CHAPTER FIVE

PRONOUNS, DEMONSTRATIVES AND LEXICAL ITEMS AS COHESIVE FEATURES

5.0 Introduction

It should be kept in mind that the analysis reported in CHAPTER FOUR and discussed in CHAPTERS FIVE and SIX is based on the corpora of twenty texts in English and their translations in Malay. Translations, are interlingual textual equivalents of existing texts (cf. INTRODUCTION, CHAPTER ONE). The information may not be original but the decisions regarding its presentation are. As such they are susceptible to analysis from the standpoint of cohesion and coherence and provide a useful tool for contrastive studies across languages. This is the determining factor underlying the orientation of the discussion on the findings.

The discussions are oriented first towards the translation of such items as pronouns and lexical devices in cohesion and subsequently, to the translation of structures, that which involves the grammatical processes of substitution and ellipsis, structural words like the definite and indefinite articles, 'a' and 'the' and conjunctions, such as 'and'.
The cohesive resources are identified in the source and the target texts according to their contribution towards the construction of meaning in the texts. They are then classified according to the categories adopted by Halliday and Hasan in their rather exhaustive discussion on cohesion in English in their book *Cohesion in English* (1976). The two sets of data are then cross-analysed for differences if any, in usage.

5.1 Diagrammatic Representation of Data

Tables I, II and III below provide in tabular form the information derived from the analysis.

Table I lists the various cohesive devices identified in the English source texts, namely conjunctions (adversative, temporal, additive, clausal and portmanteau), references (anaphoric, cataphoric, exophoric), substitution, ellipsis and lexical relations.

Table II lists the same categories of cohesive elements in Malay as identified in the Malay translations of the English texts.

Table III is a synthesis of Tables I and II. It provides in a simple graphic manner the information that makes up the backbone of our discussion in this chapter.
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Table II: Frequency Distribution of Various Cohesive Devices in the Malay Translated Texts
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Table III - Synthesis of Distribution in Tables I and II

Legend:

r, c, sb, e and l are abbreviated symbols for the different types of cohesive devices.
5.2 General Observations

It seems fairly obvious that devices such as those mentioned in the paragraphs above play a significant role in structuring meaning in scientific texts and contribute to the way in which the text is structured.

In an exploratory study such as this one where there is comparatively little in the way of previous research on which to base the approach, it is prudent though to take whatever opportunities are available for maximising the chances of obtaining interesting results. This was the view held, for example, by Sinclair and Coulthard when they deliberately chose a well-structured manifestation of spoken interaction for a first enquiry into discourse analysis (Sinclair and Coulthard, 1975).

The passages making up the corpus in this study are texts of an expository nature (cf. 1.1.5). This explains to a large extent the configuration of the results obtained.

In this instance, as displayed in Tables III (pp. 159) and IV below, in terms of word count, the entire database consists of 10782 words. Of these, 5515 words make up the twenty source texts in English, while the translated texts in Malay came up to 5267 words. This
means that the translated texts are in fact shorter in length than the original, a contradiction to the general belief among local Malay translators that translated Malay texts are usually longer than the English source text. The translated texts may be longer in terms of the number of pages, but not in terms of the actual total number of words. Translations from English into Malay generally appear more voluminous. This may be due in part to the fact that Malay words, especially nominalizations and duplicated plural forms are long.

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Table IV - Data Base Of The Study

Total 20 5515 20 5267
and therefore take up more space. There is also the preference for repetition rather than substitution. The inescapable conclusion is that, for this corpus at least, the length of the accomplished translation may be associated to some extent with the type of discourse.

Reference items (552 in English, 456 in Malay) and lexical cohesive links (1150 in English, 1160 in Malay) make up the bulk of the cohesive elements in the texts while substitution and analysis and conjunctions of the additive, causal, adversative, temporal or portmanteau order also contributed but to a lesser extent, in terms of the number of occurrences.

Of the 552 reference items in the English texts mentioned above, a quick count reveals that 10.8% or 87 of them are personal pronouns. The same, however cannot be said of the translated texts in Malay. In this case the count came up with only 43 instances of personal pronouns representing 9.4% of a tally of 456 reference items. However, in terms of demonstratives the Malay figure is much higher than that in English, possibly because the Malay demonstrative ini/itu is also used as the translation for the modifier the in English when reference is made to a referent which has already been introduced earlier on (cf. 5.3.1 for a more detailed discussion on pronominalization).
With texts of a different genre, narratives for example, a different set of data may emerge. Cohesion may be achieved more through other devices such as chronological linkage and agent orientation than through lexical relations. As such, temporal conjunctions, locatives and pronominalizations would figure more prominently and be reflected in a higher frequency count. Different genres of texts present different sorts of analytical problems.

