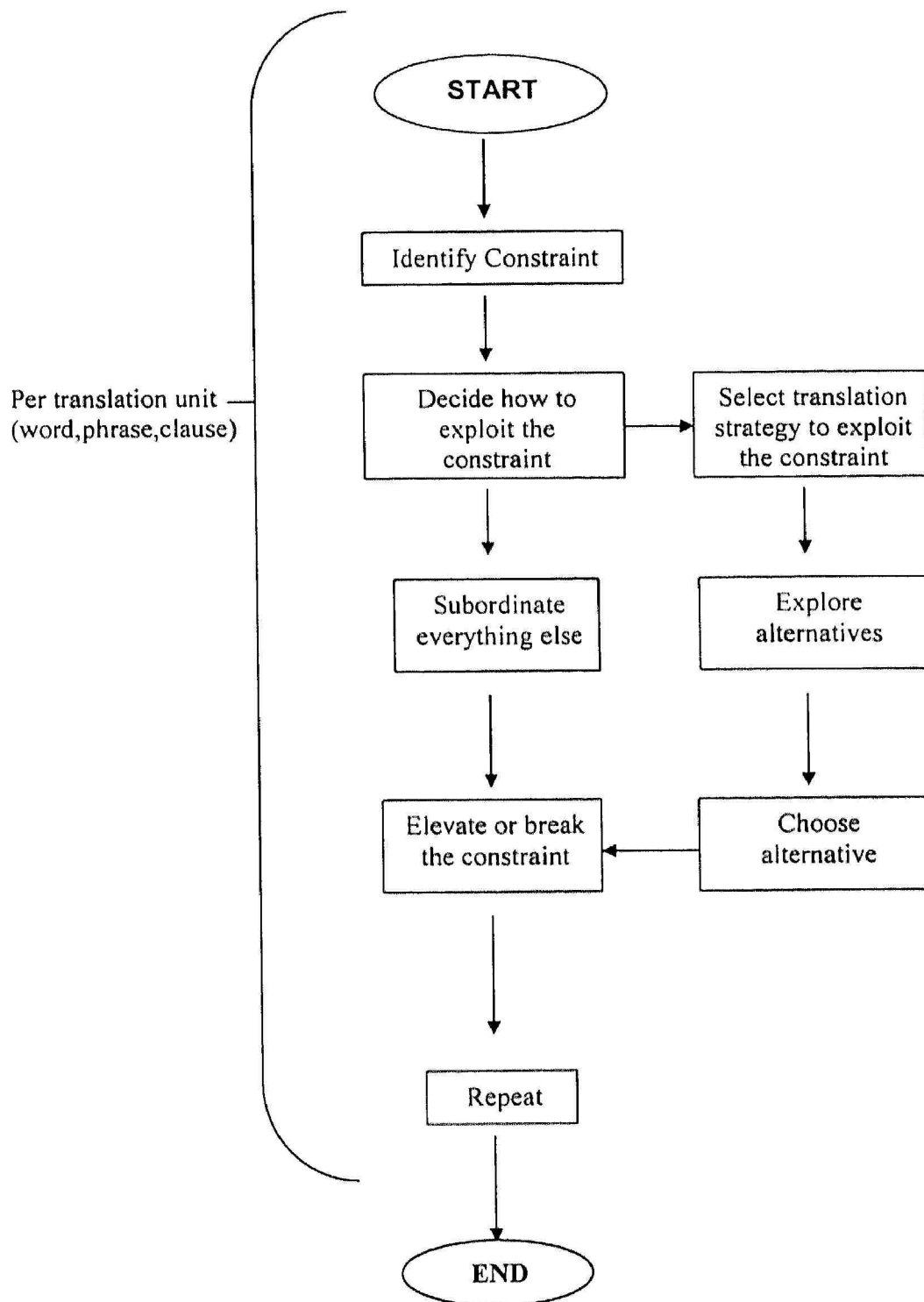
A basic model of translation constraints management is presented in Figure 2.1 on page 57. Darwish's (1999:28) model is based on Goldratt's Theory of Constraints (1990) which consists of the following elements:-

1. identify the translation constraint
2. decide how to exploit the constraint
3. select translation strategy to exploit constraints
4. explore alternatives
5. choose alternatives
6. subordinate everything else to this alternative
7. elevate or break the constraint
8. repeat

Within this model, a hierarchy of constraints can be constructed and the interrelationships between categories, classes and levels of constraints can be ordered and defined. According to Ahl and Allen (1996:101 in Darwish 1999:30),

Figure 2.1

A Model of Translation Constraints (Darwish, 1999:30)



one source of system integrity is that higher levels within the hierarchy are the contexts for the lower levels. A constraint can be used to control outcomes within the system. Darwish (1999:26) defines a translation unit as “any manageable, short-term memory retainable stretch of text or utterance that yields meaning on the syntactic, semantic and pragmatic levels”. The researcher thinks that this translation unit can take the form of a word, phrase or clause and she suggests that it is like a linguistic unit that can be deciphered.

In this study, the part-time translators were working under the constraints of time and space. They had to manage their time between their professional jobs and the translation of English language scientific texts to the Malay language on a part-time basis.

### **2.3 The Relation of Translating to Translation Theory**

Bell (1991:13) feels that the word “translation” has three distinguishable meanings. It can refer to:

1. *translating*: the process (to translate; the activity rather than the tangible object);
2. *a translation*: the product of the process of translating (that is the translated text);
3. *translation*: the abstract concept which encompasses both the process of translating and the product of that process

Given the ambiguity of the word ‘translation’, Bell (1991:26) envisages three possible theories depending on the focus of the investigation: the process or the product. These would be:

1. A theory of translation as *process* (i.e. a theory of translating). This would require a study of information processing and within that such topics as perception, memory and the encoding and decoding of messages and would draw heavily on psychology and psycholinguistics.

2. A theory of translation as *product* (i.e. a theory of translated texts). This would require a study of texts not merely by means of the traditional levels of linguistic analysis (syntax and semantics) but also making use of stylistics and recent advances in text-linguistics and discourse analysis.
3. A theory of translation as both process *and* product (i.e. a theory of translating and translation). This would require the integrated study of both and such a general theory is the long-term goal for translation studies.

In this study, the researcher is dealing with the process of translating scientific texts from English to Malay. In the context of this study, she feels that one must know the difference between a model and a theory. Chesterman (1997:16) suggests that “a theory, at its simplest, is a problem-solving hypothesis, a proposed answer to a question”. Bell (1991:26) proposes that a **model** is an attempt at a **description** while a **theory** is an **explanation** and he defines a theory as, “a statement of a general principle, based upon reasoned argument and supported by evidence, that is intended to explain a particular fact, event or phenomenon” that is “while a model answers the question ‘what?’, the theory answers the question ‘why?’. Ideally, he feels that a theory must reflect four particular characteristics which are as follows:

1. *empiricism*; it must be testable
2. *determinism*; it must be able to predict
3. *parsimony*; it must be simple
4. *generality*; it must be comprehensible.

Bell (1991:13) claims that for a **theory of translation** to be comprehensive and useful, it must describe and explain both the **process** and the **product**. The **process** is **essentially mental** (as explored in this research via TAPs) rather than physical and it **involves languages** (in this study from English to Malay). Those branches of linguistics which are concerned with the psychological and social aspects of language

use need to be drawn, that is **psycholinguistics** and **sociolinguistics**. The first examines the process in the mind of the translator (in this study via TAPs) while the second places the source language text (SLT) and target language text (TLT) in their cultural contexts. Bell (1991:28) summarises that in short “inside or between languages, human communication equals translation. A study of translation is a study of language”.

As this study is also investigating the problems faced by translators of English language scientific texts to the Malay language, the researcher feels that it would be appropriate to discuss what other writers have to say on the problems faced generally by translators while translating. Basil Hatim and Mason (1997: 21) suggest that the **basic problems** faced by translators in their work are as follows:-

1. Comprehension of source text:
  - a. parsing of text (grammar and lexis)
  - b. access to specialised knowledge
  - c. access to intended meaning
2. Transfer of meaning:
  - a. relaying lexical meaning
  - b. relaying grammatical meaning
  - c. relaying rhetorical meaning, including implied or inferrable meaning, for potential readers
3. Assessment of target text:
  - a. readability
  - b. conforming to generic and discoursal TL conventions
  - c. judging adequacy of translation for specified purpose

From some informal conversations with translators of scientific texts from English to Malay, the researcher agrees with the list of basic problems faced by translators as proposed by Basil Hatim and Mason (1997:21) as these translators too feel

that it is important for a translator to understand the scientific text in the source language thoroughly first before translating. In case there are problems in understanding the source text, then having access to the original writer is always an advantage because the difficulties can be cleared via communication and discussion of ideas. The researcher feels that being a specialist in the field that one (any translator) is translating, is always a necessity as this helps one in comprehending the original text easily as one knows the grammar and terminology used in the source text. The researcher was informed by these translators that being good in both the source and target languages is always an asset as it aids in the transferring of the message from the source language text to the target language text. As a translator, he or she must also know who the target readers of the translated version are so that the translation can be geared to meet the language proficiency level and intelligence level of the target readers.

Bell (1991:26) suggests that certain branches of linguistics such as text-linguistics, discourse analysis, psycholinguistics and sociolinguistics are useful to be inculcated in translation theory. His opinion is shared by Basil Hatim and Mason (1997:21) who feel that linguistic theory is of relevance to translation practice. The researcher agrees with them as this understanding of linguistic theory helps translators to make sure that their translated product meets the demands of the target readers and is well-received by them.

On the other hand, Newmark (1988:19) suggests that the theory of translating is to be of service to the translator as it is designed to be a continuous link between translation theory and practice; it derives from a translation theory framework which proposes that:

when the main purpose of the text is to convey information and convince the reader, a method of translation must be 'natural'; if, on the other hand, the text is an expression of the peculiar innovative (or clichéd) and authoritative style of an

author, (whether it be a lyric, a prime minister's speech or legal document), the translator's own version has to reflect any deviation from a 'natural' style.

According to Newmark (1988:20), **naturalness** is both "grammatical and lexical, and is a touchstone at every level of a text, from paragraph to word, from title to punctuation". He strongly believes that the level of naturalness binds translation theory to translating theory, and translating theory to practice.

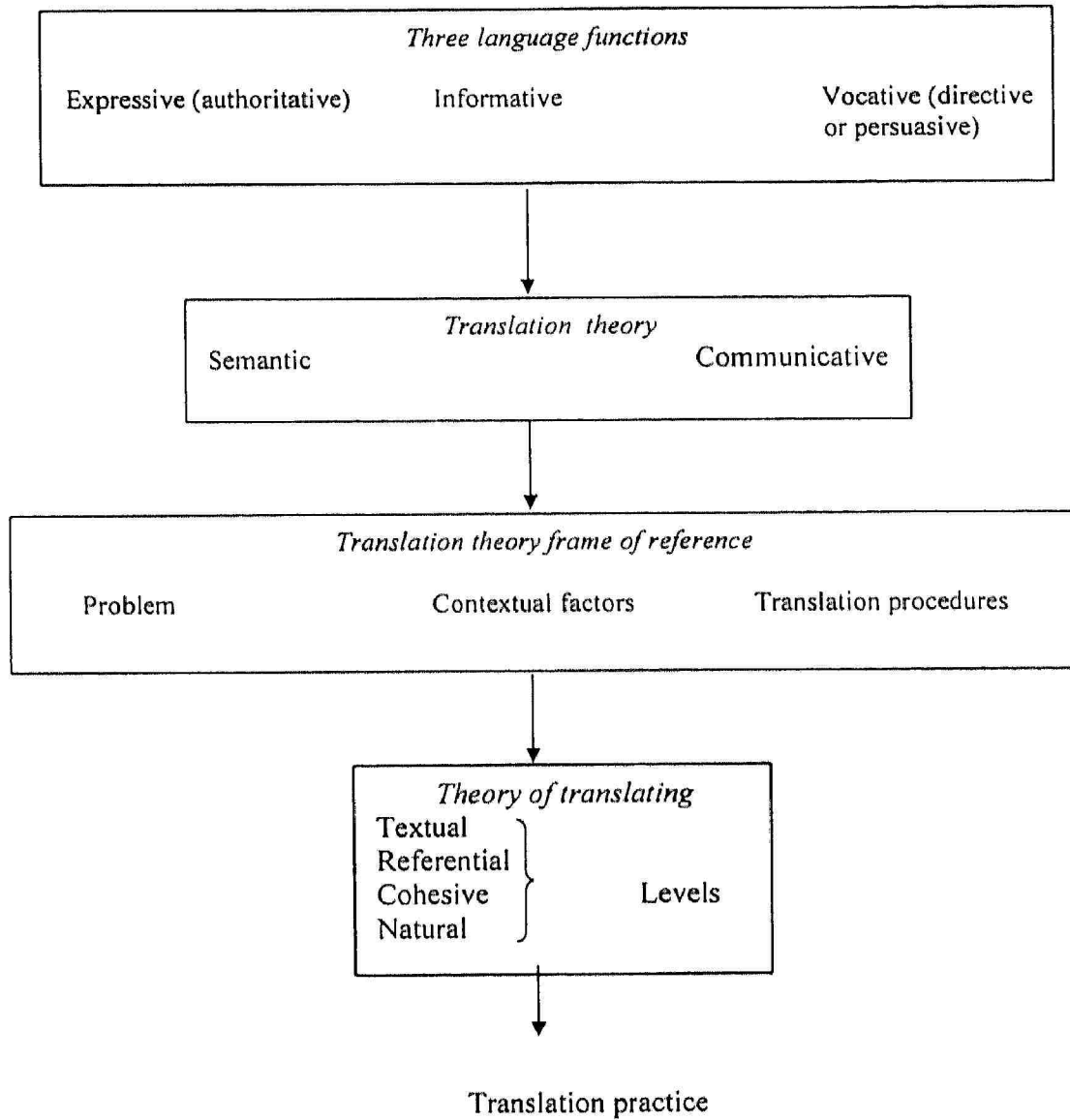
The remainder of Newmark's (1988:20) translating theory according to him, is in essence psychological - the relationship between language and "reality" (Newmark refers "reality" to mean mental images and mental verbalising or thinking) - but it has practical applications.

Newmark (1988:20) suggests that if a person (the researcher is of the opinion that Newmark is referring to any translator) accepts this theory of translating (comprising the four levels – textual, referential, cohesive and natural), then he feels that there is no gap between translation theory (Newmark refers this to the semantic and communicative comprising the problem, contextual factors and translation procedures) and translation practice. According to Newmark (1988:20), the theory of translating is based, via the level (see Figure 2.2 on page 63) of naturalness (see section 2.3.1 for an explanation of the four levels - textual, referential, cohesive and natural by Newmark), on a theory of translation. Therefore Newmark (1988:20) feels that we can arrive at the scheme as shown in Figure 2.2 on page 63.

On the other hand, Munoz (2000:129) reported that in 1982 Honig and Kussmaul (in Munoz, 2000:129) wrote that **translation strategies** are the **main link between theory and practice** and they suggested that translation strategies justify translation theory and should be integrated in the teaching of translation.

Figure 2.2

A Functional Theory Of Language (taken from Newmark, 1988:20)





Newmark's (1988) explanation of the relation of translating to translation theory that is between translation theory and practice is discussed next in section 2.3.1

### 2.3.1 The Approach

According to Newmark (1988:20), a translation is something that has to be discussed - both in its referential and its pragmatic aspects. There is an assumption of 'normally' or 'usually' or 'commonly' behind each well-established principle - there are no absolutes.

Newmark's (1988:21) tentative translating process has two approaches to translating, which are as follows:-

1. you start translating sentence by sentence, for say the first paragraph or chapter, to get the feel of the text, and then you deliberately sit back and review the position, and read the rest of the SL text;
2. you read the whole text two or three times, and find the intention, register, tone, mark the difficult words and passages and start translating only when you have taken your bearings

The researcher thinks that the pronoun "you" mentioned by Newmark (1988:21) in his two approaches may refer to any translator. In this study, the researcher found that the participants generally adopted the second approach. According to Newmark (1988:21):

which of the two methods you choose may depend on your temperament, or on whether you trust your intuition (for the first method) or your powers of analysis (for the second). The second method (usually preferable) can be mechanical; a translational text analysis is useful as a point of reference, but it should not inhibit the free play of your intuition. Alternatively, you may prefer the first approach for a relatively easy text, the second for a harder one.

The researcher thinks that Newmark is not reconciling the mechanical method with intuition but just suggesting that intuition may come in the process. In this study, the participants used their intuition for the target language to produce an accurate, clear and natural translation of the scientific texts from English to Malay. For this study, the

participants generally used the second approach to translating and the researcher agrees with Newmark (1988:21) that this is preferable.

Newmark (1988:21) suggests that from the point of view of the translator, any scientific investigation, both statistical and diagrammatic of what goes on in the brain during the process of translating, "is remote and at present speculative". He feels that the contribution of psycholinguistics to translation is limited: the positive, neutral or negative pragmatic effect of a word, for example Osgood's work on semantic differentials is helpful, since the difference between 'positive' and 'negative' is always critical to the interpretation of a text. Newmark (1988:21) proposes that "The heart of translation theory is translation problems (admitting that what is a problem to one translator may not be to another); translation theory broadly consists of, and can be defined as, a large number of generalisations of translation problems".

Newmark (1988:19) suggests that when we are translating, we translate with four levels more or less consciously in mind. The four levels are:

1. the source language (SL) text level, the level of language where we begin and which we continually go back to;
2. the referential level, the level of objects and events, real or imaginary, which we progressively have to visualise and build up, and which is an essential part, first of the comprehension, then of the reproduction process;
3. the cohesive level, which is more general, and grammatical, which traces the train of thought, the feeling tone (positive or negative) and the various presuppositions of the SL text. This level includes both comprehension and reproduction; it presents an overall picture, to which we may have to adjust the language level;
4. the level of naturalness, of common language appropriate to the writer or the speaker in a certain situation. This level is concerned only with reproduction.

These four levels are further discussed in sections 2.3.1.1 to 2.3.1.5 (taken from Newmark, 1988: 22-30).

#### **2.3.1.1 The Textual Level**

According to Newmark (1988:22), the text is the base level in a translation. He suggests that it is the level of the literal translation of the source language into the target language. Here he feels that a part of one's mind may be on the text level while another is elsewhere. He thinks that when working on the text level, one intuitively and automatically makes certain 'conversions'; one transposes the SL grammar (clauses and groups) into their 'ready' TL equivalents and translates the lexical units into the sense that appears immediately appropriate in the context of the sentence.

#### **2.3.1.2 The Referential Level**

Newmark (1988:22) suggests that one should not read a sentence without seeing it on the referential level. He proposes that the referential level goes hand in hand with the textual level. Newmark (1988:23) suggests:

The referential level, where you mentally sort out the text, is built up out of, based on, the clarification of all linguistic difficulties and, where appropriate, supplementary information from the 'encyclopaedia' - my symbol for any work of reference or textbook.

The researcher thinks that Newmark (1988:23) refers "linguistic difficulties" in the above quotation to problem words and terms, that is he refers to both general and subject-specific texts.

Newmark (1988:23) suggests that "you build up the referential picture in your mind when you transform the SL into the TL text; and, being a professional, you are responsible for the truth of this picture".

The researcher feels that Newmark (1988:23) refers the "truth" in the above quotation to mean the understanding clearly based on experience and expertise derived from wide reading and use of resources in your subject expertise area. The researcher feels that Newmark (1988) means that a translator must ensure that the content

conveyed from the SL text to the TL text must be the truth, that is the message conveyed must not be distorted, ambiguous and inaccurate.

Newmark (1988:23) thinks that:

you are working continuously on two levels, the real and the linguistic, life and language, reference and sense, but you write, you 'compose' on the linguistic level, where your job is to achieve the greatest possible correspondence, referentially and pragmatically with the words and sentences of the SL text.

Newmark (1988:23) emphasises the importance of going into "the particularities of the source language meaning". The researcher agrees with Newmark, as translators must be able to read between the lines and give the correct interpretation especially for science where the facts should never be made ambiguous as this might cause problems to target readers of the translated text.

#### **2.3.1.3. The Cohesive Level**

Newmark (1988:23) proposes that there is a third, generalised level linking the textual and referential levels, which is the 'cohesive level'. He suggests that it follows both the structure and the moods of the text: the structure through the connective words (conjunctions, enumerations, reiterations, etc.) linking the sentences, usually proceeding from known information (theme) to new information (rheme); proposition, opposition, continuation etc. Thus, he suggests that the structure follows the train of thought; determines, say, the 'direction' (the researcher thinks this is the use of transition signals in a text such as besides, anyway etc) in a text; ensures that a colon has a sequel; and finally that there is a sequence of time, space and logic in the text.

According to Newmark (1988:24), the second factor in the cohesive level is mood. He suggests that this can be shown as a dialectical factor moving between positive and negative, emotive and neutral. He thinks it means tracing the thread of a text through its value-laden and value-free passages which may be expressed by objects and nouns, as well as adjectives or qualities. According to Newmark (1988:24), the cohesive level is an attempt to follow the thought through the connectives and the

feeling tone, and the emotion through value-laden or value-free expressions. He thinks that this cohesive level is a regulator, it secures coherence, it adjusts emphasis. Newmark (1988:24) believes that the cohesive level “may determine the difference between humdrum or misleading translation and a good one”. At this level, he suggests one should reconsider the lengths of paragraphs and sentences, the formulation of the title and the tone of the conclusion to summarise an argument finally. He feels that this is where the findings of discourse analysis are important.

#### **2.3.1.4 The Level of Naturalness**

The researcher agrees with Newmark’s (1988:24) suggestion that for the vast majority of texts, it must be ensured that:

1. your **translation makes sense**;
2. it **reads naturally**, that is it is written in ordinary language, the common grammar, idioms and words that meet that kind of situation (the researcher would take this to mean as stipulated by the client or commissioner of the translation task).

Newmark (1988:25) suggests that to make a passage sound natural, it will usually depend on the degree of formality a translator has decided for the whole text. Normally, he thinks that this can be done by temporarily disengaging oneself from the SL text by reading one’s own translation as though no original existed. He reminds us that the level of naturalness of usage is grammatical as well as lexical and through appropriate sentence connectives, may be extended to the entire text.

Newmark (1988:26) proposes that ‘naturalness’ is essential in all ‘communicative translation’, whether translating an informative text, a notice or an advert. He feels that translation cannot be properly carried out if the TL is not one’s language of habitual usage. According to Newmark (1988:27), “unnatural translation is marked by interference, primarily from the SL text, possibly from a third language

known to the translator including his own, if it is not the target language". Newmark (1988:27) proposes that for a natural translation, a translator has to give special attention to the following:

1. Word order. In all languages, adverbs and adverbials are the most mobile components of a sentence, and their placing often indicates the degree of emphasis on what is the new information (rheme) as well as naturalness. They are the most delicate indicator of naturalness.
2. Common structures can be made unnatural by silly one-to-one translation from any language.
3. Cognate words. Both in the West and the East, thousands of words are drawing nearer to each other in meaning. Many sound natural when you transfer them, and may still have the wrong meaning. Many more sound odd when you transfer them, and are wrong. Thousands which sound natural and have the same meaning are right.
4. The appropriateness of gerunds, infinitives, verb-nouns ('the establishment of', 'establishing', 'the establishing of', 'to establish').
5. Lexically, perhaps, the most common symptom of unnaturalness is slightly old-fashioned, now rather 'refined', or 'elevated' usage of words and idioms possibly originating in bilingual dictionaries.
6. Other 'obvious' areas of interference, and therefore unnaturalness, are in the use of the articles; progressive tenses; noun-compounding; collocations; the currency of idioms and metaphors; aspectual features of verbs; infinitives.

Newmark (1988:28) suggests that a feeling of naturalness can be obtained by reading representative texts and talking with representative TL speakers, failing which representative TV and radio disc jockeys and by getting oneself fearlessly corrected. He strongly advises all translators to check and cross-check words and expressions in an

up-to-date dictionary. He suggests that any word you are suspicious of must be noted. He believes that naturalness can be achieved by small progressive stages by working from the most common to the less common features rationally. He thinks that naturalness is dependent on the relationship between the writer and the readership and the topic or situation. He thinks that what is natural in one situation may be unnatural in another.

The researcher agrees with Newmark's views on naturalness in translation and translators must take this seriously while translating.

#### **2.3.1.5 Combining the Four Levels**

In summarising the process of translating, Newmark (1988:29) suggests that the four levels must be kept parallel - the textual, the referential, the cohesive and the natural: they are distinct from but frequently impinge on and may be in conflict with each other. According to Newmark (1988:29), your "first and last level is the text". He suggests that the level of reality must be continually kept in mind, but let it filter into the text only when this is necessary to complete or secure the readership's understanding of the text. He believes that this is done normally that is, only within informative and vocative texts. Newmark (1988:30) suggests that, "paradoxically, it is at the 'naturalness' rather than the 'reality' stage of translating that accuracy becomes most important – therefore at the final stage". Finally, Newmark (1988: 36-37) thinks that accuracy must be achieved in a translation and this is important to be checked during the revision phase. He suggests spending on revising 50-70% of the time a translator takes for translating, depending on the difficulty of the text. Newmark (1988:37) suggests that for a translated product "the final test should be for naturalness" and this can be done by reading the translation aloud to yourself.

## 2.4 The Translation Process

Darwish (1999:20) suggests that a great deal of literature has been written about the translation process in the last 30 years and “it is now well established and widely accepted that translation is a process”. Darwish (1999:21) defines process as “a system-related, methodical, structured activity that terminates with a result”.

According to the *Cambridge International Dictionary of English* (1995), the word “process” is defined as “a series of actions or events that are part of a system or a continuing development, or a series of actions that are done to achieve a particular result”.

The various authorities on translation such as Rose (1981), Wilss (1982), Newmark (1988), Seguinot (1989), Bell (1991), Sager (1994), and Darwish (1989, 1999) agree that **translation is a communication process**. Generally, they all agree on the basic phases or stages of specification of translation task, source text analysis, interpretation or understanding of source text, finding matching equivalent terms for source language keywords and difficult phrases in the target language, translating, revising, reviewing and proofreading and finally delivering of translation product to the client who commissioned the translation. Rose (1981) divides the translation process into **six steps** which are preliminary analysis, exhaustive style and content analysis, acclimatisation of the text, reformulation of the text, analysis of the translation and review and comparison. Wilss (1982) suggests that the translation process as consisting of four events – two encoding and two decoding events. Newmark (1988) believes it as consisting of four levels - the textual, referential, cohesive and natural levels. Bell (1991) proposes it as a communication process comprising nine steps. Sager (1994) sees it as comprising of four basic stages which are the specification, preparation, translation and evaluation or revision stages. Darwish (1999) suggests that it consists of nine major iterative activities which are planning, analysing information, translating,



revising, editing, proofreading, reviewing, completing translation and finally delivering the translation. All of them emphasise other elements too such as the purpose of the translation, understanding the culture of the target readers, fulfilling the needs of the target readers using sociocultural and psycholinguistic explanations and using the target language accurately, clearly and naturally. Rose (1981) and Sager (1994) emphasise using past translations as examples while translating current texts. Sager (1994) views translation as an industrial activity and explains in detail each stage in the translation process. Bell (1991) emphasises the communicative approach while translating (includes psycholinguistics, sociolinguistics and sociocultural explanations) while Sager (1994) emphasises the cognitive, linguistic, communicative and pragmatic approaches and divides the translation process into two phases. Like Bell (1991:17), Darwish (1989:2) also suggests that translation is a communication process which involves the transfer of a message from a source language to a target language. For Darwish, the translation process is basically a decision-making process. He agrees with Bell (1991) and Sager (1994) that it is also bi-directional. All of them insist that the translation process is cyclic, integrative and iterative as it involves revision and solving problems. Sager (1994) suggests that it consists of forward and backward looking activities. All of them emphasise that the translator must be good in both the source and target languages, must be a subject specialist in the area he or she is translating and must have a knowledge of the culture of the target readers. Each of their explanations of the translation process is given in brief below.

#### **2.4.1 Rose's Translation Process**

According to Rose (1981:1), translation is "primarily a time-bound process", yet "the space it requires cannot be discounted". She suggests that a source text must be present first before translation can begin and translation can only be done

sequentially. The time of the source text and the time of the translation pervade every factor the translator must consider in translating.

Rose suggests that when translating, a translator must have a **coherent idea** of the whole text and must **understand** what is being translated. She is of the opinion that translators, more often than not, **work intuitively** and, for the most part, alone. Their choices, even when made routinely through long experience, are made in terms of what sounds right for the text at hand. In this study, the researcher gave the participants the freedom to choose the scientific text of their own choice with which they were familiar with and could translate.

According to Rose (1981:3-5), the translation process may be discussed as a "six-step scheme". For some translators, these steps, although sequential can sometimes be carried out simultaneously. The steps (taken from Rose, 1981:3-5) are as follows:

1. Preliminary analysis. Here the source language material is judged on whether it is worthy of translation.
2. Exhaustive style and content analysis. Here questions pertaining to the text such as what makes a text literary, scientific etc. are asked. Other translations can be used as examples by translators. If the text is removed in time, or if it is merely interesting, rather than compelling, or if it is a work that should be translated for cultural reasons (that is, it makes a certain work available to readers who no longer - or never did - cope with the original), then it may be necessary to itemise and hierarchise the text strategies. This amounts to **problem-solving**. It would be unwise to start without **accepted translations of similar works** at hand and without **knowledge of the subfield** and its current scholarly momentum.
3. Acclimatisation of the text. Here translating goes from internal to external. The translator knows what the work means but there have probably been verbal ellipses in his or her internal translations. He or she may well have settled certain

expressions or key terms in the text-to-be, but has been thinking in the language of the source text. One's own strategies have to be worked out or perhaps compromises with the form of its message made. Footnoting has to be done if it is seen as necessary. At times, the translator has to settle for a **workable equivalent** or one that gives a comparable effect. This is where the actual process of getting from source text to target text begins.

4. Reformulation of the text. Here, the actual translating takes place. All of the verbalising must be done in the target language now. Translators often proceed from sentence to sentence and choose between alternatives and produce a text that is sequentially complete. Most translators will modify their earlier analyses at this stage. This is because as long as the material remained itself, the expression of its author or an expression in a foreign language, it stayed within the containment, and if ambiguous, it was ambiguous within the parameters of another language system. When the message is translated to the native language of the translator, its parameters are altered. Translators often have the experience of believing they understand a text and they probably do, that is while, and as long as, it is in the original language, only to find themselves actually confused when they must reformulate it in their own language.
5. Analysis of the translation. Here, the translator continues translating but as his own editor and critic. In short, he revises around three times and when possible with a time lapse between revisions. This is when the translation is measured against the **larger context of culture**, with the related sub contexts of language and rhetorical tradition and **against audience needs** or the **intended text function**. Any place where information has been added, subtracted or skewed should be rectified at this point.

6. Review and comparison. This is where the translator hands the translation over to someone else for **review and comparison** such as the editor, instructor, supervisor, or collaborator. Mistakes are detected here. In the time of the process, the reader reads after the problem-solving of acclimatisation and reformulation have occurred. In the space of the process, he forms his own *Gestalt* of the text in translation. It is usually considered desirable that he knows the original text so that he can judge whether comparable effects are achieved or comparable functions served.

The researcher feels that by following the above six-step outline, it will be possible to have a translation that fulfills the **criteria of a good translation**. The **criteria of a good translation** as adapted from Savory (1968:50) are as follows:

- a. the source text has been interpreted correctly and accurately
- b. the translated target text has been kept simple and reflects the style of the original text
- c. the terminology used in the target language text is the closest, possible, matching equivalent to the terminology used in the source language text
- d. the terminology used in the target text is kept consistent throughout the whole translated text and there is no confusion in the use of terms for a certain thing
- e. the text is not translated literally but on the other hand it is translated logically and it makes sense to the target readers
- f. the translation is clear and accurate as it is based on the context of the situation as presented in the source text
- g. the content or facts are presented well in the translated target text
- h. the discourse and style of the original text is maintained in the translated text
- i. the translation reads like an original work and the target readers understand it easily

- j. all form defects in the original source language text must be set aright or edited first before translating into the target language text so that there will be no problems for target readers of the translated version in comprehending the content of the target translated text.

#### 2.4.2 Wilss's Translation Process

According to Wilss (1982:177), "the translation process is language-pair-independent, text (type)-independent, and translator-independent". To him, the term translation process deals with how translation functions as an **interlingual communicative event**. He is of the opinion that translation is a **psycholinguistic formulation process**. Here, the translator goes through a series of textually connected **code-switching operations** by which the message in the source language (SL) is reproduced in the target language (TL). This is done to enable the target language native speaker who has no knowledge of the source language to understand the particular message and to react based on his own judgement.

According to Wilss (1982:177), interlingual translation consists of two alternating encoding and decoding events which are:

1. encoding of message in SL code by SL author,
2. decoding of message in SL by translator,
3. encoding of message in TL by translator,
4. decoding of TL message by TL native speaker.

(taken from Wilss 1982:178)

According to Wilss (1982:179) "a translation can be regarded as equivalent only if not only the semantic text dimension but also the stylistic equivalent requirements are satisfied".

### 2.4.3 Newmark's Translation Process

Newmark's (1988:19) description of the translation process is operational. It begins with choosing a method of approach and when translating, the translator has approximately four levels – the textual (SLT), the referential, the cohesive and the natural consciously in mind. The researcher has already discussed these four levels on pages 62-70

### 2.4.4 Seguinot's Translation Process

Seguinot (1989:iii) suggests that the translation process has two meanings:

The first refers to the progressive, physical production of a translated text. In this sense, the scientific study of the translation process can help us understand the effect of pragmatic variables such as time available and method of output. The second meaning of the term "process" refers to the conscious and unconscious mental operations that go on during translation.

Seguinot is of the opinion that since these processes that go on in the minds of the translators while translating are not directly observable, researchers in translation studies have adopted the methodology of problem-solving studies in cognitive psychology to produce interpretable data.

### 2.4.5 Bell's Translation Process

According to Bell (1991:20), the translation process involves the "transformation of a source language text into a target language text". This is done by means of processes which take place within the memory. Here, the source language text is analysed into a universal semantic representation and this is synthesised into the target language text.

Bell (1991:17) defines a **translator as a communicator** who is involved in written communication. For him the **translation process is a communication process**. It is a bilingual communication process which consists of **nine steps** as follows:

1. translator receives signal 1 containing message
2. translator recognises code 1 ( the source language)

3. translator decodes signal 1 (source language message)
4. translator retrieves the source language message
5. translator comprehends the source language message
6. translator selects code 2 (the target language)
7. translator encodes message by means of code 2 (target language)
8. translator selects channel (written)
9. translator transmits signal 2 containing message in target language

Bell thinks that in the translating process, two explanations are vital – a **psycholinguistic explanation** for decoding and encoding purposes and a **text-linguistic or sociolinguistic explanation** which focuses more on the participants, on the nature of the message and on the ways in which the resources of the code are drawn upon by users to create meaning-carrying signals and the fact that a sociocultural approach is required to set the process in context. Bell (1991:20) feels that the translation process assumes a movement from the physiological to psychological activities involved in reading and comprehending the source text to the writing of the target text. This entails a complex series of physical processes concerned with sensation and the reception of stimuli provided by the senses together with psychological processes of perception and memory; problems associated with reception, decoding and comprehension.

#### **2.4.6 Sager's Translation Process**

Sager (1994:116) defines translation as, “a range of deliberate human activities, which are carried out as a result of instructions received from a third party, and which consist of text production in a target language”. According to Sager (1994:135), translation can be seen as an industrial activity. It can be recognised as a purposeful human activity leading to a product. In this view, translation can be seen as a production process with an input of material, instructions regarding the task, and an output. The material input is a document; the instructions are a specification of the

expected product and how to produce it. The output is a document which has to measure up to certain expectations. The process is a sequential series of actions or events which can be broken down into separate stages. The translation process is regarded by many writers as a goal-directed activity consisting of two phases as shown in Figure 2.3. below.

**Figure 2.3**

**The Two Phases of the Translation Process (Sager 1994:135)**

<b>Approach</b>	<b>PHASE I</b>	<b>⇒</b>	<b>PHASE II</b>
Cognitive	comprehension		reconstruction
Linguistic	deverbalisation		reverbalisation
Communicative	decoding		encoding
Pragmatic	decomposition		recomposition

The significant point according to Sager (1994:135) is always the transition from the first phase (the source text) to the second phase (target translated text). Describing the process in cognitive terms, he draws attention to the necessity of relating comprehension to a pre-existing area of knowledge. When describing it in linguistic terms, he suggests that there is a need for a language-independent representation as a meeting point for the two phases. He thinks that the communicative and pragmatic approaches also require some forms of representation into which text can be decoded or decomposed.

Figure 2.4 on page 80 by Sager (1994:217), tries to express the translation process from two points of view, namely the separate parts of the process and the stage reached at the end of each separately recognised activity. This breakdown of the process should permit the identification of the separate activities and decisions involved in successive phases and to evaluate the results of each stage separately.



**Figure 2.4**

**The Sequence of the Human Translation Process Divided into Separate Stages**

(taken from Sager 1994:217)

SEQUENCE OF PROCESS		STAGES
<b>Specification Phase</b>		
1. IDENTIFICATION OF TEXT TYPE		SL DOCUMENT
2. IDENTIFICATION OF INTENTION		OUTLINE OF TASK
3. IDENTIFICATION OF SPECIFICATION		
4. CURSORY READING OF TEXT		OUTLINE OF ARGUMENT
<b>Preparation Phase</b>		
5. CHOICE OF TL TEXT TYPE		IMAGE OF TL TEXT TYPE
6. CHOICE OF TRANSLATION TECHNIQUE		WORKPLAN
7. READING COMPREHENSION		SEMANTIC REPRESENTATION
8. LOOK-UP AS NEEDED		IDENTIFICATION
<b>Translation Phase</b>		
9. SEARCH FOR EQUIVALENTS		PAIRS OF EXPRESSIONS
10. MATCHING EQUIVALENTS		TL PHRASES & CLAUSES
11. COMPENSATION OF EQUIVALENTS		IDENTIFICATION
12. TEXT PRODUCTION		TL DRAFT TEXT
<b>Evaluation/Revision Phase</b>		
13. EVALUATION OF CONTENT		IDENTIFICATION
14. REVISION OF FORM		TL TEXT/MESSAGE

The phases in Figure 2.4 are discussed below (taken from Sager 1994:217-238):

### **1. Specification Phase**

The specification phase includes the identification of the SL document (the general content of the message), its intention or purpose, the target readers of the translated version and finally a general reading of the source text for its general understanding and becoming familiar with the document to be processed. Translators have to make decisions on whether they are qualified to undertake the translation, whether they have the resources such as tools, what translation strategies and techniques to adopt.

### **2. Preparation Phase**

As soon as the general viability of a translation task is established, in the sense that the specifications are realistic in terms of time, cost and textual factors and the translators have confirmed their personal capability of performing the task, the process can progress to the preparation phase. The difference between the first and second phase is that in the specification phase translators assess the situation, whilst in the preparation phase they already make choices which narrow down the field of action and so directly prepare themselves for the task of text production. The separate stages of the preparation phase are all dominated by the overriding need to create a new document in a target language, based on instructions, notes or an existing document in the source language.

The first pragmatic decision in the preparation phase leading towards production is that of choosing the text form of the new product and the next concerns the choice of an appropriate strategy of translation which now involves consideration of the use of all the possible aids to translation. The preparation phase continues with detailed reading of the document and, where necessary, some separate research, usually confined to dictionary look-up.

### 3. Translation Phase

The translation process involves a transformation code which is based on the **search for pragmatic, cognitive and linguistic equivalents** at the various stages suitable for the particular act of communication that is to be mediated. The mission of translation can be described as a process of establishing and expressing equivalents. While the cognitive and linguistic equivalents are mainly established at the level of the sentence or in smaller units during the translation phase, the pragmatic equivalents have to be selected first in the preparation phase and at the level of the text type before being also realised in smaller units at appropriate points in the text.

The translator has to consider the text type on the basis of the specifications, whether to copy the source language text type or not. The search for equivalents begins at this level. This will depend on the purpose of the translation, for example, a summary is required or only the gist is required or it might just be an equivalent text type such as a textbook or an operating manual.

The choice of text type is related to that of translation strategy because some strategies can only lead to specific types of texts, notably forms specific to translation.

Translation strategies are determined by textual characteristics, relation of source to target text, intention, content, precedent, number of translations required, degree of revision required and by user requirement.

For reading, the translator must be able to understand the source text at the cognitive, pragmatic and linguistic levels. The knowledge dimension of text understanding entails **cognitive reading** which is independent of language in the sense that, in order to be understood, the information need not be expressed in language. It may appear in a diagram, table or other graphic form independent of any one particular

language. It is concerned with the following questions:

- Level 1 - What is the text about? that is, a global level of understanding the 'aboutness' of the text;
- Level 2 - What does the text say? that is, a slightly deeper level of understanding the general drift of the argument;
- Level 3 - What does the text say in detail?
- Level 4 - What knowledge has to be transferred into the TL text?
- Level 5 - How does the knowledge contained in the text relate to existing knowledge in the TL society?
- Level 6 - What efforts are required to retain this knowledge for active re-use?

(taken from Sager, 1994:200)

Translators must go right to the end of level 4 at least. If translators are involved in the production of evaluative abstracts in the target language, they may also require level 5.

The **pragmatic** dimension of text understanding is concerned with the following questions:

- Level 1 - What is the purpose of the document? that is, what is the level of understanding required for the intention, which implies reading the text as a message.
- Level 2 - What is the purpose of the translated text? that is, what is the new intention?
- Level 3 - Is the purpose of the new text suitable for the presupposed state of knowledge of the new readership?

(taken from Sager, 1994:201)

The first question is self-evident. In case of doubt with respect to the answer to question 2, translators are dependent on the specifications or have to ask the agent for

clarification. In some cases the answer to question 2 is already partially predetermined by the choice of text type. The answer to question 3 may give rise to a change in translation technique.

Reading comprehension of the **linguistic** dimension of text understanding also varies from ignoring the expression form to studying the form in detail. It is concerned with the following questions:

- Level 1 - What are the linguistic features of the text type of the text?
- Level 2 - How is the text structured syntactically?
- Level 3 - What mode of expression, what words are used?
- Level 4 - How is the text to be expressed in the TL?

(taken from Sager, 1994:201)

Linguistic analysis can be subdivided by the elements to be analysed. Much of this analysis is carried out unconsciously by translators: specific aspects are concentrated on according to the nature of the document and the purpose of the translation. The types of analysis include at the graphology, phonology, morphology, semantic, syntactic and compository levels. These are listed below in summary form:

Graphological level: spelling – punctuation – capitalisation – typographical layout – length of lines – spacing – paragraphing.