5.2.1 Expository Discourse

Expository discourse, to be expected, consists of information conceptually or logically related about a theme. Its purpose basically, is to explain or to argue. And its typical characteristics are non-agent orientation and non-chronological linkage.

Almost any long text will be a mixture of genre. "A discourse of a given surface structure genre may embed within a discourse of the same or different genre", Longacre (1976:209).

Within expository discourse is often embedded descriptive discourse which, like the rest of expository discourse, is not basically chronological. A topic is developed through state and not event propositions.
This feature holds for all expository texts whether the text be written in English or Malay.

It is obvious from the analysis that the English language contains devices and enforces lexical relationships that connect an utterance with other utterances. The presence of these devices or relationships encourages a hearer or reader to interpret the combined utterances as belonging together in some way.

The same observation holds for Malay. What needs to be borne in mind perhaps is that the rules of textual cohesion and progression are different both within the sentence and beyond the sentence boundary.

Hence, in the process of translation, the order in which information is introduced or presented may need to be changed. Take for example the following extracted from Text #19S and #19T,

**Example 52 Text #19S and #19T**

In 1859 his book *On The Origin of Species By Means Of Natural Selection* was published, the first theory of evolution to be supported by fully documented evidence.

Dalam tahun 1859 bukunya yang berjudul *On The Origin Of Species By Means Of Natural Selection* diterbitkan, dan ini merupakan suatu teori evolusi yang pertama yang disokong penuh oleh bukti-bukti yang tercatat.
The same information, presented in the form of a simple sentence in English, is in the Malay translated version conveyed by a compound sentence which necessitates the introduction of the sentence-head 'ini' which plays an anaphoric role, intersententially and a cataphoric role, sententially plus the conjunction 'and'. In the source sentence in English, the modifying phrase "... the first theory of evolution ... evidence" refers anaphorically to the first part of the sentence.

Writers and speakers use a variety of shorthand means to connect sentences which highlight certain connection at the expense of others. The presence of a pronoun or ellipsis, for example, indicates that the writer is offering his package of information in a particular way so that it fits in with its immediate context. This presentation does not alter the information contained in the package though it may affect the reader's attitude to it.

Likewise, the presence of a conjunct may spell out (one of) the relationships a sentence may have with its immediate neighbours, but it cannot contribute to an understanding of the relationships that the sentence may have with the other sentences in the text.
A consequence of this is that the presentational choices a writer has made in producing the original version may become inappropriate in a shortened version, or when pairs of non-adjacent sentences are juxtaposed. Occasionally however, these same kinds of cohesive devices may be necessary to connect non-adjacent sentences. In particular, conjuncts such as 'however' and 'nevertheless' may be used to highlight contrast relations between packages of information. In this case, it is merely a matter of presentation of the packages of information for the purposes of illustrating clearly the relationship between the packages.

In expository and descriptive discourse, where themes are being developed, cohesion comes through the theme-line and through devices such as lexical cohesion, topicalization, nominalization and old information being left implicit. Special forms such as sandwich structures and parallel forms may also occur.

Although certain devices may be characteristic of a certain type of discourse type, any of these devices may be found in any discourse type. However, it is helpful to think of some of these in relation to the discourse types in which they occur most frequently.
5.3 Cohesion in Translation

In the view of Michael Hoey (1983) the need to communicate a message efficiently and effectively dictates much of the form of the individual sentences. In particular, there are several regularly occurring steps in the communication process, and these steps are evident in the surface structure and lexical realization of the statements in the text. By studying the signals on the surface - lexical and syntactic - it is possible to reconstruct the functional structure of the text, which leads to a better understanding of the text in two ways. It can show the logic behind the sequence of statements; and it helps to capture in rules, surface variations that, from a local sentence level perspective, appear to be random deviations.

The findings from the analysis are quite clear on one point. Just as English is endowed with an abundance of resources which enable it to express messages in a cohesive and coherent manner, Malay too has its own special devices for achieving the same purpose. It is a fact that every language is endowed in its own way to provide its speakers and writers with the resources to communicate effectively. Of greater interest, in fact, are the findings pertaining to the contrasts in the use of these resources. This is the aspect which
distinguishes this study from others in relation to cohesion and coherence.

With this orientation in mind, the discussion will make comment on each type of cohesive linkage isolated from the passages. Some will be given more prominence than others depending on the contribution they make towards the structuring of the text by virtue of the frequency of their occurrences in the passages examined.