Phonological level: phonological structure – rhetorical devices (rhyme, rhythm, alliteration, onomatopoeia etc)

Morphological level: word classes and their respective distribution – distribution of active and passive voice – tense and aspect – word formation.

Semantic level: choice of vocabulary – denotation and connotation of words – personal pronouns – semantic figures of speech (similes, metaphors etc)

- Syntactic level: word order – types of sentences – length of sentences – linking of sentences – syntactic rhetorical devices (parallelism, repetition etc.)
- Compository level: type of introduction – sequence of forms ( cataphoric, anaphoric, reference) – text structuring (theme-rheme, climactic development, contrast, etc.) – type of conclusion.

(taken from Sager, 1994: 201-202)

Dictionary reference and other forms of consultation begin at this stage of the translation process and continue with varying intensity and purpose. “It is claimed that **dictionary look-up occupied between 15% and 50%** of the total translation process and that the provision of specialised terminology via electronic support can substantially reduce this time while increasing the accuracy and consistency of usage of terminology (Mossmann, 1984 cited in Sager, 1994:206). Thus look-up is at the start supportive of comprehension, then it becomes concerned with equivalences and moves finally towards control of expressions.

Sager (1994) is of the opinion that in reading comprehension, orientation is towards the source text. In the **translation phase, the orientation is bi-directional** according to the nature of the problem. The orientation in the revision phase is towards the source language.

#### **4. Evaluation or Revision Phase**

When the translation has been completed, the translator re-reads or revises his work. Sager (1994:238) defines **revision** “as a process of control of document production for accuracy, completeness, stylistic appropriateness, etc. and the necessary modification of the translation product”. The translated work is checked for omissions, inconsistencies of phrasing or spelling errors by the translators. The two processes that are involved in revision are relating the new product to the original and to the

specification given by the client (this is to ensure that the content delivered in the translation is accurate and natural) and checking the new product for its intrinsic quality. These two processes can vary in technique according to textual, pragmatic and personal circumstances. The translated version can be revised on his or her own by the translator or given to someone else for the revision to be done.

According to Sager (1994) once all the specifications have been interpreted, every successive step in the translation process is heavily conditioned by pragmatic considerations and therefore all translators' choices on the semantic and linguistic levels are strictly limited.

As a conclusion, Sager (1994:209) suggests that in the future, the most essential **new tools for translators will be collections of existing translations.** The use of powerful search and matching techniques on substantial collections of coherent documents will also make a major contribution to the understanding of the translation process because the linguistic units which provide the greatest incidence of actual identity between source and target languages can be examined.

#### **2.4.7 Darwish's Translation Process**

According to Darwish (1999:19), translation is basically a process where decisions have to be made under restrictions or limitations and his definition is stated below:

Translation is basically a decision-making process under constraints such as space, time, quality of information, problem-solving aptitude and so on. These constraints affect the quality of performance and the quality of the translation product and always circumvent the realization of an optimal translation.

If translation is looked at as a decision-making process under constraints, then a translator should be consistent in the use of terminology and not waver from it in the whole translation. Translation is a collaborative exercise. In real-life situations, translators often work in teams - they consult and collaborate with each other to produce

the final translation. They also consult authorities and specialists to solve their problems, clarify ambiguities and even check the accuracy of the information content.

Darwish (1995: 4) explored the translation process and has defined it as – see page 1, Chapter One for his definition.

According to Darwish (1995:5):

the translation process is two processes in one that run in parallel: internal process and external process. The internal process relates to the translator's internal cognitive processes while the external process relates to the activities that yield a finished translation product that is translation, edition, revision and so on.

According to Darwish (1999: 6), the translation process may be broken down into the following nine major iterative activities:

1. Planning. This consists of defining and identifying the scope, requirements and standards (including terminology) of the translation task.
2. Analysing information. This consists of analysing the source text and planning the translation. It also includes the use of suitable strategies for the translation product. Both source text and target translation are analysed in terms of text type, purpose, readership function and environment.
3. Translating. This consists of implementing the strategies chosen for the translation product and transforming the source information into a target language text that meets the requirements.
4. Revising. This consists of the translator reworking the translation product in progress iteratively and recursively until a draft is achieved.
5. Editing. This is an activity ideally performed by someone who is skilled as a translator editor.
6. Proofreading. This is an activity that is ideally performed by someone with proofreading skills or by the translator if he is trained to do so.



7. **Reviewing.** This is an activity that must be performed by a person other than the translator. It is an external review process to ensure that the integrity of information content has not been compromised.
8. **Completing translation.** This consists of finalising the translation product and ensuring that major review feedback has been incorporated into the final copy.
9. **Delivering the translation.** This is the handing in of the finished translation product to the relevant authority who commissioned the task.

#### **2.4.7.1 Translation as a Communication Process**

According to Darwish (1989:2), Bell (1991:17) and Houbert (1998:1), translation can be regarded as a communication process. According to Darwish (1989:2), “translation is a communication process which involves the transfer of a message from a source language to a target language”. Text linguistics, which is concerned with the way the parts of a text are organised and related to one another in order to form a meaningful whole, is useful for the analysis of the translation process and the transfer of meaning from one language to another.

According to Houbert (1998:1), the translator, before being a ‘writer’ as such, is primarily a ‘message conveyor’. According to him, “translation is to be understood as the process whereby a message expressed in a specific source language is linguistically transformed in order to be understood by readers of the target language”. In his opinion, the work of the translator is essentially of conveying the meaning expressed by the original writer. In a number of cases, Houbert (1998) feels that the translator faces texts which are to be used within a process of “active communication” and the impact of which often depends on the very wording of the original text. According to Houbert (1998:1), “in these specific cases, the translator sometimes finds it necessary to reconsider the original wording in order to both better understand the source text (this also sometimes occurs in plain technical texts) and be able to render it in the target

language". This is the moment Houbert (1998:1) feels when the translator becomes an active link in the communication chain, the moment when his communication skills are called upon to enhance the effect of the original message.

Houbert (1998:1) suggests that the translation process becomes twofold:

firstly, the translator needs to detect potential discrepancies and flaws in the original text and understand the meaning they intend to convey. To do this, the translator often needs to contact the writer of the text to be translated (or any other person who is familiar with the contents of the text) in order to clarify the blurs he has come across. Secondly, once this first part of the work is over, the translator will undo the syntactic structure of the original text and then formulate the corresponding message in the target language, thus giving the original text added value in terms of both wording and impact. It is important to stress that this work will always be carried out in cooperation with the original writer, so that the translator can make sure the translated message corresponds to the meaning the writer originally intended to convey; remember, the translator is essentially a *message conveyor*, not an *author*.

From some of the interviews with the part-time translators who participated in the TAPs, the researcher agrees with Houbert (1998), that translation is a communication process. In order to clear out the blurs in the original text, the researcher feels that a translator has to communicate with the writer of the source text to get the facts presented clarified before a translator can translate the message accurately, clearly and naturally in the target language. This will ensure that the target readers will have no problem in understanding the target language text.

#### **2.4.7.2 Analysis of the Translation Process**

According to Darwish (1999:23), a translation consists of the external and the internal processes. The external aspect of the process shows itself clearly at two levels which are the mechanical and the procedural. The internal aspect consists of the cognitive processing of information that manifests itself physically as a translation product on paper.

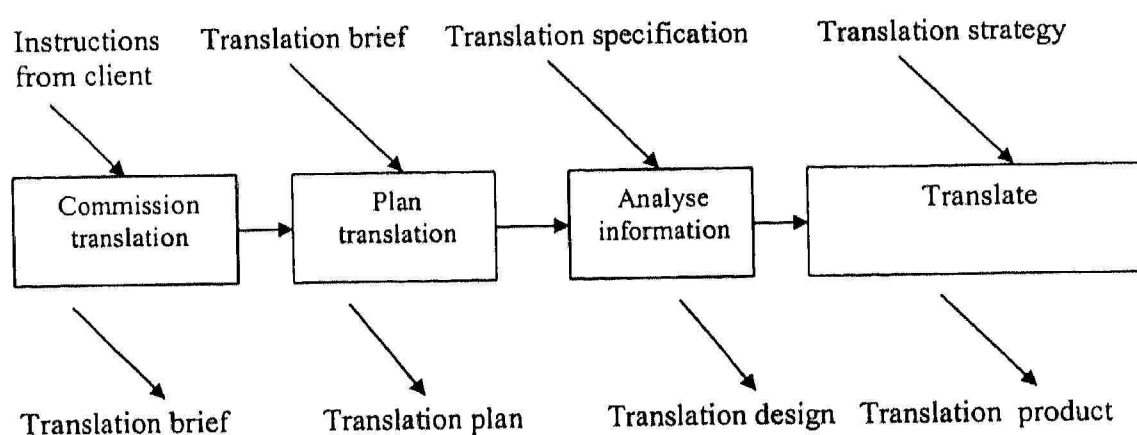
The moment we accept that translation is a process, we immediately concede that it has a start and an end, triggers input and output, boundaries, dependencies, tasks and enablers, drivers, constraints and exceptions, an environment and a direction of

flow (Darwish, 1999:21). The translation process begins with a decision to translate and ends with a completed translation. Each phase within the process is triggered by the completion or near completion of the previous phase at an appropriate juncture in the process. The input and output of the translation process are: source text and translation. Each phase within the process has its own input and output. The translation process is bounded by the parameters of the source text and the requirements of the target language. The translation process is dependent on the availability of a source text and it is also dependent on the extent of translatability between the source and target languages at all levels of transfer. The translation process consists of major tasks: information analysis, translation, revision, editing and proofreading. The translation process is enabled by the availability of a translator, and production systems such as pen, paper, typewriters, computers etc (Darwish, 1999:22). It is driven by the translator and the party commissioning the translation.

The external process begins when a translator is commissioned to translate and usually ends when the translation product is delivered. This process is shown in Figure 2.5 below.

**Figure 2.5**

**Inputs and Outputs of the External Translation Process ( Darwish 1999:23)**





translator uses his or her own strategy. Although these strategies constitute the foundation of the translation process, the literature on translation, according to Darwish (1999:17), rarely discusses them. Translators do talk about their plans, approaches and strategies for producing translations during their translation process. The final objective of any translation strategy according to Darwish (1999:18) is to solve the basic problem of translation-mediated communication and to eliminate the external and internal constraints imposed on the translation process in order to open likely choices.

Lorscher (1991, cited in Darwish 1999:18) correctly observes that the notion of translation strategy has not been seriously considered in translation theory. He defines translation strategy as:

a global procedure that consists of a series of minimal problem-solving steps which the translator employs in making certain considerations about the text. These steps are combined in specific ways to build up structures which partly determine and partly delimit the decisions which must be made on the hierarchically lower levels, such as syntax and lexis.

Lorscher's definition (1991:76, cited in Chesterman, 1997:91) which takes into account the conscious nature of strategies is that, "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".

Seguinot (1991, cited in Darwish, 1999:18), views strategies as the conscious and the unconscious procedures. She suggests that strategies can refer to overt tactics and mental processes as well.

Snell-Hornby (1988, cited in Darwish 1999:18) on the other hand, believes that translation strategies consist of "identifying and creating multiple relationships in both cultural association and language at the semantic and phonological levels".

Jääskeläinen (1993:116 cited in Chesterman, 1997:90) defines translation strategies as, "they are a set of (loosely formulated) rules or principles which a translator uses to reach the goals determined by the translating situation in the most

effective way". Jääskeläinen (1993:116) agrees with Seguinot (1989) that there are two levels of strategy. Chesterman (1997:90) describes this as at the more general level, where the problem to be solved is something like "how to translate this text or this kind of text", we have "global strategies". According to Chesterman (1997:90), at the more specific level, on the other hand, the problem to be solved is something like "how to translate this structure/this idea/ this item". He refers to these as "local strategies". According to him this has to do with local problems.

Chesterman (1997:5) defines a **meme** (see Chapter 1, section 1.6.6 on page 65) as "a unit of cultural transmission, or a unit of imitation". According to Chesterman (1997:5) memes of translation are the spreading or sharing of ideas in translation theory derived from experience, reading or research either verbally or through the presentation of papers at seminars or through the publishing of these ideas in books or articles. He suggests that meme transmission within a culture takes place through imitation and of course also through language. Chesterman (1997:7) suggests that "for a meme to be transmitted verbally across cultures, it needs a translation...This gives us a fundamental definition of a translation: translations are survival machines for memes".

Chesterman (1997: 87) proposes that:

... translation strategies are also memes as they are widely used by translators. They ... are widely used by translators and recognised to be standard conceptual tools of the trade. Trainee translators learn them, and they are thus passed on from generation to generation as a meme-pool: not fixed for all time, however, but open-ended and amenable to adaptation, variation and mutation.

Further Chesterman (1997:87) suggests that, "translators are ... people who specialize in solving particular kinds of communication problems; and translator trainees are interested in learning how to become good translators...In both cases there are kinds of problems to be solved".

For Chesterman (1997: 88-89), a **strategy** is "a kind of process, a way of doing something ... strategies are ways in which translators seek to conform to norms ... to

arrive at the best version ... what they regard as the optimal translation". Strategies are forms of textual manipulation (operations which a translator may carry out during the formulation of the target text). Chesterman (1997:89) puts across the fact that "a strategy offers a solution to a problem and is thus problem-centred ... the translation process too starts with problems." Chesterman (1997:89) further explains:

One of the results of protocol research on translation has been that translators of all kinds tend to proceed in jerks: there are smooth, "automatic" patches of activity interrupted by pauses, problem points where the translator appears to have to think in a non-routine manner...Further, these jerks do not proceed linearly, from beginning to end of a text; the process is more of a spiral one, with constant switching back and forth in the text, going back to an earlier problem again, and so on. It seems reasonable to assume that it is mainly at the problem points that translators have recourse to strategies, as ways of overcoming temporary hitches in the translation process.

Other characteristics of strategies put forward by Chesterman (1997:91) include the fact that strategies are conscious and are intersubjective, that is they are learnable and hence 'portable' and readily accessible. They are in effect intersubjectively known to be 'tried and tested procedures' (Lorscher 1991:68 cited in Chesterman 1997: 91) for achieving particular goals: proven conceptual tools.

### **2.5.1 A Classification of Translation Strategies**

According to Chesterman (1997:92), the grand overall strategy of "change something" in producing a target language text from a source language text suggests that one way to look at strategies in more detail is in fact to see them as kinds of changes. Based on this concept and from ideas drawn from Vinay and Darbelnet (1958), Catford (1965), Nida (1964), Malone (1988) and Leuven-Zwart (1989/1990), Chesterman (1997:91) has proposed a classification which is heuristic in nature. It seems to work in practice; it uses accessible terminology; it seems to differentiate enough but does not get bogged down in "unportable" detail: and it is flexible and open-ended. It comprises three primary groups of strategies: mainly syntactic/grammatical,

mainly semantic and mainly pragmatic. These strategies are described below (taken from Chesterman, 1997: 87-115).

### 2.5.1.1 Syntactic Strategies

This involves purely syntactic changes of one kind or another and they primarily **manipulate form**. Larger changes tend to involve smaller ones too. The main ones are as follows:

- a. Literal translation: meaning “maximally close to the SL form but nevertheless grammatical”
- b. Loan, calque: this strategy covers both the borrowing of individual items and the borrowing of syntagma and is a deliberate choice
- c. Transposition: means any change of word class e.g. from noun to verb, adjective to adverb and thus it involves structural changes as well
- d. Unit shift: This is a term from Catford (1965). The units are morpheme, word, phrase, clause, sentence, paragraph. A unit shift occurs when a ST unit is translated as a different unit in the TT.
- e. Phrase structure change: This strategy comprises a number of changes at the level of the phrase, including number, definiteness and modification in the noun phrase, and person, tense and mood in the verb phrase.
- f. Clause structure change: this concern changes to do with the structure of the clause in terms of its constituent phrases. Various subclasses include constituent order (analysed simply as Subject, Verb, Object, Complement, Adverbial) active vs. passive voice, finite vs. non-finite structure, transitive vs, intransitive
- g. Sentence structure change: This group of strategies affects the structure of the sentence-unit, insofar as it is made up of clause-units. Included are changes between main clause and sub-clause status, changes of sub-clause types etc.



- h. Cohesion change: is something that affects intra-textual reference, ellipsis, substitution, pronominalization and repetition or the use of connectors of various kinds
- i. Level shift: Levels refer to phonology, morphology, syntax and lexis. In a level shift, the mode of expression of a particular item is shifted from one level to another.
- j. Scheme change: This refers to the kinds of changes that translators incorporate in the translation of rhetorical schemes such as parallelism, repetition, alliteration, metrical rhythm etc.

#### **2.5.1.2 Semantic Strategies**

Under semantic strategies, which **manipulate meaning**, Chesterman (1997) has grouped kinds of changes which mainly have to do with lexical semantics and aspects of clause meaning such as emphasis. These include the following:

- a. Synonymy: this involves selecting not the “obvious” equivalent but a synonym or near synonym for it e.g. to avoid repetition
- b. Antonymy: the translator selects an antonym and combines this with a negation element
- c. Hyponymy: shifts within the hyponymy relation are common
- d. Converses: are pairs of verbal structures which express the same state of affairs from opposing viewpoints, such as “buy” and “sell”
- e. Abstraction change: a different selection of abstraction level may either move from abstract to more concrete or from concrete to more abstract
- f. Distribution change: this is a change in the distribution of the “same” semantic components over more items (expansion) or fewer items (compression)
- g. Emphasis change: this strategy adds to, reduces or alters the emphasis or thematic focus, for one reason or another

- h. Paraphrase: This results in a TT version that can be described as loose, free, in some contexts even undertranslated.
- i. Trope change: this applies to the translation of rhetorical tropes (e.g. figurative expressions)

### 2.5.1.3 Pragmatic Strategies

By pragmatic strategies, Chesterman (1997:107) means those which primarily have to do with the **selection of information in the TT**, a selection that is governed by the translator's knowledge of the prospective readership of the translation. These typically incorporate syntactic and/or semantic changes as well. They **manipulate the message** itself and are often the result of a translator's global decisions concerning the appropriate way to translate the text as a whole. These include:

- a. Cultural filtering: also referred to as naturalisation, domestication or adaptation; it describes the way in which the SL items, particularly culture-specific items are translated as TL cultural or functional equivalents, so that they conform to TL norms
- b. Explicitness change: this change is either towards more explicitness (explication) or more implicitness (implication)
- c. Information change: this means either the addition of new information which is deemed to be relevant to the TT readership but which is not present in the ST, or the omission of ST information deemed to be irrelevant
- d. Interpersonal change: this strategy operates at the level of the overall style: it alters the formality level, the degree of emotiveness and involvement, the level of technical lexis and the like: anything that involves a change in the relationship between text/author and reader
- e. Illocutionary change: this includes changes of speech acts and are usually linked with other strategies too

- f. Coherence change: this has to do with the logical arrangement of information in the text at the ideational level
- g. Partial translation: this covers any kind of partial translation, such as summary translation, transcription, translation of the sounds only and the like
- h. Visibility change: This refers to a change in the status of the authorial presence, or to the overt intrusion or foregrounding of the translatorial presence. For instance, translator's footnotes, bracketed comments or added glosses explicitly draw the reader's attention to the presence of the translator, who is no longer transparent
- i. Transediting: this is a term suggested by Stetting (1989) to designate the sometimes radical re-editing that translators have to do on badly written original text
- j. Other pragmatic changes: this would include layout, choice of dialect etc.

Finally the motivation underlying a translator's choice of strategy derives ultimately from the **norms of the translation** which are the desire to conform to the expectancy norms (concerning the grammaticality and acceptability of the target text) of the target language community and the desire to conform to the accountability, communication and relation norms. Another notion is the compensation notion which is used when a translator wants to add, omit, change etc at one point in the text, this action in itself may be justification for a compensatory strategy at some other point in the text.

### 2.5.2 Past Studies on Translation Strategies

Fawcett (1997:39) states that part of the problem of translation theories is that their models of the translation process are purely theoretical constructs. He suggests that the conclusion arrived at is that translation takes place in stages. He suggests that no one really knows what goes on in a translator's head – what translation strategies are used. According to him, since the mid-1980's, researchers in Germany and Finland

have increasingly taken up the methods of psychological investigation available in psycholinguistics and the cognitive sciences, applying the concepts to translation in an attempt to find out how people's minds handle the linguistic process of translating. One of the main tools of investigation is the "Think-Aloud Protocol" or TAP, in which participants are asked to articulate and verbalise whatever comes into their head while translating.

Krings (1986:260-262, cited in Fawcett, 1997:140-141) studied the strategies his participants (advanced language learners) used in the comprehension, translation and evaluation stages of the translation process. He found that in the comprehension (reception) phase of translating they had large recourse to dictionaries for solving problems; only in a quarter of problem situations did they use their problem-solving ability by making their own inferences. In 75% of cases, the use of the bilingual dictionary did actually lead to the right answer, compared with only 40% right answers arrived at by making inferences from the context.

In the translation phase, Krings (1986) again found considerable reference to the bilingual dictionary. If the dictionary offered only one translation, the participants used it without any further thought. Where two or more equivalents were offered, the main concern of the participants became that of checking to see which one would fit into the immediate syntactic context, even if they did not understand the equivalent they had chosen. Krings (1986:393) comments, "At least in some cases the participants are aware that they are translating without understanding". In most cases the participants were able to associate only one target equivalent with the source unit, and in most cases they solved the problem of finding an equivalent at no higher than the word level (Krings, 1986:399).

According to Krings (1986: 464-467), in the evaluation and decision-making stage, the participants finalised the choice of equivalent by using two main strategies:

“playing-it-safe” reduction strategies in which the target message underwent a loss in relation to the source, and “risk-taking” achievement strategies in which the participants attempted to provide a full translation without knowing if the solutions offered were right or not. Where various possible solutions had to be weighted up, the participants’ choice tended to be guided by “translation maxims”. Krings found seven of these (1986: 429-434) and they are as follows:

- i. Literalism maxim: avoid translations that move too far away from the source text;
- ii. Length restriction maxim: one subject rejected an “overlong” translation citing the “rule” of an authority on translation that a translation should never “be more than 10% longer than the original” (1986: 430);
- iii. Translational constancy maxim: the notion that a given source unit should always be translated by the same target-language word (s);
- iv. Variety maxim: the idea that different source units must be translated by different target units rather than being allowed to converge into the same word;
- v. Foreign-word maxim: when in doubt use a “proper” target-language word rather than a similar-sounding loan word (a constant problem in German where so many English words have been imported and where, even though these loan words are used with considerable frequency by native German writers, student translators are told to avoid them);
- vi. Corrective maxim: where translators find, or think they have found, an error in the source text, some will correct it in the translation while others will insist that you should not “improve” on the original in any way whatsoever;
- vii. Translator-tools maxim: this takes us into the realm of the light fantastic; Krings (1986) found that his translators followed such maxims as :

- a. never translate a source-language word you don't know by a target-language word that isn't in the dictionary;
- b. trust the dictionary even when you don't understand it;
- viii. when in doubt, take the first word offered in the dictionary list of equivalents.

(cited in Fawcett, 1997:141)

Another German scholar who has researched what goes on in the minds of translators is Lorsch. Like Krings, Lorsch worked with students. According to Fawcett (1997:141), both authors also studied translation into the foreign language, which, although it happens, is not recommended as best practice in the professional world of translation. Consequently, the results of these studies tell one more about language-learning needs than about translation strategies.

Lorsch (1991:280) counters this by suggesting that what such studies reveal are not specifically translation activities but rather general strategies for processing texts. In any event, Kussmaul and Tirkkonen-Condit (1995:181) quote research by Jaaskelainen and Tirkkonen-Condit (1985:181) to the effect that using professional translators for think-aloud protocols is counter-productive, since participants tend to fall silent when the task in hand is so routine that it requires little effort, and for professional translators this will happen a lot (cited in Fawcett, 1997:141).

Lorsch's study aims to find out what range of strategies translators use, how frequently they occur, what kinds of problems they are able to solve, and how successful they are.

From the data, Lorsch (1991:97-117) has uncovered five basic translation strategies built out of twenty-two elements. These basic strategies may contain embedded elements within the chain and bound elements at the end. These are not part of the attempt to solve the problem but can be made into expanded structures by adding

in further elements that are part of the problem-solving process, and they can be built into complex structures by putting together one or more basic strategies. The elements that go to produce the basic structures include:

- realising the existence of a translation problem;
- verbalizing the problem
- searching for a solution
- finding a definitive or temporary, whole or part solution;
- putting off the search for a solution;
- failing to find a solution;
- having a problem in understanding the source text.

(cited in Fawcett, 1997:142)

These elements occur exclusively within what Lorschier calls 'strategic' phases of the translation process, in other words, those parts of translating in which a problem is being specifically addressed.

The further set of elements may or may not occur in such phases and include such activities as repeating or rephrasing the source and target language texts, checking a possible solution against the source text or against the target context, mentally organising a source-text segment to find a starting point or to translate it as a whole rather than word-by-word, commenting on the text or commenting on what the translator is actually doing (Fawcett, 1997:142).

Out of these elements, the basic translation strategies are built up. These are actually quite simple, ranging from the straightforward:

*Realise there is a problem + Solve it or Fail to solve it for the time being to the more complicated:*

*Realise there is a problem + Search for a solution + Verbalise part of the problem + Solve that part or put it off + Search for a solution to the next part etc.*

(taken from Fawcett 1997:142)

In other words, the strategies build up through the addition of extra stages in verbalising and searching for solutions to all or part of the problem. Embedded within or appended to the end of the strategies will be the elements of monitoring, rephrasing, checking and so on (Fawcett 1997:143).

The actual translation results produced by these strategies show that Lorsch's participants, like those of Krings and probably for the same reason, tend to have just one-to-one associations between the source and the target translation units. This means that they tend to produce sign-oriented rather than sense-oriented translations; their translation unit is the formal linguistic sign rather than the sense of the message. Where such an approach produces nonsense, the participants are often not even aware of it because they rarely check their translations to make sure they make sense (Lorsch 1991:272-273, cited in Fawcett, 1997:143), even though experiment shows that they have usually, correctly understood the original text (Lorsch, 1991: 276, cited in Fawcett, 1997:143).

As translators become more experienced and acquire greater control over their mother tongue, so the translation strategies **move more toward the sense-oriented approach** based on larger translation units with checking for style and text typology (Kusmaul and Tirkkonen-Condit 1995:187, cited in Fawcett, 1997:143). Tirkkonen-Condit has found that the more professional translators also make better use of the minimax strategy (seeking maximum effect or benefit for minimum effort) allowing wider goals to influence local decision-making and prioritising tasks so that they make better use of world knowledge and inferencing capacities rather than having constant and time-wasting recourse to dictionaries. As she says, "Since time is a limited



resource, a good translator does not necessarily aim at an optimal performance which is sufficient in a given communicative situation" (Kussmaul and Tirkkonen-Condit 1995:190, cited in Fawcett 1997:143). This probably means professionals make better use of what is called top-down processing, working from general concepts and objectives down to precise goals, rather than bottom-up processing, working from data, which, in translation, means the specific words on the page. This would seem to be supported by Janet Fraser (1996:88-89), whose research shows the influence of a specific translation brief on the thought processes and translation outcomes of professional translators.

### **2.5.3 Use of Direct and Indirect Language Learning Strategies**

Besides the translation strategies mentioned above, the direct and indirect language strategies put forward by Oxford (1990) and O'Malley and Chamot (1990) are also used by translators in their translation task as translation is also a language task involving two languages, besides dealing with other disciplines such as concepts, terminology, linguistics, communication, writing and culture. Thus, in this context, the researcher thinks that these language strategies can also be considered translation strategies. Oxford's (1990) language learning strategy classification suggests that good language learners or anyone involved in a language task such as translation, use strategies in the following six broad groups: memory, cognitive, compensation, metacognitive, affective and social. These six subcategories emerge from two main categories of strategies i.e. "direct" and "indirect" strategies. The "direct strategies" relate to the ways in which the learner (here, the translator) deals with and works with on the target language including the mental processing of the language. The "indirect" strategies involve the general management of learning, or the language task (here, the translation task). Within the category of "direct strategies", Oxford recognises memory, cognitive and compensation strategies. Memory strategies such as "creating

mental linkages”, “applying images and sounds”, “reviewing well” and “employing action” help translators to store and retrieve new information. Cognitive strategies such as “practicing”, “receiving and sending messages”, “analysing and reasoning” and “creating structure for input and output” enable learners (here, translators) “to understand and produce new language by many different means” (Oxford, 1990:7). Meanwhile, compensation strategies like “guessing intelligently” and “overcoming limitations in speaking and writing”, allow learners to use the target language for either comprehension or production despite deficiencies and limited knowledge about the language.

On the other hand, the indirect strategies include metacognitive, affective and social strategies. They are referred to as “indirect” because they help, support and manage the language learning process (here, the translation task) in many different instances while working in tandem with direct strategies. Oxford (1990:151) stresses that indirect strategies are useful in virtually all language learning situations and are applicable to all the four basic language skills.

Metacognitive strategies go beyond cognitive strategies to help learners to coordinate their own learning process (here, help manage the translation task). As learners (here, the translators) are often overwhelmed by the new target language with the confusing rules and unfamiliar vocabulary, many learners (here, the translators) need metacognitive strategies such as, “centering your learning”, “arranging and planning your learning” and “evaluating your learning”, to regain focus in order to succeed in the new endeavour (the translation task). Affective strategies such as “lowering your anxiety”, “encouraging yourself” and “taking your emotional temperature” help learners (here, translators) regulate their emotions, motivations and attitudes towards the learning of the target language. Social strategies such as “asking questions”, “cooperating with others” and “empathising with others” encourage

learners' (here, translators) interaction with other people (teachers, fellow students, proficient target language speakers etc). Such direct interaction helps in the acquisition of the new language as it helps develop all the four language skills.

On the other hand, O'Malley and Chamot's (1990) tripartite categorisation of learning strategies is based on a number of studies carried out on learners of English as a Second Language (ESL) in the United States. Their classification has a strong foundation in cognitive psychology learning theories particularly in terms of metacognition in learning. Their framework saw the classification of 22 strategies into three main categories depending on the kind and level of processing involved viz: metacognitive, cognitive and socio-affective strategies. Oxford's (1990) and O'Malley and Chamot's (1990) taxonomies on language learning strategies are given in **Appendices G1, G2 and in G3** a detailed description of each set of strategies is given with examples taken from the transcriptions of the TAPs of the five participants of this study.

O'Malley and Chamot (1990) point that their eleven cognitive strategies of repetition, resourcing, grouping, note-taking, deduction, substitution, elaboration, summarisation, translation, transfer and inferencing relate directly to the learning task. These language learning strategies help learners interact with the target language materials and situations and help them manipulate and analyse the learning material for the language task. On the other hand, the seven main metacognitive strategies such as planning, directed attention, selective attention, self-management, self-monitoring, problem identification and self-evaluation refer to strategies that involve learning and controlling learning through planning, monitoring and evaluating the learning process. These strategies engage learners to reflect or think about their learning. O'Malley and Chamot (1990:8) stress that learners "without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress,

or review their accomplishments and future learning directions". The third category of social/affective strategies such as questioning for clarification, cooperation, self-talk and self-reinforcement involve the management of feelings about language and language use when interacting with others.

For this study, the researcher used the language learning strategies put forward by Oxford (1990) and O'Malley and Chamot (1990). The TAPs were first analysed by the researcher on her own and then matched against the language learning strategies. These strategies were used because the participants in this study were advanced language learners and had to cope with two languages in their translation of English language scientific texts into the Malay language. They were in fact learning the languages further when they had to find equivalent terms in the Malay language and reproduce what they had comprehended in the English language into the Malay language. By analysing the transcriptions of the TAPs on her own and then matching the strategies used against those presented by Oxford (1990) and O'Malley and Chamot (1990), the researcher was able to come up with her own translation strategies taxonomy used by the translators of English language scientific texts into the Malay language. As O'Malley and Chamot's (1990) strategies are similar to Oxford's (1990), they are subsumed under Oxford's (1990) direct and indirect strategies for this study. According to Oxford (1990: 11), "language learning strategies are tools". These strategies are used because there is a problem to be solved, a task to be accomplished and an objective to be achieved. In translation, all these problems are there and these strategies are used to solve the translation task via problem-based learning. The translators' task in this study is to convey the English language content in the scientific text into the Malay language as clearly, accurately and naturally as possible. They need these strategies as their translation tools to help realise the target text – both the direct strategies to study the problem and the indirect strategies to manage the task. The language learning

taxonomies described is useful for all translators because they can use these strategies to comprehend the source text better and later produce it successfully into the target text. These language strategies are important translation tools for translators as they make their translation task more efficient, easier and better.

The researcher suggests that these language learning strategies can be termed translation strategies too as the researcher is of the opinion that translation is a problem-solving task involving the transference of a message from a source language to a target language. Translation involves other disciplines too such as culture, linguistics, communication, situation etc. Even Chesterman (1997:89) suggests, "If a goal is the end-point of a strategy, what is the starting point? The simple answer is: a problem. A strategy offers a solution to a problem and is thus problem-centred ... the translation process too starts with problems". In other words, he is suggesting that the translation process is actually a problem-solving task and strategies can be used to attain the end product, that is a good translated text and the researcher agrees with him. Thus, the researcher in this study will investigate whether Oxford's (1990) model on language learning strategies or SILL (Strategy Inventory for Language Learning) can assist the participants of this study during their translation process to produce a good translation product.

## **2.6 Translation Models**

According to Wilss (1982:179), all transfer or **translation models** serve to **explain the functioning of the translation process** by an analysis of its basic factors. He suggests that these models represent a "conceptualised, abstract frame of reference" which serves as a basis for empirical, language-pair-related research, and thus creates the preconditions for **the investigation of concrete translation problems and difficulties**. The latter two aspects are of particular importance in a syllabus designed to give translator-students a sort of training, which has at the same time a sound

theoretically, linguistically and learning-psychologically relevant fundamental, and an optimal practical orientation.

If a translation model is an abstract frame of reference, a theory according to Bell (1991:26) is “an explanation...a statement of a general principle based upon reasoned argument and supported by evidence, i.e. intended to explain a particular fact, event or phenomenon”. Chesterman (1997:16) proposes that “a theory at its simplest, is a problem-solving hypothesis, a proposed answer to a question”. According to Wilss (1982:179), a minimum linguistic ability is required for a translator as translation is basically a communication process involving two languages. Here the researcher disagrees with Wilss because she feels that a good linguistic ability in the source language and in the target language is necessary to convey the message from the source language text to the target translated text clearly, accurately and naturally. Wilss suggests (1982:179) that one must take the challenge seriously that in a syllabus for prospective translators, the bridging of the gap between the theory and the practice of translation is of outstanding significance. The success of the translator in coming to grips with his transfer problems depends on his source language decoding and his target language encoding ability. He suggests that both abilities are an aggregate of many components. Such components are the psycho-mental disposition of the translator; his or her translational experience and motivation; the congeniality of the text to be translated; the correlation or non-correlation between the difficulty degree of the pertinent text and the translator’s competence level; the degree of syntactic, lexical and sociocultural contrastivity between source language and target language code; the distance between the source language and target language lexical and syntagmatic/syntactic repertoires (Wilss 1982:182).

Although many writers have put forward their own models of translation, the researcher feels that the translation models put forward by Bell (1991), Sager (1994)

and Darwish (1989,1995,1999) are the most useful to translators and are able to describe the translation process in depth. These models are described in the next section.

### **2.6.1 Bell's Translation Model**

The translation model by Bell (1991:43) rests on a number of assumptions about the nature of the translation process and the characteristics it must have if it is to explain the translation process. It derives from work in psycholinguistics and in artificial intelligence on real-time natural language processing. It also represents an updated version of earlier models of the translation process itself and a combination of elements of other models. Bell's Model as presented by himself (taken from Bell, 1991:59) is given in **Figure 2.7 on page 123**.

It is assumed by Bell (1991:44-45) that the process of translating involves human information processing and thus a translation model should reflect its position within the psychological domain of information processing; it takes place in both short-term and long-term memory through devices for decoding text in the source language and encoding text into the target language via a non-language specific semantic representation; it operates at the linguistic level of clause, irrespective of whether the process is one of the analysis of incoming signals or the synthesis of outgoing ones (monolingual, reading and/or writing, or bilingual, i.e. translation); it proceeds in both a bottom-up and a top-down manner in processing text and it integrates both approaches by means of a style of operation which is both cascaded and interactive i.e. analysis or synthesis at one stage need not be completed before the next stage is activated and revision is expected and permitted; it requires there to be, for both languages a visual word-recognition system and a writing system, a syntactic processor which handles the options of the MOOD system and contains a Frequent Lexis Store (FLS), a Lexical Search Mechanism (LSM), a Frequent Structure Store (FSS) and a parser, through which information passes to (or from) a semantic processor which handles the options

available in the TRANSITIVITY system and exchanges information with a pragmatic processor which handles the options available in the THEME system, and there is also an idea organiser which follows and organises the progression of the speech acts in the text (and, if the text-type is not known, makes inferences on the basis of the information available) as part of the strategy for carrying out plans for attaining goals devised and stored in the planner which is concerned with creating plans for reaching goals of all kinds. Some of these plans may involve uses of language such as text-processing. This might include translating a text and this decision might well have been made even before its first clause had been processed.

Bell proposes that the translation process is not a linear one but rather an integrated process. There is no following of each stage after the other strictly but rather it is integrated in which, although every stage is passed through, the order is not fixed. Back-tracking, revision and cancellation of previous decisions are the **norm** rather than the exception. He is of the opinion that the translation process can be divided into two stages which are **analysis and synthesis** and, within them, three distinguishable areas of operation: the **syntactic, semantic and pragmatic** which co-occur, roughly, with the **five stages of parsing, expression, development, ideation and planning**. The aim is to work through the model, simulating the translation of a clause (Bell, 1991:45).

#### **2.6.1.1 Analysis of the translation process**

According to Bell (1991:45), the three operations within the analysis are the syntactic, semantic and pragmatic analysis which are discussed below.

**2.6.1.1.1 Syntactic Analysis:** The first major stage in translating is reading the source text. This requires there to be a **visual word recognition system** which can distinguish words from non-words in the source language text. Processing begins with such recognition **concentrated on the clause**, and converting the physical stimuli into a 'whole' which is perceived as a linear string of discrete symbols. This initial processing



is handled by mechanisms for recognising and coding the distinctive features of the letters, and so supplies the input for syntactic processing of the clause. In Bell's (1991:270) example, "The dog bit the man", this is taken into the syntactic processor for analysis and the clause is decomposed into syntactic structures; the clause structures available as options within the system of MOOD. The default track through the processor would be for the clause (still in the form of a string of symbols) to pass through both the frequent lexis store (FLS) and the frequent structure store (FSS) without recourse to either the lexical search mechanism or the parser.

The MOOD system of the grammar provides a chain or structured sequence of functional positions or relations which are 'realised' or 'filled' by formal items at the level of the clause by phrases and at the level of the phrase by words. Just as the clause has its SPCA (Subject, Predicate, Complement, Adjunct) structure, so too phrases have their own structures; modifier (m), head (h) and qualifier (q). The chain in the clause typically contains functions and forms such as:

Subject (S), Object (O) and Complement (C), typically 'realised' by formal items such as noun phrases (NP) 'filling' S, O and C 'slots.'

**Predicator (P)**, realised by verb phrases (VP) 'filling' P 'slots.'

**Adjunct (A)**, realised by adverbial phrases (AdvP) and prepositional phrases (PP) 'filling' A 'slots.'

For example:

The crew	tested	the atmosphere	carefully.
S [NP]	P[VP]	O[NP]	A[AdvP]

(taken from Bell 1991:142)

Equally, phrases also contain chains and choices, example in the NP, AdjP and AdvP; modifier (m), head (h), qualifier (q), 'filled' by formal items (normally words), as in the example below, by a determiner, an adjective, two nominals and a prepositional phrase:

The	excited	space	scientists	from Earth.
NP[m(d)	m(adj)	m(n)	h(n)	q(PP)

The suggested modifier – head – qualifier structures fit NP, AdjP and AdvP well enough but require re-definition for the other phrases in the case of:

1. verb phrases as auxiliary - main verb – extender and
2. prepositional phrases as before - preposition - preposition- completer - with, in principle, an unlimited number of items (including zero) ‘filling’ the modifier (or auxiliary) and qualifier (or extender) ‘slots’).

(taken from Bell, 1991:143)

Both the Frequent Lexis Store (FLS) and the Frequent Structure Store (FSS) have the function of relieving the short-term memory (STM) of unnecessary storage by allowing large amounts of data to by-pass the parser, in the case of structure, and the lexical search mechanism, in the case of lexis, and be directed immediately to the semantic level during analysis or the writing system during synthesis. Both the stores are constructed under the same kind of constraints; the notions of changing repertoires and both quantitative and qualitative differences between individuals applying in both cases. These stores are discussed below.

#### (a) Frequent Lexis Store (FLS)

This is the mental (psycholinguistic) correlate of the physical glossary or terminology database, i.e. an instant ‘look up’ facility for lexical items both ‘words’ and ‘idioms’. The contents of such a store would include items of first and second order of informativity that is items such as *a, and, I, in, is, it, of, that, the, to, was*, which constitute some 20 per cent of the first 20,000 words in the average adult vocabulary and (b) other frequent items such as *all, as, said, look, who* (this makes up a further 238 words which make up the next 40 per cent). Given that most linguists would accept that the distinction between grammatical and lexical is really only one of degree and that a

psycholinguistic model of language production (and, of necessity, translation) must contain a Frequent Structure Store.

**(b) Frequent Structure Store (FSS)**

FSS is a set of operations...that involves the exploitation of frequently occurring structures which undoubtedly are stored in memory in their entirety as is a lexical item like *dog* or *eclipse*...(with) direct access to phrases and sentences... nearly as rapidly as it is for individual words (Bell, 1991:193).

It is imagined that there is one FLS and one FSS for each language the translator knows. The FSS for a user of English language will consist of combinations of Subject, Predicate, Complement, Object and Adjunct which between them cover the major options available in the MOOD system of the language i.e. the unmarked organisations of the six clause patterns in their indicative, declarative, interrogative and imperative form.

English clause structure rests on a simple foundation of six key clause types which are:

- |            |   |
|------------|---|
| 1. S P     | They ran (Subject - They, Predicate - ran)  |
| 2. S P C   | They are hungry. (Subject - They, Predicate - are, Complement - hungry)   |
| 3. S P O   | They hit Fred. (Subject- They, Predicate - hit, Object - Fred)  |
| 4. S P O O | They gave Fred \$1,000. (Subject- They, Predicate-gave, Indirect Object- Fred, Object - \$1,000)                |
| 5. S P O C | They elected Fred President. (Subject-They, Predicate - elected, Object - Fred. Complement - President)         |
| 6. S P O A | They put the plates on the table (Subject - They, Predicate - put, Object - the plates, Adjunct - on the table) |

Clearly, Adjuncts can be added to each of these in almost all positions and recursively. Equally, even in the declarative, there are stylistically striking re-arrangements which are available, e.g. the passive

S P A                      Fred was hit by them

(taken from Bell, 1991:49)

The incoming string is passed initially to the FSS and then to the FLS. The ordering is important, since it is not unusual for a reader to be able to parse a clause without understanding the meanings of the words in it. If the syntactic structure of the clause is not matched in the FSS, then it has to pass to the parser.