5.3.1 Pronominal Reference

One of the first analyses made on the sample texts was an analysis of the patterns of pro-word interreference. This was because of an intuition that such an analysis might reveal some interesting and distinct differences between pro-word reference in Malay and English. Pronouns are by far the most common pro-form in English. It seems reasonable therefore to concentrate on pronouns as a typical example of pro-form reference, in particular, personal and demonstrative pronouns.

The most prominent group of pronouns in English is personal pronouns which behave syntactically like full content words in that they take the same positions in a
clause as semantically fully specified nouns. In contrast to content words, however, pronouns can only be understood once one knows what it refers to.

Pronouns are different from other words having anaphoric reference function in that, they lack semantic specificness. As such they form an obstacle for semantic disambiguation. Disambiguation is based on the restrictive influence that words have when they combine to form sentences and texts. Though individual words may have a large range of meanings, the moment they are used in relation to other words, that range is narrowed down.

In general, the more content words one can relate to a particular word, the less ambiguous that word will be. When trying to find words to relate to some word that has to be ambiguous, pronouns by taking the place of full content words, as in the example taken from Text #01S and #01T below, cause gaps in the 'network' of restricting influences.

Example 53 Text #01S ad #01T

Since they shed their secretion into the bloodstream, they have no ducts and are hence known as ductless glands.

Oleh kerana kelenjar ini mencurahkan rembesannya ke dalam aliran darah, ianya tidak mempunyai saluran dan kerana itu dikenal sebagai kelenjar tanpa saluran.
The semantics of pronouns are restricted to some fairly unspecific semantic features such as (for English) male/female, person/non-person. Because they lack semantic specificity, they can cause gaps in the mutual disambiguating influence of the words in a text in the process of translation, thus giving rise to vagueness and ambiguity. The example cited above seems to characterise English pronouns more than their counterparts in Malay.

To translate pronouns in a source language with equivalent target language pronouns require careful analysis simply because the set of available pronouns and the distribution of syntactic and semantic features over them differ from language to language. Most times it is difficult to find a target language pronoun with exactly the same set of syntactic and semantic features as the source language one. Even if these features seem to coincide, the scope of reference of the pronouns can differ because of differences in convention between languages, a problem which is rendered more complex by the inevitable range of exceptions. A pertinent example here would be the Malay equivalent for the English 'we'. Malay has two terms of reference, 'kami' and 'kita' for the first person plural as against one in English and their scope of reference does not exactly
coincide. The same can be said for 'dia', the singular form of the personal pronoun in the third person, in Malay as against 'he' or 'she' or 'him' or 'her' in English, depending on the context. 'Dia' in Malay is not specific compared to its counterpart in English. (cf. CHAPTER FOUR).

The problem of resolving deictic reference is complicated by the fact that some of the personal pronouns may lack a referent. Two quite different cases are very common in English as in a number of other languages: pronouns whose possible referent is not made explicit, for instance in an elliptic expression, and pronouns that do not refer to anything, that is, so-called impersonal pronouns such as the English it in the following examples taken from Text #18S,

it has been found that ... 

it has been shown that ... 

it is quite possible that ...

'it' in this context is, of course, quite different from the 'it' in "Unlike antibodies it is non-specific, i.e. it is effective against a wide range of viruses." lifted from Example 53 below where 'it' is an anaphoric reference to 'interferon' in the first sentence of the same text.
The analysis of the texts came up with the following statistics, a predominance of it (47 times), a rather high placing for they (27), as against six instances of we, and two instances each of you and he in the English passages while the Malay texts gave a much smaller count of personal pronouns: 13 instances of ia/ianya, 9 cases of kita, 3 cases of mereka, two instances of beliau and one isolated case of anda. The difference in the number of occurrences of it in English and its counterpart in Malay is probably due to the fact that for both the subjective and objective forms, in English, it remains unchanged whereas in Malay ia/ianya becomes nya in the objective case. If 'nya' were also taken into consideration, then the number of personal pronouns in the third person singular would rise to 25. However, besides being a pronoun, the lexical 'nya' in Malay seems to hold other functions as well (cf. 5.4.1).

Thus, one marked difference noted in the texts studied is the impressive presence in the English texts of pronouns in the third person and their relatively fewer occurrences in the Malay translations. In Text #08S and #08T below, this difference between Malay and English in the practice of using pronouns is evident.
Example 54 Text #08S and #08T

This brief account of the body's disease defence mechanisms would be incomplete without mentioning interferon. This is a protein extracted from cells which has been found to prevent multiplication of viruses. Unlike antibodies it is non-specific, i.e. it is effective against a wide range of viruses, not just one. These include the influenza and polio viruses. However, it seems to be more effective in the same species of animal in which it is manufactured.

How effective is it? Interferon has been administered to chick embryos and rabbits and ... vaccinia virus.