#### **( c ) Parser**

This has the task of analysing any clause for which analysis appears necessary. Once this has been done, the clause can continue through the process to the next step of the syntactic processing stage; accessing the FLS. For the function of the elements and the meaning of the words, one must turn to the Lexical Search Mechanism.

#### **(d) Lexical Search Mechanism (LSM)**

This has the task of probing and attempting to 'make sense' of any lexical item which cannot be matched with items already stored in the FLS. Everyone is aware of the frustrating 'tip-of-the-tongue' phenomenon which often afflicts the translator; the inability to 'find the right word' or, at times, any word at all. The LSM provides the means of trying to make sense of an unknown word and to do this the reader can adopt one of the following strategies: attempt to assign a meaning to the item on the basis of its surrounding, that is, the words around it, ignore the item and hope that increasing information of a contextual kind will provide a meaning or search in memory for similar items; making use, that is, of some kind of internal thesaurus.

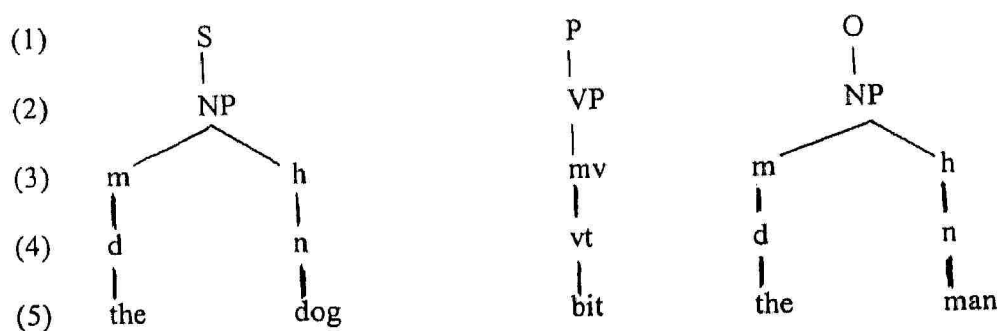
It is clear that readers and translators deal with many of the stages of text-processing – both reading and writing – through established routines; favourite ways of

tackling a particular task. These routines have to be structured and stored in memory in a manner which permits access to them. The cognitive scientist would suggest that these routines form schemas, scripts and preferential strategies.

The FLS and FSS can be imagined as constituting schemas of a type which is specialised for dealing with linguistic problems. This seems to be a notion which is helpful in explaining the speed with which communicators are able to process texts and particularly welcome in the context of explaining translation.

Before going on to the semantic analysis, the output by the syntactic processor is discussed first. What entered the syntactic analyser as a string of symbols now leaves it as syntactic (MOOD) structure. The information entering the semantic analyser can now be symbolised in terms of S P C A sequences with their phrase structures and their lexical fillers plus, at least provisional, lexical meanings attached to the lexical items and a tag indicating whether the items are common ones or not.

The syntactic information is displayed as a tree-diagram below running from (1) the syntagmatic chain sequence of the clause (Subject Predicate Object) through (2) the paradigmatic choices which realise each place in the chain ( Noun and Verb Phrase), (3) the syntagmatic chain of the 'fillers' of the clause 'slots' (the structures of the phrases; modifier, head, main verb) and (4) the paradigmatic choices which realise them (determiner, noun, transitive verb) to finally (5) the actual words which realise the categories determiner, noun etc.



(taken from Bell, 1991:52)

The clause is 'the product' of three simultaneous semantic processes. It is at one and the same time a representation of experience, an interactive exchange, and a message and now enters the semantic analyser with information of this second kind (MOOD), i.e. that it is indicative and declarative and in terms of its literal meaning, a statement. Next comes, the analysis of the clause in terms of its content by the semantic analyser and its purpose by the pragmatic.

#### **2.6.1.1.2 Semantic Analysis**

The semantic analyser has the task of 'concept recovery', retrieving the TRANSITIVITY (the transitivity system is that part of the grammar which provides options fundamentally, roles, processes and circumstances for the expression of cognitive content as required by the ideational macrofunction) relations which underlie the syntactic structure of the clause. Just as the syntactic processor had the task of deriving structure from the linear string of symbols output by the visual word-recognition system, so the semantic processor serves to derive content from the syntactic structure supplied by the previous stage of analysis. It analyses out what the clause is about; what it represents; logical relationships between participants and processes (and also, if they are present, contextualising circumstances; time, space, manner etc.); ideational meaning; semantic sense; propositional content. As an example the clause: The dog bit the man.

In content terms, the process which is being carried out must be discovered (it might well be a relationship rather than a genuine action, if a different example had been chosen), the participants must be discovered and their relationship to each other as participants in the process too must be found out.

The information from the syntactic analyser was that the clause structure consisted of an SPO string. The semantic analyser recognises an Actor Process Goal series in the proposition which underlies the clause in which the Subject is equated with

Actor, Predicator with Process and Object with Goal. In terms of purpose, it is difficult to infer much more, at this point, than the default assessment that this is a statement. In terms of the grammatical model, semantic analysis provides information about the TRANSITIVITY options which have been selected to structure the proposition which underlies the clause. In speech act terms, we have the propositional content but not the illocutionary force – the content but not the purpose – and both are needed before we can assign the clause to a particular speech act. Once the specification of the logical form underpinning the clause is known, the analysis of the communicative function it serves must next be discovered.

Once there is a specification of the logical form underpinning the clause, the communicative function it serves can be analysed using pragmatic analysis.

#### **2.6.1.1.3 Pragmatic Analysis**

The syntactic processor has two functions, the analysis of structure - MOOD - and the assigning of lexical meaning and the semantic processor a single function (the retrieval of content; TRANSITIVITY). The pragmatic processor also has, like the syntactic, two tasks in relation to the information it receives from the previous stages of analysis which are to isolate its thematic analysis and to provide a register analysis of it. The first is concerned with THEME (the distribution of information and whether this is in a marked or unmarked order). The second is concerned with register (with stylistic characteristics including purpose), taking into account the three stylistic parameters of:

- a. Tenor of discourse: the relationship with the receiver which the sender indicates through the choices made in the text.
- b. Mode of discourse: the medium selected for realising the text.
- c. Domain of discourse: the 'field' covered by the text; the role it is playing in the communicative activity; what the clause is for, what the sender intended to convey; its communicative value.

Simultaneously, the clause is assigned:

1. Thematic structure which shows that the sample clause has the structure:

The dog                      bit              the man

THEME                      RHEME

Since Subject, Actor and Theme are all equated, this is an unmarked structure.

- 2 Register features. Here the three stylistic parameters to the clause can be applied and the assessments can be listed. On the basis of the evidence, the following are noted:

- (a) in terms of tenor, *formality*, *politeness* and *impersonality* are not marked but *accessibility* is extremely high
- (b) in terms of mode, there is no indication of participation or of spontaneity (we have no way of knowing how much effort it took the writer to produce it; probably not a lot!) but channel limitation is high (written to be read), and the text is completely public;
- (c) in terms of domain, the text is certainly referential, by no means *emotive*, *conative*, *phatic*, *poetic* or *metalinguistic*.

The domain provides an indication of purpose (the illocutionary force) which, when combined with the existing information on content, suggests a speech act (here it's informing) and this label plus the rest of the information is passed on to the next stage for further processing.

The dog              bit                              the man

Actor              Material Process              Goal

Speech act = informing



The information can now be passed on in some form like the following:

The dog bit the man

Speech act:	informing
Theme :	- marked
Tenor:	+ accessible
Mode:	- participation + channel limitation (written to be read) + public
Domain:	+ referential

(taken from Bell, 1991:55)

On the basis of this information, the stylistic analyser can make a provisional assignment of the clause to a text-type which can be confirmed by the later clauses. The decision to translate takes the idea – now stored as the semantic representation of the clause – through the reverse process. This involves the process of synthesis whereby the semantic representation is translated into the target language.

#### **2.6.1.2 Synthesis of the Translation Process**

The synthesis process is discussed by Bell (1991:56) under the three areas of operation which are the syntactic, semantic and pragmatic. The process is taken at the point where the source language text clause has been converted into a semantic representation and the reader has decided on the option of translating. It is assumed that the information stored in the semantic representation is sufficient to suggest a text-type within which the clause might be expected to occur, in the most unlikely event that the reader does not already know what it is; for example, in a peculiar situation such as a language examination.

The construction of a text which signals all or the selected parts of the contents of the semantic representation begins in the pragmatic processor of the target language.

#### **2.6.1.2.1 Pragmatic Synthesis**

The target language pragmatic processor receives all the information available in the semantic representation and is required to cope with three key problems (and make two further decisions for each of them: to “preserve” or “change”) which are:

- a. How to deal with the purpose of the original. The translator may wish to attempt to “preserve” this or to alter it. Either way, a decision has to be made on how to express purpose through the available content or – assuming that the translator’s plan includes a decision to shift any of the parameters (e.g. to turn an informative text into a polemical one), through different content.
- b. How to deal with the thematic structure of the original. “Preservation” or alteration of the original theme-rheme relationship demands, as in the case of “purpose” above, a decision on the part of the translator and an awareness of the options available.
- c. How to deal with the style of the original. Again, there is the choice between attempting to replicate on the one hand and deciding to adopt a different style on the other.

In each of the three cases, it is within the pragmatic processor that mappings of suitable purposes, thematic structures and discourse parameters of mode, tenor and domain have to be found.

#### **2.6.1.2.2 Semantic Synthesis**

The target language semantic processor receives an indication of the illocutionary force (purpose) and works to create structures to carry the propositional content and produce a satisfactory proposition to pass on to the next stage of synthesis.

#### **2.6.1.2.3 Syntactic Synthesis**

The target language (TL) syntactic processor accepts the input from the syntactic stage, scans its FLS for suitable lexical items and checks in the FSS for an appropriate

clause-type which will represent the proposition. If there is no available clause structure in the FSS to convey the particular meanings, the proposition is passed through the parser, which now functions as a syntactic synthesiser and finally, the writing system is activated to realise the clause as a string of symbols which constitute the target language text.

Finally, the process concludes in the same way as it did with the monolingual reader, the return to the original text and the next clause. Based on the above discussion, Bell's own model of the translation process is presented in Figure 2.7 on page 123.

#### **2.6.2.3 Summary of Bell's Translation Model**

According to Bell (1991) the process of translating can be modelled as a cascaded and interactive process which contains three major stages: syntactic, semantic and pragmatic processing. While each of these has to be involved in both analysis and synthesis, it is possible for some stages to be passed through very quickly and the norm for processing to be a combination of bottom-up and top-down - i.e. the analysis and later synthesis of the clause - is approached simultaneously by both pattern-recognising procedures and by inferencing based on previous experience and expectations.

#### **2.6.2 Sager's Translation Model**

Sager's (1994) process model of translation shows that input, process and output are all variables which sequentially influence each other. These variables are:

- a. different types of input which can be processed in different ways, according to the specifications and the nature of the input;
- b. different methods of processing, applicable to different inputs and leading to a diversity of output documents;

- c. different types of outputs, resulting from the nature of the input and the processes to which it is submitted.

(taken from Sager, 1994:136)

The process model of translation by Sager (1994:136) is shown in **Figure 2.8** on **page 125**. It differs in three respects from its predecessors in that it adds the requirement of the translation task, widens the scope of possible products by admitting the possibility of modifications to the source content and finally it separates text type from form as an element that can independently change in response to a change of intention.

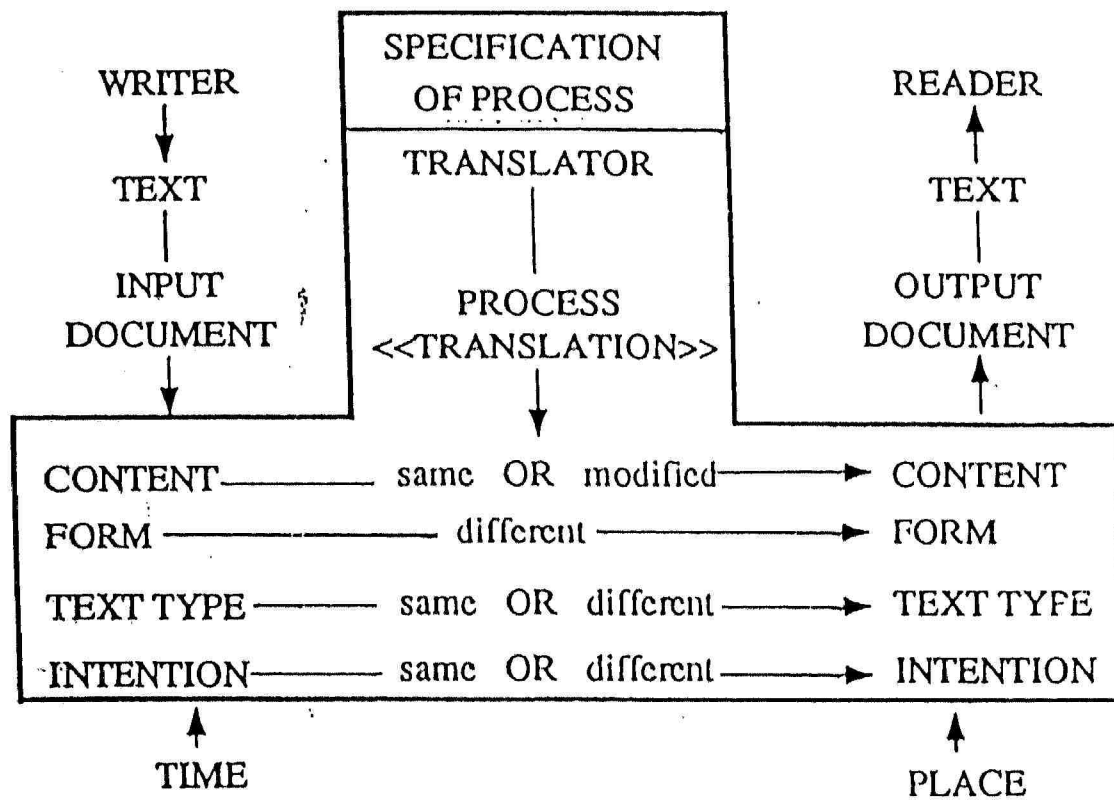
According to Sager (1994:135) the basic process of translation consists of the translator dealing with each of the **four constituents, that is content, form, text type and intention** of the input document in terms of the specifications and the possibilities afforded by both the transformation techniques available and the cultural-linguistic systems involved in each case. From the point of view of translation practice the analysis of the process requires further detailed description of the activities involved. Since the process is carried out by human beings at a time and place within certain constraints of time and cost, the model should also be given an ergonomic and economic dimension. In addition the need for criteria for the evaluation of both the process and product must be acknowledged.

#### **2.6.2.1 Analysis of the Translation Task**

The translation process is described as a sequence of conditioned choices as it will permit the indication of both the common elements in the processes and the additional decisions that have to be faced in translation. The process model divides the translation task into the specification, preparation, translation and evaluation/revision phases (the phases were discussed under Sager's translation process in Section 2.4.6 on page 78. What distinguishes the process of translation from that of writing is that it

Figure 2.8

The Process Model of Translation (Sager, 1994:136)



involves a transformation of code which is based on the search of pragmatic, cognitive and linguistic equivalents at the various levels appropriate for the particular act of communication that is to be mediated. The task of translation can be described as a process of establishing and expressing equivalents. While the cognitive and linguistic equivalents are mainly established at the level of the sentence or in smaller units during the translation phase, the pragmatic equivalents have to be selected first in the preparation phase and at the level of the text type before being also realised in smaller units at appropriate points in the document.

#### **2.6.2.2 Sager's Psycholinguistic Model of the Translation Process**

According to Sager (1994:213), "the actual process of translation has frequently been explained by reference to such words as transformation, re-expression or re-coding, all of which stress a particular aspect of this unique operation for which the global designation "translation" is commonly used".

Neubert (1991:25 cited in Sager 1994:213) lists a series of cognitive acts or mental operations alternating in the translator's mind: problem identification, comprehension, retrieval, monitoring, problem reduction and decision making by which he means actual re-expression in the TL. According to him, translators pass through all or a smaller number of these steps, according to the nature of the SL text material, for example, by not requiring "problem reduction". He also notes that the process can undergo certain iterations of retrieval and monitoring in difficult passages of a SL document.

Sager (1994) has detailed the process in psycholinguistic terms by interpreting the work of Lorsch (1991). As this is a theoretical rather than an experimental model, one must be cautious. The translation procedure chosen by an individual translator is not so much determined by the type of problem as by the perceived complexity and difficulty of the problem that is, what is a problem for one translator is not a problem for

another. This perception depends on the translator's skill, familiarity with the text and topic and on the translation strategy originally chosen. A number of basic principles have been set out to characterise the translation process:

- a. Mentally less complex techniques are used before more complex ones by experienced translators. For example, in the process of comprehension, simple observation is preferred to reformulation of content, and in production, simple substitution of equivalent elements is preferred to rephrasing. Mentally more complex strategies are employed only when the simple approaches are not successful in having the problem in question solved.
- b. Translation is best described as a **forward and backward looking mental operation**. Lorsch (1991:101 in Sager 1994:212) calls this "retrospective-prospective", meaning by this that translators move forward in the text they are translating, keeping in mind what they have dealt with and go back, when and if required. This preparation phase is also known as linear and progressive, whereas the actual translation phase is **iterative**, where the search for equivalents is repeated for each unit. It is **discontinuous**, in so far as each unit for which an equivalent has been found has to be assessed for the adequacy of its connection to a previous one. If this connection proves improper, then the present or the previous unit has to be modified.
- c. Each new translation task is performed with varying speed. As more target language texts are produced, confidence in translation is gained by translators and translation of texts can be done at a faster pace.

(taken from Sager, 1994: 212)

According to Sager (1994:212) the mental activity of translation proceeds at the level of a declared intention, knowledge acquisition and linguistic expression. The beginning stimulus and orientation which give translation its direction is given by the

specification which states the aim of the translation. The **target reader or end-user perspective** is given **emphasis**.

Translators systematically move from source to target text and vice versa in order to both confirm and add new semantic and linguistic information and so build up a new text which is temporary until a larger pragmatic unit is completed so that the argument structure and other supra-sentential features of the text can be tested. The size of units tested at any one time depends on the translator's competence in handling a particular type of text and its specification.

**Forward-looking activities** consist of such steps as:

- a. more detailed reading to confirm previously acquired knowledge;
- b. testing a temporarily chosen form against a form occurring later in the SL document about which there is greater certainty;
- c. looking up a lexical unit for confirmation or clarification etc.

**Backward-looking activities** comprise such steps as:

- a. testing a temporarily chosen form against the continuity of already translated units;
- b. verifying conformity with a syntactic pattern previously chosen;
- c. checking conformity with a lexical unit previously established as being mandatory;
- d. verifying that there is no unwanted repetition or redundancy, etc.

(taken from Sager, 1994:215)

The technique of looking back makes the text in hand temporary until it is rejected, adapted or confirmed. The modes of processing (controlled ideation and invention) according to Sager (1994:215) include reading comprehension, dictionary look-up, finding equivalents, matching equivalents, compensation and text production.



According to Sager (1994:215-216) when a target text segment is formulated immediately after the reception of a source segment the correspondence is produced with greater attention to formal characteristics, because other information is absent. The principle involved in this process is that of the one-to-one match of lexical units which underlies the formulation of simple bilingual dictionary equivalents. This technique can be compared to the formal associations across two languages.

When translators have larger text units available within a pragmatic situation of their own range of experience, they can proceed in the normal form of reading-understanding, i.e. they separate form from content and attempt to find equivalents for concepts or other units of content, regardless of form according to the model of conceptual transfer. This kind of translation is called "free" versus "close", "reader" versus "writer-oriented", and more recently by Newmark (1988:46-47) "semantic" versus "communicative translation". The contrast is usually exemplified as lying between greater observance of formal equivalence criteria, on the one hand, and a greater concentration on semantic equivalences, on the other (Sager 1994:155). If translators are unfamiliar with the knowledge structure of the subject field of the document, translation which proceeds via complex patterns of correspondence of units of knowledge is an arduous and even risky task.

If translators are dissatisfied with a solution found at a formal level, i.e. that it does not meet their intuitive expectation, they have to proceed via a fuller form of reading understanding in order to detect the weakness or error in their intuition and rectify it. Rephrasings can be used in cases where the translators have forgotten the appropriate form of the target language expression. They can use their previous experience to solve problems encountered at the formal level without having to go deeper into content analysis of the passage by making sure that their choices suit the context of the situation.

**Figure 2.9**  
**A Flow Chart of Decisions in the Translation Process**  
 (Sager, 1994:219)

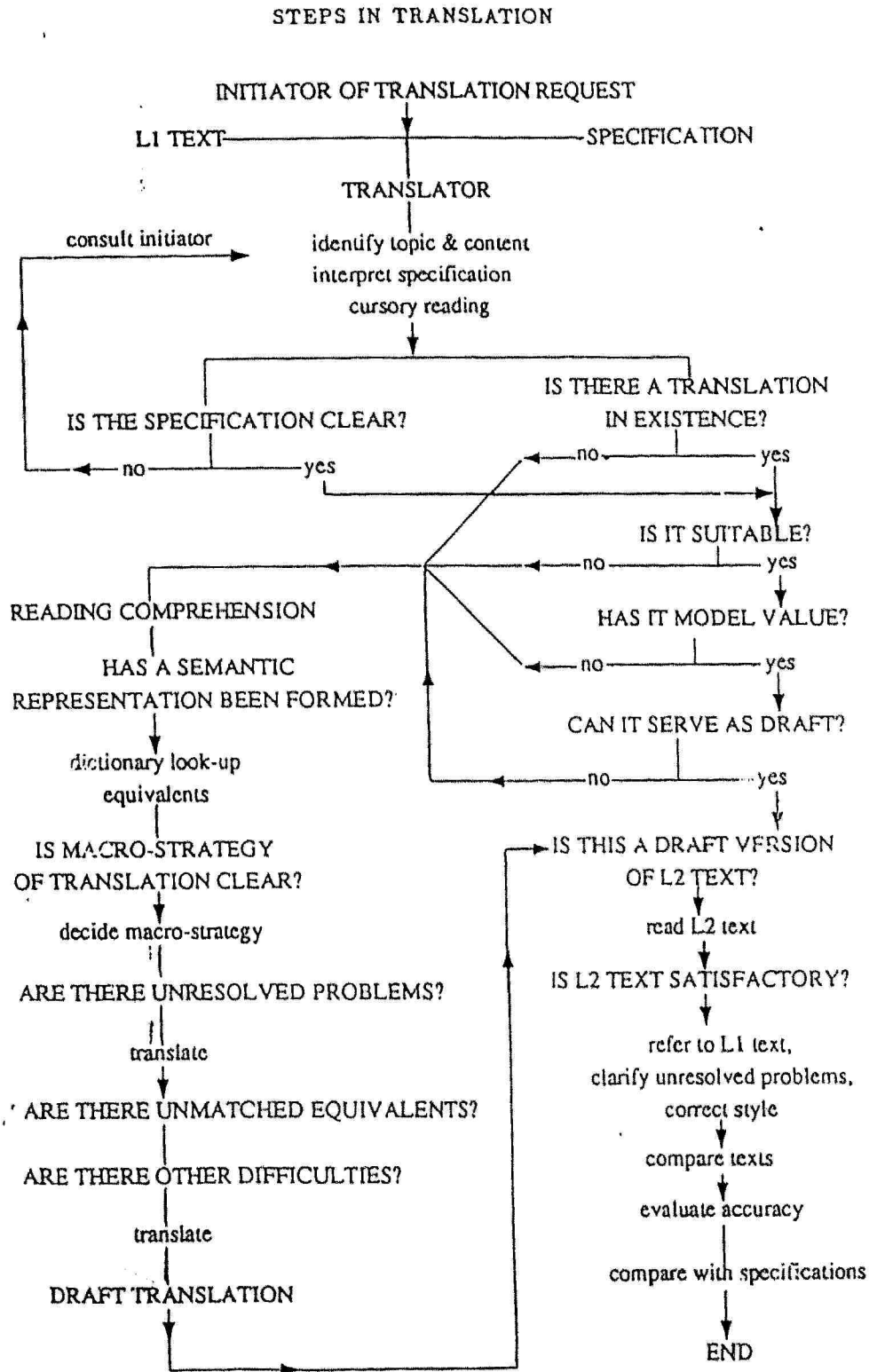
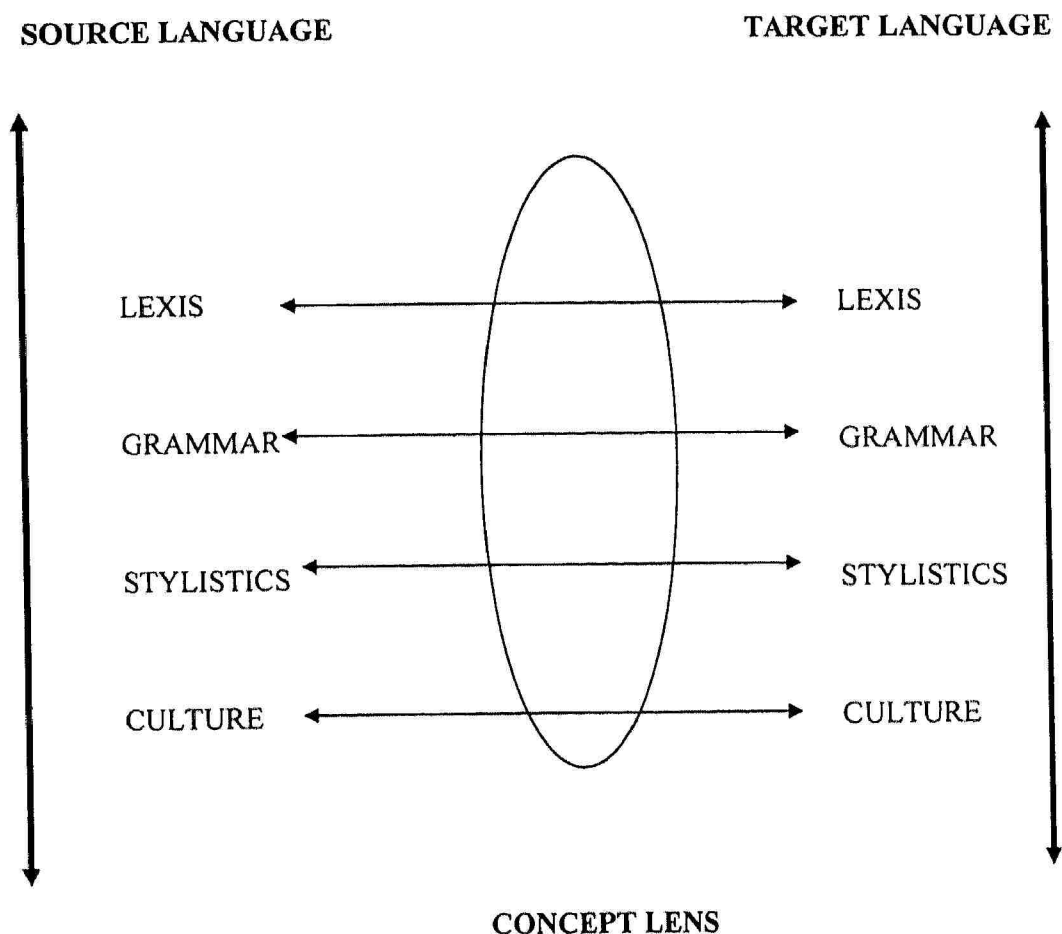


Figure 2.10

**Darwish's Bi-directional Translation Process Model**

(taken from Darwish, 1989:4)



this in mind, analysing the text in context determines the interrelationship of sentences in a text and their overall communicative value.

**2.6.3.2 Darwish's Decision-based Translation Process**

According to Darwish (1995:9), a translator has to make initial decisions in the translation process. He shows this via a flow-chart from the translator's perspective whereby the *skopos* or purpose of the source text and target translated text are considered by the translator. He or she has to make decisions on the information needs of the source text and target text audiences through a needs analysis. The translator also

has to decide on which strategies to use to translate and implements them until his translation task is completed. This is shown in a flowchart in **Figure 2.11** on **page 135**.

### **2.6.3.3 Darwish's External Translation Process Model**

The external translation process according to Darwish (1999:6) consists of nine major iterative activities: planning translation, analysing information, translating, revising, editing, proofreading, reviewing, completing translation and delivering the translation to the person who commissioned the translation. All these activities have already been explained under the translation process (see section 2.4.7 on page 86). Darwish's External Translation Process Model is presented in **Figure 2.12** on **page 136**.

The translation process begins or is initially triggered with a decision to translate and ends with a completed translation. Each phase within the process is triggered by the completion or near completion of the previous phase at an appropriate juncture in the process. The input and output of the translation process are source text and translated text. The translation process is bounded by the parameters of the source text and the requirements of the target language. The translation process is enabled by the availability of a translator, and production systems such as pen and paper, typewriters, computers, voice recording facilities etc.

According to Darwish (1999:6), the translation process is driven by at least two drivers: the translator and the party commissioning the translation. It is constrained by many factors, both external and internal. For the translation process to be effective and efficient, it must accommodate exceptions which function as constraint removers and controllers and these include norms, standards and other conventions.

Figure 2.11

A Decision-Based Translation Process (Darwish, 1995:9)

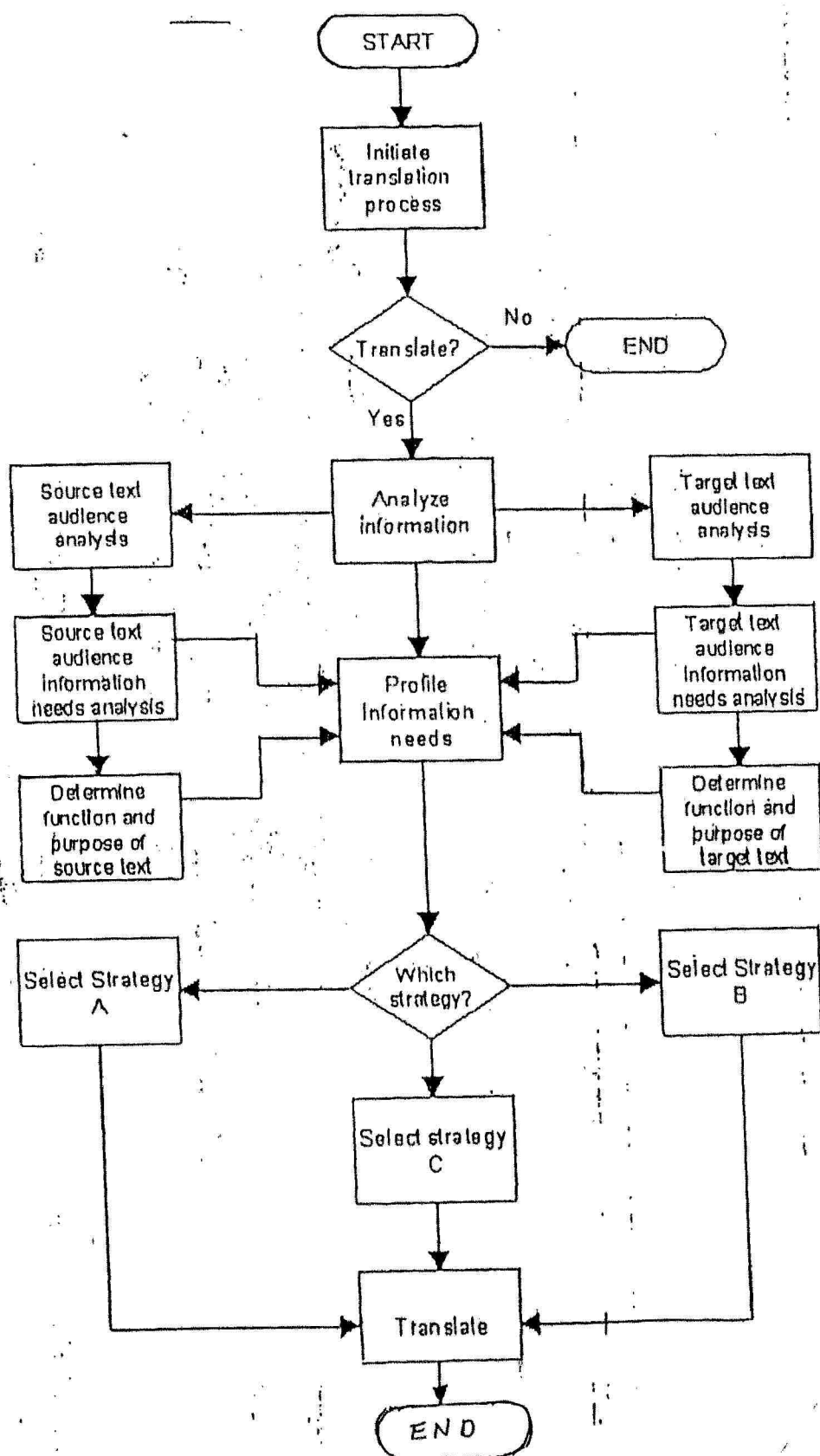
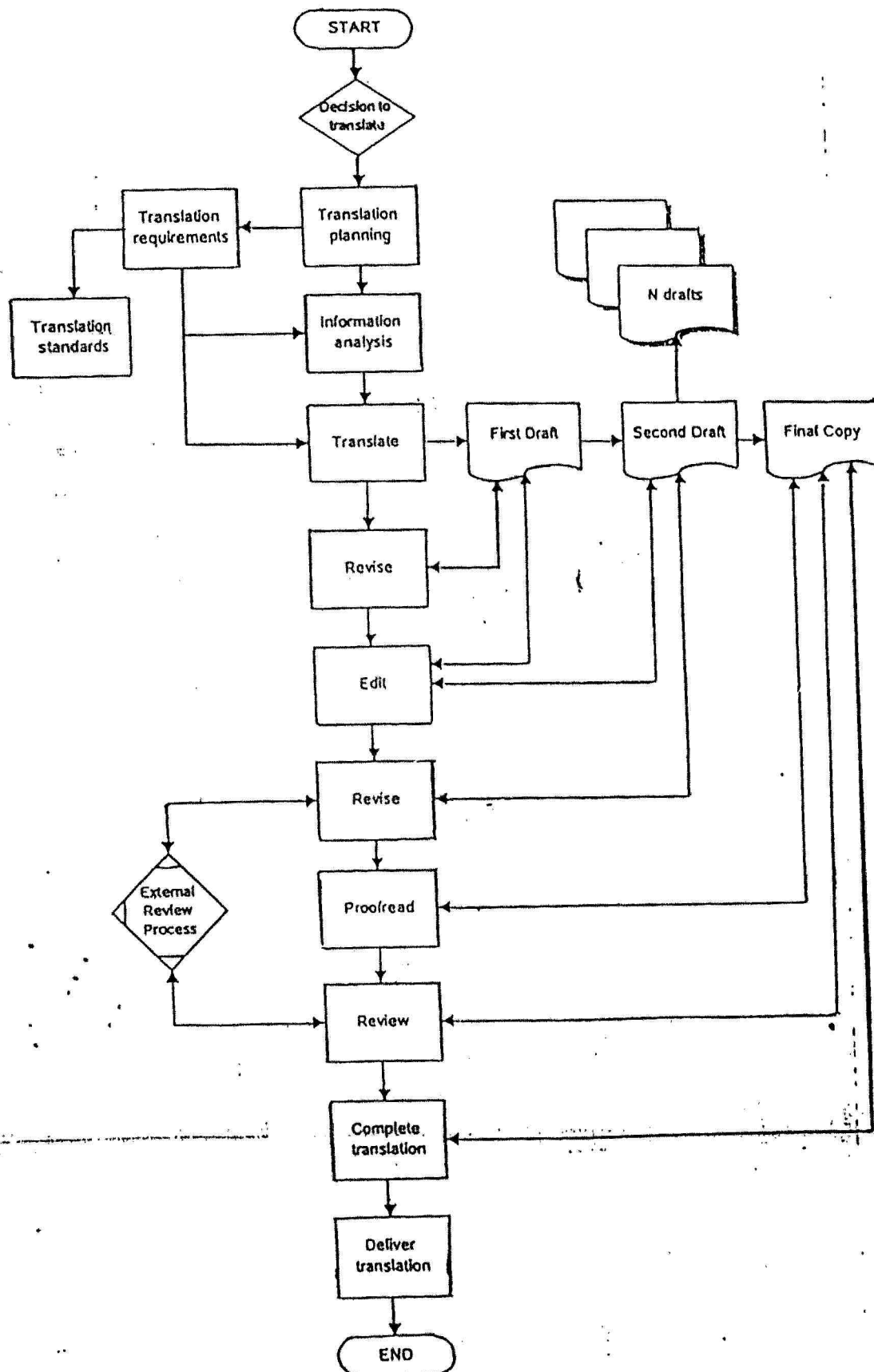


Figure 2.12

An Iterative Model of the External Translation Process (Darwish, 1999:7)



#### 2.6.3.4 The Cognitive Process Model of Translation (Darwish, 1999:25)

Darwish (1999:24) proposes that “the internal translation process is in fact the cognitive process that takes place during the act of translating”. He suggests that this process consists of visual sensory perception, comprehension, analysis, processing, monitoring and production. Darwish’s (1999:25) Cognitive Model of Translation is shown in **Figure 2.13** on page 138.

Darwish (1999:25) suggests that this cognitive process comprises three steps which are visual sensory perception (which involves active reading), comprehension and production. Darwish’s (1999:25) perception, comprehension and production at the translation unit level are shown graphically in **Figure 2.14** on page 139.

In reading for comprehension, Darwish (1999:25) suggests that the reader sees the text, reads it, and comprehends it. In reading for production that is, translation, the reader (translator) sees the text, reads it, comprehends its content, then produces a new version of the text in another language.

Ideally, according to Darwish (1999:26), the translator reads the text and translates at the same time. He suggests that the time lag between comprehension and production is determined by the translator’s proficiency and also the efficiency of his or her mental processes as well as the degree of translatability of source language text. At the comprehension level, Darwish (1999:26) proposes that these processes are constrained by two major factors, which are legibility (refers to the clarity of form of text - point size, margin widths, line spacing, letter spacing and paper size) and readability (refers to clarity of content - number of syllables per word, sentence length, sentence complexity, paragraph differentiation etc). According to Darwish (1998 cited in Darwish 1999:26), “a **translation unit** is any manageable, short-term memory retainable stretch of text or utterance that yields meaning on the syntactic, semantic and pragmatic levels”.

Figure 2.13

A Cognitive Model of Translation

(taken from Darwish, 1999:25)

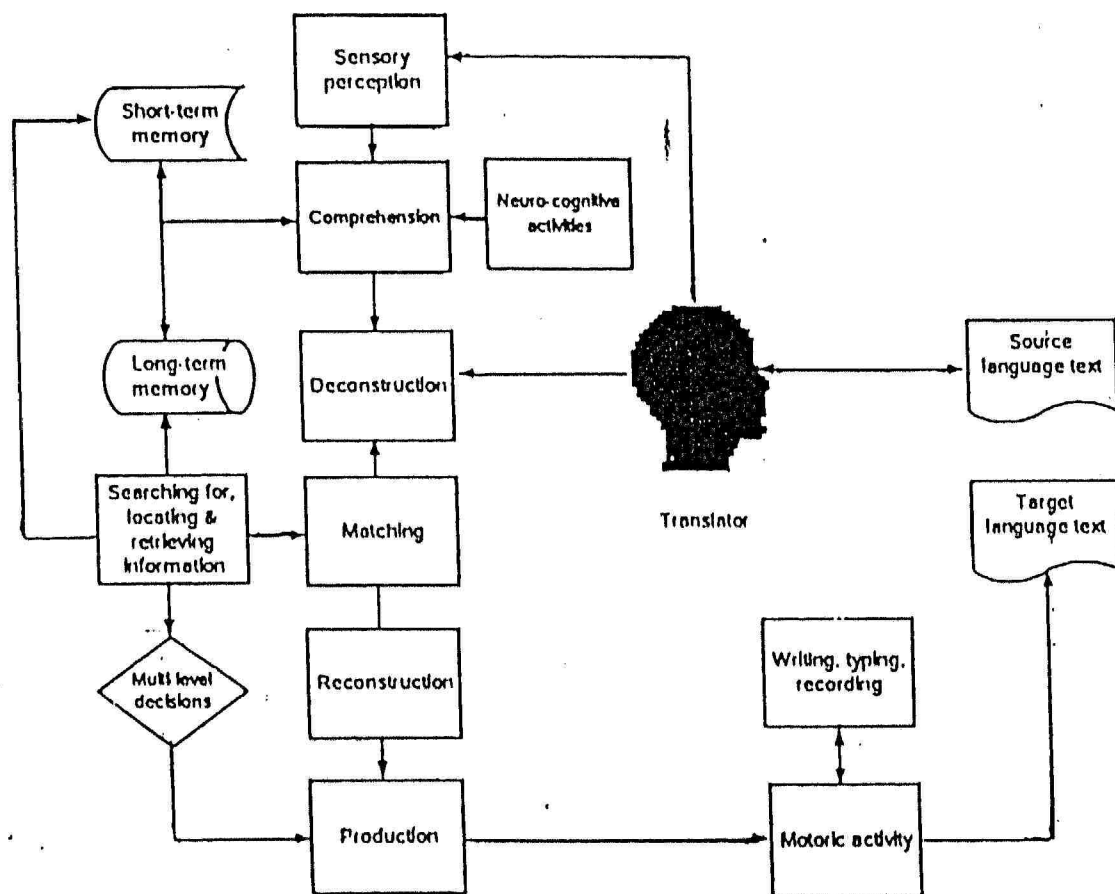
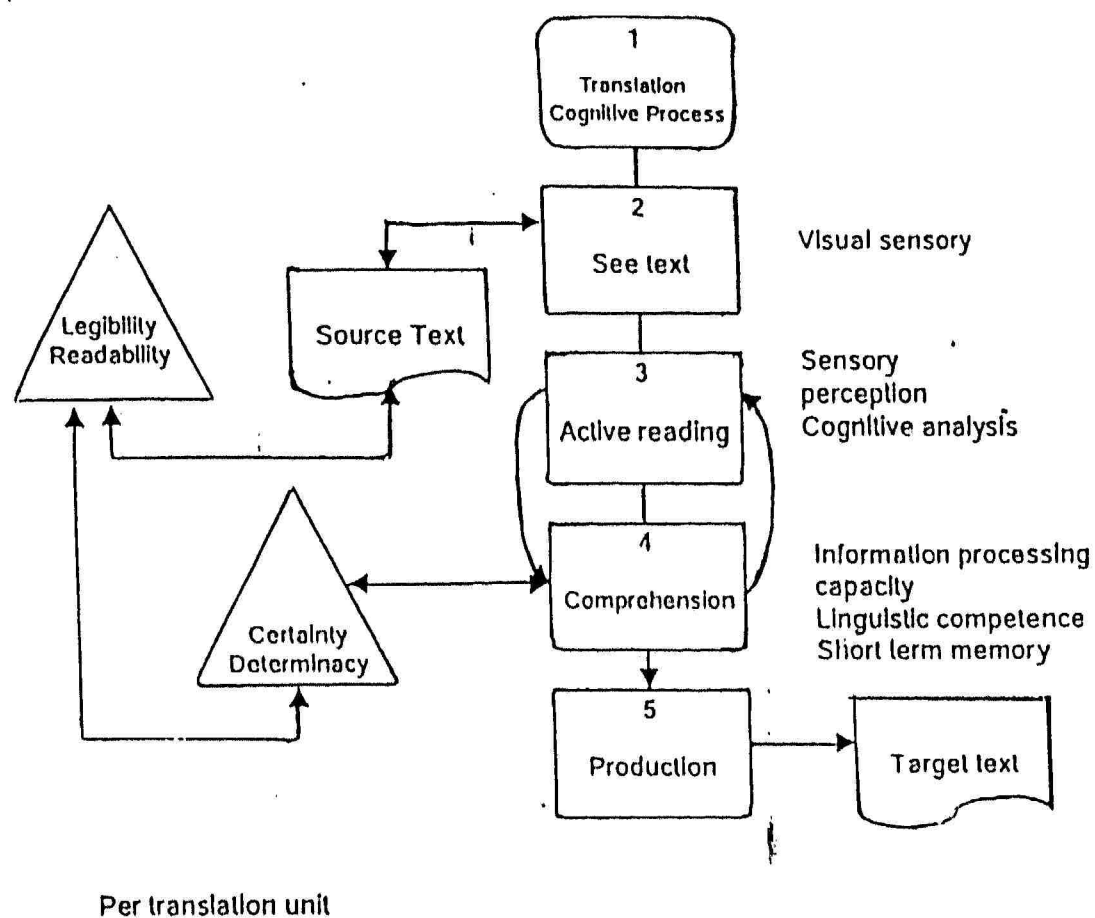




Figure 2.14

Perception, Comprehension and Production at the Translation Unit Level

(taken from Darwish, 1999:25)



Darwish (1999:26) proposes that a source text is said to be transparent to the target text if it has more or less a similar micro and macro structure and is lexically transparent. He feels that a source text is said to be opaque to the target text if it has more or less a different micro and macro structure and is lexically opaque. Darwish (1999:27) feels that “transparency and opacity in translation determine the degree of translatability”.

## **2.7 Technical Translation**

For this study the discussion of technical translation is applied to translation of texts in specialized areas including Science. Therefore any features of technical translation apply to scientific translation. According to Newmark (1988:151), “technical translation is one part of specialised translation; institutional translation, the area of politics, commerce, finance, government etc, is the other”. He takes technical translation to be “potentially non-cultural, therefore “universal”; the benefits of technology are not confined to one speech community”. He feels that in principle, the terms should be translated; unless concerned with international organisations. The researcher feels that these concepts of “potentially non-cultural” and “universal” are applicable to the translation of scientific texts.

According to Newmark (1988:151), “the profession of translators is co-extensive with the rise of technology, and staff translators in industry (not in international organisations) are usually called technical translators”. He suggests that technical translation is primarily distinguished from other forms of translation by terminology, although terminology usually only makes up about 5 – 10 % of a text. In addition, its characteristics, its grammatical features (for English, passives, nominalizations, third persons, empty verbs, present tenses) merge with other varieties of language. Newmark (1988:151) further proposes that the characteristic format for technical translation is the technical report, but it also includes instructions, manuals, notices etc

which put more emphasis on forms of address and use of the second person. Some important elements in technical writing are discussed below.

### **2.7.1 Technical Style**

The researcher feels that if it is well-written, technical and scientific language is free from emotive language. Newmark (1988:152) suggests that part of a good technical translator's job often consists in rephrasing poorly written language and converting metaphors to sense. Paepcke (1975 in Newmark, 1988:153), has distinguished four varieties of technical language: scientific, workshop level, everyday usage level and publicity/sales. On the other hand, Newmark (1988:153) suggests the following levels for medical vocabulary:

1. Academic. This includes transferred Latin and Greek words associated with academic papers.
2. Professional. Formal terms used by experts e.g. "epidemic", "parotitis", etc.
3. Popular. Layman vocabulary which may include familiar alternative terms, e.g. "mumps", "chicken-pox", "scarlet-fever" etc.

The next section deals with the terms in translation of scientific texts

### **2.7.2 Terms**

The researcher feels that the main difficulty in technical translation is usually new terminology as voiced by the participants in this research. The researcher feels that key terms in a text should be researched and translated carefully. Translators have to find a way of using the correct terminology based on the context: either to paraphrase the new word or to borrow the term from the source language and give it a Malay spelling.

According to Newmark (1988:153), a further problem is the distinction between technical and descriptive terms. He suggests that the original source language writer may use a descriptive term for a technical object for three reasons:

1. the object is new, and has not yet got a name;
2. the descriptive term is being used as a familiar alternative, to avoid repetition;
3. the descriptive term is being used to make a contrast with another one.

Newmark (1988:153) suggests that “you should translate technical and descriptive terms by their counterparts”. He adds that if the SL descriptive term is being used either because of the SL writer’s ignorance or negligence, or because the appropriate technical term does not exist in the SL, and in particular, if an object strange to the SL but not to the TL culture is being referred to, then, you are justified in translating a descriptive term by a technical term.

Professional technical translators according to Newmark (1988:154) have a tendency to make a mystique out of their work by rejecting any descriptive term where a TL technical term exists; a technical term (standardized language) is always more precise (narrower in semantic range) than a descriptive term (non-standardised language). Newmark (1988:154) suggests that “where an SL technical term has no known TL equivalent, a descriptive term should be used”.

### **2.7.3 Translation Method**

Newmark (1988:155) proposes that “in science, the language is concept-centred”. Both text and translation according to Newmark (1988:155) are “thing-bound”. According to Barbara Folkart (1984 in Newmark, 1988:155) “the latitude which the translator enjoys is subject only to the constraints of register, and possibly, textual cohesion”. This statement in the opinion of Newmark (1988:155) is questionable since the SL text is also the basis of the translation, however much the translation departs from it:

- a. owing to its different natural usage;

- b. if it has to be referentially more explicit than the original in particular in the case of gerunds and verb-nouns, where case-partners may have to be supplied in the TL text.

Newmark (1988:156) suggests that “when you approach a technical text, you read it first to understand it and then to assess its nature, its degree of formality, its intention (attitude to its topic), the possible cultural and professional differences between your readership and the original one”. He further adds that “you should give your translation the framework of a recognized house-style, either the format of a technical report adopted by your client, or, if you are translating an article or a paper, the house-style of the relevant periodical or journal”.

Newmark (1988:156) further advises:

you have to translate or transfer or, if not, account for *everything*, every word, every figure, letter, every punctuation mark. You always transfer the name of the publication, a periodical. You translate its reference (Vol.1., No. 5) and date, and the general heading or superscript using the standard formulae of the corresponding English periodical. For authors, reproduce names and qualifications, and transfer the place of the author’s appointment – the reader may want to write to the author.

#### **2.7.4 The Title**

Normally, according to Newmark (1988:156), as a translator, “you are entitled to ‘change’ the title of your text”. He further adds that the advantage of the title is that it normally states the subject but not always the purpose of the process described. According to Newmark (1988:157), “misleading adjective plus noun collocations for standardized terms are one of the most common sources of error in technical translation”. Further, he adds that generally, the names of authors and the addresses of their places of work are transferred. Also, names of countries are also translated. By doing this, the professional reader can therefore write to the author if he wishes.

### 2.7.5 Going Through the Text

When translating, Newmark (1988:158) suggests that the article should be read through first, and the words and structures that appear to contain problems should be underlined. This may include:

1. Unfamiliar, apparently transparent words with Greek or Latin morphemes
2. Figures and symbols. These have to be checked for TL equivalence and order.
3. Words of the type: *représenter* ('is'), etc – semi-empty words which are likely to be reduced to “is” or “in” etc, in the TL version.
4. Verbs which require a recasting in the TL structure.
5. “Pun words” have to be translated to suit the context and this can be difficult.

(taken from Newmark, 1988:158)

Newmark (1988:158) suggests that translation can be carried out sentence by sentence into the TL, ensuring that the grammatical structures used are natural. He further reiterates that in a technical translation, one has to be bold and free in recasting grammar (cutting up sentences, transposing clauses, converting verbs to nouns etc.). He further suggests to translators to attempt to produce a better text than the writer of the original. As a technical translator, Newmark (1988:160) proposes to translators to vary the format in relation to your customer. Lexically, he feels that the main characteristic of technical/scientific language is its actual richness and its potential infinity – there are always unnamed bones and rocks. It is up to the translator, Newmark (1988:160) suggests, to use the same internationalisms, coin new words or paraphrase to suit the TL. The researcher feels that the main aim of a translation is to produce the closest, natural equivalent to the target language, both in content and style.

In conclusion, Newmark (1988:160) suggests that a technical/scientific translation is so varied in topic and often diverse in register, that it is difficult to make generalisations about it. According to him, it is the writing that is closest to material

reality. It spills over into diagrams, graphs, illustrations, photographs, figures, formulae, equations, schemes, references, bibliographies, plans – it is amazing how sometimes translators fail to scan these eagerly, particularly the bibliographies, which often translate the keywords for you. As Newmark (1988:160) advises, “bibliographies and diagrams are the first things you should look at”. He emphasises using the target language accurately, clearly and naturally so that target readers will always be happy with your translation.

Newmark’s (1988:160) final point is:

Technology being an explosion, escalating exponentially, ongoing, this is the field, on the frontier of knowledge, where you have to be most up to date. Data banks, terminology bureaux, informants, the latest editions of all texts and reference books – nothing else will do; tell your client/employer or your librarian that you have to have these available where possible. Do not hesitate to ring relevant firms and ask for their research or their information departments. Press for refresher courses and visits to research conferences and go on tours to plants and factories.

## **2.8 Past Studies on Translation**

Wilss (1982:175) suggests that for more than 20 years, translation studies have taken an enormous upsurge. They are targetted at the observation of “transfer-process-oriented” and “transfer-result-oriented facts”, and at creating the preconditions for the accumulation of a linguistically and psycholinguistically based, empirical, descriptive and explanative frame of reference.

Wong (1996) proposes that the scope of translation studies has expanded considerably over the years and today it covers linguistics, genre studies, pragmatics and culture. The researcher would like to add that it now also covers psychology and cognitive science. According to Richards (1992:60):

cognitive science deals with the scientific study of thinking, reasoning and the intellectual processes of the mind; it is concerned with how knowledge is represented in the mind, how language is understood, how images are understood and with what the mental processes underlying inferencing, learning, problem-solving and planning, are.

The past studies discussed below by various writers have used **observations, questionnaires, interviews, Think-Aloud Protocols (TAPs) and personal experience as their research techniques.** The past studies are relevant to this study because they discuss the internal translation process via TAPs and the external translation scenario in Malaysia and about what needs to be done in future for the translation industry so that it will bring more fruitful results. The researcher has divided the past studies on translation under various headings or issues such as the translation process, translation needs for Malaysia, the need to translate scientific and technical texts, various aspects of language in translation, training of translators, roles of translators, other aspects involved in translation and the steps involved in publishing a translated science book. This will give a picture of what has already been done in Malaysia and what is new in this study.

#### **2.8.1 The Translation Process**

In Malaysia, the researcher could not find any study that investigated the process of translating English language scientific texts into the Malay language via think-aloud protocols. Thus, this study undertaken by the researcher is a first in the field of Think-Aloud Protocols (TAPs) and as such amounts to a contribution to the translation studies scene in Malaysia. For this study, the researcher used the TAP method to study the internal processes that went on in the minds of five part-time translators as they translated scientific texts from English into Malay to find out the strategies they used and the problems that they faced while translating.

In the West, however, both Bell (1991) and Lorsch (1992) pointed out that the last few years saw a number of “think-aloud protocol” studies of the translation process: these include Gerloff (1986, 1987 and 1988); Jääskeläinen (1987 and 1989); Lorsch (1991 and 1992); Krings (1986 and 1987); Seguinot (1989, 1990 and 1991); and Tirkkonen-Condit (1989). All these studies looked at “actually occurring data” to



try to map the translation process, yet the majority focused on students and language learners (Fraser, 1996: 87).

Kussmaul and Tirkkonen-Condit (1995), in their study “Think-Aloud Protocol Analysis in Translation Studies”, gave a summary on research on TAPs in translation studies. According to them, to identify the cognitive and affective factors underlying the translator’s decision making and motivation, a method was developed in which the participants were asked to utter aloud everything going on in their minds while solving a translation task. The utterances were audio or videotaped and further transcribed and analysed. In early studies, participants were foreign-language learners; in more recent studies, participants were advanced students at translator training institutions or practicing professionals. Data were collected using either monologue or dialogue protocols. Linguistic and psycholinguistic models were consulted in the interpretation of TAP results, including bottom-up and top-down processes, scenes and frames, convergent and divergent thinking and fluency of thinking. Features characterising successful processes include strategic method, subordination of local decisions to global ones, and attention focus; less successful processes include local decision-making, linear processing, poor prioritisation and strategy, linguistic rather than communication orientation and lack of flexibility.

In his chapter on “Think-Aloud Protocols and the Construction of a Professional Translator Self-Concept”, Kiraly (1997) advocates a shift in translation skills instruction from a teacher-centred focus on the product to an awareness of the psycholinguistic processes involved in the translation process. In an earlier study by Kiraly in 1995, novice and professional translators (nine from each category) were asked to think-aloud while translating a text from German, their first language, into English, their second language. The think-aloud protocol of one of the novice participants is analysed, revealing his use of 20 processes, most of which were relatively intuitive, as opposed to

strategic. Similar data were obtained for the other participants. A psycholinguistic model of the translation process is constructed based on the data collected and a theory of language comprehension and production that accounts for the dichotomy between conscious, controlled translation processes and subconscious intuitive ones is proposed. A constructivist approach to translation pedagogy is described in which learning occurs in authentic, real-world contexts, the teacher models the processes by thinking-aloud and the construction of multiple perspectives through group work is facilitated.

Fraser (1996: 84-95) in her study considered whether the training of student translators should be product-driven or process-driven. She carried out a study on two groups of professional translators: the first was on a group of 12 community translators, working in the United Kingdom and translating from English to Arabic, Bengali, Gujarati, Hindi, Punjabi, Spanish and Urdu, while the second was on 21 freelance commercial translators, also working in the United Kingdom and translating from French to English. The community translators translated a local authority leaflet on categories of exemption from the "poll tax". The commercial translators translated an article from the education supplement of a major French daily newspaper on changes in some university courses in France. The translators involved adopted a targeted approach to their translation activity rather than an overall approach. They had their target readers in mind and actually translated by what they perceived to be best – the commercial translators emphasized the style of journalistic writing and used very few source language words whilst the community translators added additional information for the benefit of their community. They emphasized their own role in relation to that of their readership. Fraser believes that we have to give trainee translators an explicit brief for their translation tasks, coupled with extensive discussion of the nature of source language and target language register, the needs of particular readerships and the factors which would guide, for example the use of lexical or cultural equivalents. In

this way trainee translators can judge the “appropriateness” of their own translations. They should be given a clearly perceived destination and confidence in their ability to use various factors to devise the most appropriate route to reach it. A functional set of approaches to achieving a particular communicative task is beneficial for the understanding of the translation process. The researcher agrees with these findings which also comply with Sager’s 1994 (discussed in section 2.6.2 on pages 122-124) process model of translation.

Seguinot (1989: 21-54) in her study observed the translation process itself by watching a professional translator work on a typical translation task in an administrative setting. The source text was chosen by the translator as deemed necessary for her authentic work. The translator scanned the text before filming began, to see what reference texts and added material on the language used by *Canada Post*, the available dictionaries in her office etc. were needed for her task. The session was recorded as the translator was translating from English into French using the think-aloud method for the Bureau, which meant that the translator typed the translation directly, only once working out a solution on scrap paper. In terms of the videotaping, this meant that the line that was actually being produced was not visible as it was being typed. The allocation of time on the videotape is shown in **Table 2.1** on **page 150**.

From the study it was found that the translated text incorporated improvements over the source text. There were indications that editing is a function of the translation process, and that it takes place both when inconsistencies are detected and in the reading and rereading of the source text. In the process of understanding the material to be translated, the translator drew on all kinds of knowledge; this meant that the logical connections were clearer to the translator than the meaning overtly expressed in the text. In pragmatic texts, as in this study, where the translator was expected to produce a given

**Table 2.1**

**Allocation of Time on the Videotape for Each Task while Translating**

(taken from Seguinot, 1989:23)

Division of Time	
Total translation time (includes activities below)	32 minutes
Commenting on the translation (46 sec.)	less than 1 min.
Changing the paper (44.5 sec.)	less than 1 min.
Looking up words (168 sec.)	2-3 mins.
Other pauses (729 sec.)	12 mins.

number of words a day and where there was a certain amount of repetition of style, format and vocabulary, it seemed logical that the successful translator would develop time-saving strategies. Among the strategies discovered in this study were the tendency to take advantage of physical interruptions to make changes, the tendency to continue translating for as long as possible, and put off meaning changes until later.

Lotfipour-Saedi (1996:380-392), in his study said that by having subscribed to a definite viewpoint on the nature of language and language use in interpersonal verbal transactions, one can set out to characterise the principles governing the translation process. But due to the highly volatile nature of the "context of situation" as a determining factor in the materialisation of the language function, the translator cannot operate rigidly according to a set of principles in dealing with every text-type. Text-type refers to the different genres such as argumentative, imaginative, authoritative, autobiography, personal correspondence etc. He should rather use such principles as solid guidelines to make strategic decisions appropriate for every specific context of situation. The paper outlined the dimensions of translation equivalence from English into Farsi within a discoursal approach to language. It then speculated on the strategies

the translator could employ in relation to specific context and co-textual factors such as system-oriented, genre-oriented and audience-oriented strategies. The strategic decisions are made on the basis of what type of text is being translated and for whom.

Jääskeläinen (1999:1) reported that in her four experiments studying the think-aloud method, two first-year and two fifth-year students of translation were asked to produce a written translation from English into Finnish. She discussed the differences in how the two levels of students used various sorts of reference material. The fifth-year students proved to be very skillful and efficient dictionary users while the first-year students were clearly inexperienced. Results suggested that instructions in the use of reference materials were sufficient in translator training. The results showed that the main difference between the two groups studied were not in the quantity but in the quality of dictionary use.

Titone (1982:193-205) in his study investigated the following aspects of translation:

1. degrees of comprehension in terms of single elements and context
2. procedures followed in performing a translation
3. isolating lexical interpretation and grammatical interpretation in order to detect the relevance of their respective roles;
4. degrees of approximation to perfect (free) translation.

The instrument used in exploring these psychological aspects of translating was a largely articulated test, consisting of long passages and short sentences for translation, followed by a mixed type of questionnaire. "Closed (yes-or-no) questions" were interspersed with "open questions", allowing the individual to make personal remarks as a result of introspective analysis of one's own working method.

The translation texts were from Italian to Spanish (for native Spanish speakers), and from English and French to Italian (for native Italian speakers). Occasionally, some

of the translators were interviewed for an exchange of more personal remarks. The group examined had the following composition as shown in Table 2.2

**Table 2.2**

**Participants in the Experiment (taken from Titone, 1982:200)**

Specialization	Participants (SS)	Source Language	Tests
Language Teachers	11	Italian	12
University Students (education)	12	English	30
Professional Students (interpreters)	44	French	25
Total	67		67

The results reported by Titone (1982:201) from his study were as follows:

1. The participants were supposed to mark with a figure from 1 to 7 the degree of difficulty found in translating certain passages. For all source language passages the most difficult one was the one with a lack of contextualisation and an overwhelming amount of rare vocabulary.
2. One important hypothesis was that, especially in difficult texts, the SS would have recourse to global context in order to support their analysis of the SL text. Not all SS answered. Of all the answers actually given, percentages show that this tendency was not very common, except in two complicated passages from Italian and English.
3. Some of the difficulties in transcoding were acknowledged to depend on the absence of an exact equivalent term in the TL.
4. Another hypothesis formulated was the assumed utility of external contextualisation, i.e. of some explanation about the general content of a passage and about the intentions of the writer, in order to grasp the genuine meaning of

the text. Responses indicated that 47.7% of the SS found contextualisation useful, while 41.7 % could do without it.

5. Most of them used global-analytic-synthetic procedures for understanding the meaning of the text in the SL in their translation.
6. Grammatically incomplete sentences offered greater difficulty in decoding than lexically incomplete sentences. Missing function words in sentences made comprehension difficult.
7. For their translation, 55.2% of the SS used gradual approximation to a perfect TL reconstruction (from literal to free translation) while 37.4% of the participants used instant final translation.

This attempt at a psycholinguistic analysis of the translating process has centred only some of the more superficial modalities of the translator's behaviour. Titone believes that a deeper understanding should be reached of the finer, subtler, and less perceptible modalities that characterize the process of finding the proper TL equivalents. On this bridging lies the core of translating as a "transcoding process".

The next section deals with the current issues investigated by researchers in Malaysia of translators translating scientific texts from English to Malay. Most of the researchers used their own experience, interviews and questionnaire as research tools for their study.

## **2.8.2 The Need for Translation in Malaysia**

### **a. Need to Keep Abreast with the Latest in Science and Technology**

The researcher agrees with Azizah Mokhzani's (1980:1-17) ideas in her study that information and knowledge explosion have triggered off the expansion of the print media which is growing at a mind-boggling speed. Her findings have already been discussed in Chapter 1 (see Section 1.1.2 in Chapter One for details).

## **b. Need to be a Developed Nation**

Issham Ismail (1997:25) in his study proposes that the progress of a developing nation is closely related with its development in science and technology. However, he suggests that the main problem now is that most of the literature on science and technology published in books, journals and manuals is written in foreign languages, especially in English. This he reports has become an impediment for the peoples of developing nations to appreciate developments in science and technology. He feels that those who are not good in English but good in Malay may not be able to fully utilise these advantages (the latest in the fields of science and technology) in their area of work as they do not understand the ideas conveyed in English. Hence, translation has a role to play in the development of science and technology.

He suggests that the translation of works on science and technology has to be well-planned and conducted with care. The translated words must be easily understood by all levels of the society and the contents must be accurate for the continuous development of science and technology in the society and for the country.

The increase in the number of up-to-date and high quality works on science and technology which are translated into the Malay language will further stimulate the interest among Malaysians to deepen their knowledge in science and technology. According to him, translation can be viewed as a catalyst to expedite the process of moulding a progressive and scientific Malaysian society as aspired by the Prime Minister in his Vision 2020 speech.

### **2.8.3 The Need to Translate Scientific and Technical Texts**

#### **a. Need to be Equipped with the Latest Knowledge for Development**

Abdul Razak Ismail (1997:5), in his study "The Need to Translate Technical Books into the Malay Language and its Problems" feels that the development and progress of a people and nation depend largely on the extent of knowledge that is



acquired and practised by the society concerned (see pages 1-2 in Chapter One). He feels that private publishers do not normally wish to get involved for technical books are difficult to market. Hence, the government must take relevant steps to overcome the situation by using the electronic marketing approach which is cheaper and more effective. The researcher agrees with this problem faced by the publishers in marketing translated books on science and technology.

#### **b. The Need for Translation Activities to Keep Pace with Development**

Ariffin Samsuri (1997:13) writes that the rapid development in knowledge and the economy must be accompanied by activities in the effective transfer of knowledge and information so as to ensure that every strata of the society is able to keep pace with the development taking place and to seize the opportunities that result from it to the extent that they are capable of participating in the arena of national development. To date, there exist two theories regarding the transfer of knowledge, that is, the direct method theory and the indirect method theory. The direct method involves no translation. Here knowledge is obtained directly as presented in the source language. According to Ariffin Samsuri, the indirect method theory proposes that works on knowledge from other languages be translated into the language of the people concerned through translation activities.

Hence, he feels that translation is instantaneous and the dissemination of knowledge takes place rapidly so that it can be read by all levels of the society in the target language. Nevertheless, he suggests that the effectiveness of the translation process and the dissemination of relevant knowledge depend on four main aspects, that is, the development in knowledge, the translators, policy makers and the consumers. Science and technology develop so rapidly that it is difficult for translators to keep pace with the development taking place and the current market requirements. The situation, he feels, becomes more critical with the increase in the application of computers as well

as information technology in daily life, globalisation and the creation of the Multimedia Super Corridor (MSC). He thinks that the future development of translation activities depends a great deal on how it is received by those involved in the changes taking place, especially translators and the nation's policy makers.

### **c. Importance of Producing Good Translations**

Hasuria Omar (1997:23) in her study, "Important Aspects in the Translation of Technical Guidance Books" suggests that the translation of technical guidance books is not widely undertaken in Malaysia.

Her study is the summary of findings from observations of 13 samples of translated technical guidance texts. Her conclusion is that translating technical guide books is not an easy task. It needs a lot of hard work and patience. According to her, a translator must be skilled at resourcing, must be able to use catchy, suitable, precise equivalent terminology in the translated technical guide which will be accepted by the target customers of the product, and must emphasise that his or her translation is of a better quality than the original from the aspects of function and effectiveness so that the product advertised will be marketable.

## **2.8.4 Training in Translation**

### **a. Adopt a Unified Approach in Training**

Basil Hatim (1997:15) in his study entitled "Translating Technical and Scientific Discourse: A Sociocultural Perspective" questions the validity in translation and translator training of dichotomies such as "literary" vs. "non-literary language" or "**technical**" vs. "**non-technical texts**". He argues for the need to adopt, particularly in training, a perspective that is primarily informed by a unified approach to text in context. Of course, he feels that such a strategy will not explain problems specific to a given domain such as technical writing. But, to deal with these issues adequately, models of the translation process must be sensitive to **sociocultural values** and the

**information content** of the text. He feels that the pragmatic aspects of the communicative act and the multifaceted nature of the written mode, are important issues in the work of the translator. He illustrated the more theoretical notions with authentic examples of translated materials.

Gunilla Anderman (1997:19) suggests that when designing programmes for technical translators the approach taken to the specialist subject area differs widely amongst the university training programmes in translation at postgraduate level. A number of alternatives are represented, ranging from an integrated course of lectures introducing the principles of certain subject areas selected to introduce student translators to specialist fields, to a purely text-based approach where no subject-based lectures are offered.

The principles of an integrated training programme in translation which offers in-depth introduction to specialist fields, contrasting these with the pros and cons of the generalist approach frequently viewed as essential in interpreting, is discussed. The discussion is also related to current developments in other countries, where the awareness of the need to bridge the gap between academic training and professional requirements has ignited interest in attempts to achieve harmonisation.

#### **b. Teach Dictionary Skills**

Noor Ida Ramli (1997:49) suggests that a dictionary is an important tool often used by translators. In recent years, various forms and orientations of dictionaries are available in the market. She feels that to produce a good translation, a translator needs dictionaries (monolingual, bilingual, dictionary for specific subjects etc). She reports that the problem faced by student-translators is that some of them do not know how to use the dictionary correctly to help them in their translation task.

She investigated students' skills in using the dictionary to translate. It was based on a minor study which combined three research techniques that is, the think-aloud

protocol, video recordings and diary entries. The findings from her study enable translation trainers to recognise several matters which have previously escaped their attention and matters pertaining to dictionary skills which should be incorporated in the syllabi for translation courses.

The researcher agrees with her findings and feels that dictionary skills are an asset to translators and these skills should be taught to them in their translation programmes. From the researcher's interviews with some translators, she was informed that they used dictionaries in helping them while translating, especially dictionaries dealing with terminology for science.

### **c. Trainee Translators who are Subject and Language Specialists**

"How should we Train Technical Translators?" was a question posed by Leong Ko (1997:29). From his findings, he suggests that in Australia as well as in many other Asian countries, the most common way of training translators is by taking students with good language skills who usually have a humanities background and training them in translation techniques. These graduates have well developed translation skills but when faced with technical translation, they just cannot translate. On the other hand, most technical students will only get a smattering of another language and are rarely exposed to translation training. So the clients in technical fields are often facing the choice of either employing a translator who has a good command of translation skills but with a poor technical knowledge, or someone who has a good technical knowledge but is hardly able to translate properly.

Teaching technical translation, according to him, is a sophisticated task as it involves not only linguistic and translation skills but also technical knowledge, which puts an extremely high demand on both teachers and students. His study provides a review of teaching technical translation, presents typical course structures and makes an analysis of its teaching methodologies and assessment guidelines.

#### **d. Importance of the National Accreditation Board**

Mahpor Baba (1997:31) in his study entitled, "Proposed Programme for the Accreditation of National Translators" proposes the implementation of the Accreditation of National Translators and the establishment of the National Translators Accreditation Board. This is based on the development of translation activities in Malaysia dating back a few decades ago until recently. He explains the necessity for the accreditation of translators in Malaysia. The National Accreditation Board is the authorised body recognized by the Government which sets and maintains the standards and evaluates the skills of the translators according to the standard fixed by the Board. The Board members will comprise bodies involved in translation namely PPM (Malaysian Translators Association), ITNMB (Malaysian National Institute of Translation), UM (University of Malaya), USM (Universiti Sains Malaysia) and others. The accreditation will recognize translation as a career, protect translators and be an effective step towards acquiring quality translators.

#### **e. Need to have a Training Model for Translation**

Tengku Sepora, Zainuddin Ghazali and Noraini Ibrahim (1997:67) in their study, "Some Considerations in Establishing a B.A.(Hons.) Programme in Translation and Interpreting" suggest that Malaysia is undergoing major changes in the fields of science and technology. They feel that these changes have a kind of ripple effect on all facets of life and society including language. The need for English and other languages has mushroomed. In Malaysia, this need has to be balanced and coordinated against that of the national language, which is the Malay language. In this process of balancing and coordinating, the need for translation and an effective and productive translator-training programme comes in. The researchers focused on the establishing of a model for a translator and interpreter training programme. They examined the factors that a tertiary institution (Universiti Sains Malaysia) in Malaysia has to take into consideration in

setting up an undergraduate level degree programme in translation. There are certain constraints within which the institution has to work and certain demands it has to meet before a workable model can be achieved. Their study also deals with an overview of other models of translator-training programmes. The factors taken into consideration for the programme in translation are based on three broad categories: socio-political factors (relates to the language policies in Malaysia – English as a Second Language etc), economic factors and physical constraints (Malaysia's venture into the fast moving field of information technology – use of computers and multimedia, internet, student to staff ratio, supply of qualified staff to train increasing number of students etc). They recommend a programme which includes courses relating to the following headings:

1. Translation Theory and Practice (Introduction to Theories and Practice of Translation and Translation Methods, Translation Projects)
2. Stylistics (Producing and Editing of Translation, Critical Thinking)
3. Linguistics (Syntax, Semantics, Sociolinguistics, Oral English)
4. Grammar (English for Translation, Grammar and Editing Strategies)
5. Terminology (Lexicography and Terminology in Translation)
6. Documentation and Research (Language, Technological Principles and Translation)
7. Interpretation (Simultaneous and Consecutive Interpretation, Spontaneous Interpretation of Technical and Non-Technical Texts)
8. Background Studies (Introduction to Psychology, The Syntax of the English and Malay Languages)
9. Language Studies (Introduction to Malay Studies, Introduction to English Language Studies).

### 2.8.5 Terminology Problems in Translation

According to Halimah Haji Ahmad (1997: 21), people often say, “when talking about science and technology, we cannot avoid, but use English terminologies”. The researcher takes this to mean that in other words, most of the latest developments in science and technology are published in English. Halimah feels that when there is a new term introduced, we tend to borrow the term into the Malay language and this practice is very common in Malaysia. However, the researcher observes that the word borrowed from English is given a phonetic spelling in Malay, for example “toxic” is retained as “toksik” in Malay.

Halimah suggests that the English terminology issue at times becomes a national issue for it has been discussed in cabinet meetings as well as Parliament sessions. A short study by her revealed that 60% of the types of attitudes are inclined towards borrowing and adapting English terminologies and using them as Malay terminologies. She discovered that the participants who have a positive attitude towards English language tend to borrow terms from it instead of working hard to create new terminology in the Malay language. According to her, in Asmah Haji Omar’s book entitled *Pedoman Umum Pembentukan Istilah* it is suggested that borrowing should only be a last resort. Halimah feels that this shows that the native speakers of Malay themselves do not defend the purity of the Malay language in terms of terminology as they usually resort to borrowing terminology from English. The attitude and loyalty towards one’s language which states *Bahasa Jiwa Bangsa* (language is the soul of a race) does not seem to apply where terminology in the Malay language is concerned.

However, the researcher suggests that the translators just find it difficult to coin new terms as this involves approval from DBP and therefore they just borrow the term from English which is much simpler as their translated work is accepted as internationally intelligible.

Sanat Md. Nasir (1997: 53) did a study on the implication of equivalence in the translation of materials for science and technology. The issue he raised in this context was that the study of equivalence is rarely used. He proposes that this is an important concept and therefore its exposition and application in translation needs to be propagated in the field of translation. His findings show that firstly there exists a discriminating characteristic between the source language and the target language, and secondly, knowledge regarding the characteristics among languages is important in order to produce quality translation. The researcher agrees with him and she feels that it is important for a translator to be a good bilingual (be good in the source language as well as the target language) so that the process of identifying the correct and appropriate equivalent terms in the target language that suit the contextual meaning of the text as well as the culture of the target readers will be made simpler.

Tengku Sepora (1997: 63) in her study, "The Significance of Cultural and Extralinguistic Elements in Legal Translation in the Malaysian Context," suggests that legal translation, which can be categorised as technical translation on the basis of several criteria, is an area of translation where many problems are encountered. Problems relating to the complexity of legal language and the significance of legal terminology are often at the forefront. In legal translation, one is often confronted with problems involving cultural as well as other extralinguistic elements. These cultural problems are as serious and unrelenting as the legal language and legal terminology problems. In fact, from a certain perspective, they can even be said to be the root of some of the latter problems. In Malaysia, this is particularly true although, at a glance, not many will notice or acknowledge the significance of cultural and extralinguistic factors in legal translation. The researcher agrees with her because culture is one concept that must be investigated thoroughly when one is translating any text into a target language and a translator must be sensitive to the needs of the target readers.



Wong Fook Khoon (1997: 75) in her study expresses that every text, be it technical or otherwise, is organized to convey a message or meaning or intent. The process of translation according to her is concerned with capturing this organization of a text and all the meaning that this entails in order to be able to re-create the same message in another language. She suggests that scientific translation is no exception to this rule. In discussions of technical or scientific translation the role of terminology is often highlighted. Terminology can be a trouble-shooter but terminology alone is no guarantee of quality. There is more to technical or scientific translation than just the stringing together of a number of scientific or technical terms. As interlingual textual equivalents of existing texts, translations are characterised by a unique relationship with another text in another language. They may be dependent on the source text but they have a life of their own. She discusses the various properties of a text that give it life and by the same measure, highlight the necessity to sensitise would-be translators to idiosyncrasies of both the source and target languages and how these idiosyncrasies are mapped out in the texts that confront them during the act of translation.

Abdul Nasir bin Mohd. Razali (1990: 44-45) in his study writes that genre will involve the field and style would refer to how the ideas are stated, the atmosphere to be created and the situation in which the particular language is used. The language of science has to be accurate, objective, descriptive, straightforward and should not use very complex sentences to state a point. The facts stated are undisputed. It also does not involve emotion. The language of science has to convey information accurately and precisely to avoid any confusion, uncertainty, or ambiguity. To have this situation, the language of science has created various methods for example methods for naming elements or science materials using specific terminology for example International Code of Terminology, Biology rules for Terminology, Chemistry etc. The language of science has used the word 'overt' to show that a particular concept is different

scientifically from another one. Other examples of specific prefixes that carry a specific meaning are as follows:

“-oma” = means tumour or has a tumour eg. melanoma, hematoma

“-ase” = means enzyme eg. amilase, lipase.

Translators can use the terminology lists created by DBP or coin their own terminology, if the term cannot be found in the lists. The researcher agrees with his findings.

Latifah Othman (1990: 48-49) discusses the issue of borrowing of words in the Malay language translation. According to her, various opinions and reactions have arisen as a result of this phenomenon. Some accept this phenomenon as a good sign whilst others take it very badly. Some are very liberal and purposely use borrowed terms when there are equivalent words in their own language for e.g. the words from English such as “sophisticated” and “comprehensive” become “*sofistikated*” and “*komprehensif*” when the available terms in Malay are ‘*canggih*’ and ‘*santai*’. Some according to her, feel that borrowing reflects bankruptcy of the Malay language. The moderate group, on the other hand, feels that borrowing of words have to be encouraged and carried out but only in certain conditions. This moderate group thinks in line with the famous Malay language and Malay Literature writer, Za’aba. Latifah reports that according to Za’aba, it is not wrong if foreign words are borrowed and used in the Malay language for two situations that is when the word is not available in Malay to describe something which is found in the foreign culture or thinking but absent amongst the Malays or they have never come across it and when the equivalent word that is available in Malay does not convey the full meaning as is meant in the foreign language word.

#### **2.8.6 Characteristics and Roles of Translators**

Sri Parvati (1997: 57) in her study writes that Marilyn Gaddis Rose (1989) suggests that translators belong among world writers because they help to perpetuate

and present the aspects of culture in a broader sense that include art, history, technology and values. Traditionally, it can be said that they are a minority and hence belong to the elite group. Their being a minority is not merely based on personal interest and economic reasons. As a disseminator of ideas which generally is a form of information to the recipient, the translator functions as a communicator (Bell, 1991:17), that is, a bi-lingual communicator, who has the task of recording a text presented in one language and then re-recording the text concerned in a different language. Hence, translators exist between the writers/producers of texts which contain specific messages in one language (source language) and the readers of the texts in a different language (target language). Such a position makes the translator a mediator and a special reader for in the translation process, the output from the reading process is made the input to be re-produced for readers of the translation. In this process, the translator may face incompatibility between the source language and the target language due to cultural differences in the background of the languages. As such, the translator is also the medium between two cultures, each with their own ideologies, moral systems, and social and political structures and the translator must be capable of overcoming this incompatibility when transferring a meaning from the source language to the target language. Considering this fact, the translator must not only be bi-lingual, he must also be bi-cultural. Apart from that, translators must also become good time managers for they are always pressed by deadlines for their work. Besides, they are also deliberate decision makers for they must decide on the approach as well as the style of writing (including diction) which will be used to suit the readers of the popular media.

Zaidan Ali Jassem and Jassem Ali Jassem (1997: 82) consider how scientific phenomena in the Koran are translated into English. They feel that the translation of such scientific texts may sometimes be a little bit misleading and incorrect which in no way should be taken as evidence against the scientificity of the Koran. These erroneous

translations may be due to the circumstances that surround the translator such as his Arabic and English competence, his scientific background and single-handedness in the production of the translation i.e. not teaming up with and consulting other professional experts. It is suggested that there should be co-operation between translators and professional specialists and experts in the rendering of scientific concepts in the Koran in order to preserve its factual and scientific supremacy, purity and infallibility.

From her discussion with some Muslim friends, the researcher came to know that part of the Koran deals with the evolution of nature of the formation of human beings from a sperm and an egg. According to the researcher's Muslim friends, some of the translators give their own interpretation based on their own hypothesis of the situation which might not be true as what is actually written and meant in the Koran. Most probably, scientific facts change over time and some translators as such distort what is written in the Koran while translating it by putting their own ideas in it which again might not be accepted by the target readers of the translated Koran.

#### **2.8.7 Publication Of Translated Books**

##### **a. Need for Cooperation from Printing Presses in Universities**

Mohd. Zubli and Yahaya Ramli (1997: 43) from Universiti Teknologi Malaysia in their study discuss the pressing need in Institutions of Higher Learning for translated science books in the Malay language within a short period of time. This has stimulated efforts in translation. Cooperation among publishers, especially between Universiti Teknologi Malaysia Press and the faculty can help to fulfil this need. They discuss contributions made by the Faculty of Mechanical Engineering (FME) of Universiti Teknologi Malaysia in the arena of publication of translated works. The role of the faculty through its representatives at the University level is also discussed in terms of coordination and the required topics to be translated including encouraging the staff to translate. The efforts and the role of the faculty play an important part in ensuring the

continuity in translation work. Coordination at the faculty level can also ensure that all topics being translated will be able to be of use to the scientific and technological development in the country.

#### **b. Publishing a Translated Book**

Rashidah Begum and Akhiar Salleh (1993) in their study entitled, "The Challenge of Publishing a Translated Book: The Experience by the Universiti Sains Malaysia Publishers" write that translation has become compulsory in this information age, especially in Institutions of Higher Learning in their effort to increase the books in the Malay Language which are not enough to meet the needs of the students. To overcome this shortage, the Universiti Publishing Committee was established in 1972 . This committee was responsible for assessing all applications for publications based on certain criteria. Preference was given to books that would be used for at least three years, that is from the first to final year courses and for which the demand was high. The thickness of the books should not exceed 300 pages. This was to decrease the time needed for translation and to reduce the price of the book. The shortest time needed to publish a translated book is three years and this is because the process of translation has to undergo several stages such as making sure that there is no similar translated work in other Institutions of Higher Learning, getting the right to publish from the original publisher, evaluation of the translated example by another outside evaluator, translation of the whole work, editing by the editor of the USM Publishers after receiving the complete manuscript, start typing and changing the format of the translated work to the desktop system and the setting of the layout, checking of the proof and preparation of the camera-ready copy and finally printing. The challenges and problems faced by the publishers of translated works can be categorized into four aspects that is the right to translate, the quality of the translation, the process of evaluation and editing, preparation of the ready copy and finally marketing. All these take time and delay the publishing of

the translated science textbooks. Due to the rapid knowledge explosion in the fields of information technology, books in computer science, medicine and engineering become outdated in 3-4 years. Translated books which are thick cost a lot and students prefer to photocopy the relevant chapters. The marketing of the books is only undertaken by the cooperative book store in USM and a few agents in Kuala Lumpur.