Setakat manakah berkesannya interferon? Interferon telah dikenakan kepada embrio-embrio ayam dan arnab dan ... vaksinia selanjutnya.

Taking the texts as a whole, the naming word 'interferon' is repeated 12 times in the Malay translated texts but only 4 times in the source text in English. Between Sentence 1 and Sentence 6 in the portion of the text cited above, there are 5 encounters with the word 'interferon' in the Malay version. For the
same stretch of text in English the word appears but twice, once when it is first introduced and then at the start of a new paragraph or fresh idea. In between the noun is referred to five times by the use of the personal pronoun 'it'. 'It' in this five instances functions as a personal pronoun in the real sense of the word unlike its earlier appearances in the expressions taken from Text #18S (cf. pp.106).

English pronominalization is a cohesion oriented process for keeping track of who is who. Pronominalization is also a grammatical feature of Malay. However, its role of creating cohesive linkage in expository scientific discourse is not so prominent. In Malay as in English expository scientific discourse, the focus of interest or subject of discussion is not exactly people but rather things, phenomena, theories, experiments. That being the case, lexical repetition rather than pronouns takes over as the preferred device for keeping track of who is who in such types of texts.

In the context of this study, pronouns are an especially interesting cohesion phenomenon of discourse because they do not function in the same manner from language to language. As exemplified by the texts in the corpus, the practice in English is to introduce a new
participant with a noun phrase and then refer to this participant by a pronoun throughout the rest of the paragraph. Anaphoric pronouns, in the third person, singular and plural are replaced in the Malay translated texts by a repetition of the noun followed by itu/ini. The pronoun it in the following sentence from the source texts #10S takes the form of N + itu/ini in the target text #10T.

Example 55 Text #10S and #10T

If a crystal potassium permanganate is dropped into a beaker of water it dissolves, and gradually the purple colour of the permanganate spreads until eventually it is uniformly distributed.

Jika seketul hablur kalium permanganat dijatuhkan ke dalam sebuah biker, hablur ini akan larut, dan secara beransur-ansur warna ungu permanganat itu merebak hingga akhirnya (zero) tersebar rata.

Pronoun usage is not governed by foolproof deterministic rules. Instead they can be used with a great amount of freedom, which often leads to ambiguous constructions as in the sentence below,

Hashim was angry but they did not kill him.

This ambiguity arising from freedom in usage can be compounded in the case of Malay, where the pronoun for
the third person singular and plural remains unchanged whatever the gender of the subject(s)/object(s) replaced (cf Examples 56 - 58 below). As such it can pose some problems to translators working from Malay into English. Effort will have to be made to establish the source for the pronoun in the text before replacing it with the appropriate one in English.

Example 56 Text #19S and #19T

For various reasons it was agreed that they should announce their conclusions together rather than publish them separately.

Oleh sebab-sebab yang tertentu telah dipersetujui bahawa mereka patut mengumumkan kesimpulan mereka secara bersama, daripada menerbitkannya secara berasingan.

Example 57 Text #09S and #09T

This can take place in several different ways but generally the antibodies either adhere to the surface of the micro-organisms, making them clump together (agglutinization). or they may cause them to disintegrate (lysis).

Ini boleh berlaku dengan beberapa cara yang berlainan tetapi umumnya antibodi itu melekat kepada permukaan mikroorganisme dan menjadikannya berkelompok (aglutinasi) ataupun mungkin menyebabkan mikroorganisme itu luluh (lisis).

Example 58 Text #12S and #12T

The drones, which are all [of them] fertile males, develop from unfertilized haploid eggs laid by the queen.
Lebah jantan yang semuanya subu ini, berkembang dari telur haploid yang tidak dinyawakan yang dihasilkan oleh permaisuri.

For a translator the property of being undetermined can be a considerable problem. However, in all fairness to pronouns it can be said that they do have some syntactic and semantic features that determine the kind of concepts they can refer to. English pronouns show syntactic features such as number, person and case, and some semantic distinctions such as person/non-person and male/female. Malay pronouns display a different distribution of features, with a notable difference, the occurrence of several gradations of politeness. This means that a different (personal) pronoun must be used when the social relation between speaker, addressee and referee changes.

In terms of semantic features Malay shares with English the semantic distinctions of person/non-person but makes no distinction between male/female and where syntactic features are concerned there is almost total similarity except for the non-existence of the use of the pronoun in the third person plural form for inanimate objects which result in a higher frequency in the use of repetitions (cf. Table II). Malay translation is more explicit than English. An English-Malay
translator is therefore forced to perform a considerable amount of analysis to make explicit what is at best only implicit in the source language.

Pronoun references in scientific texts are rare except for 'it', the pronoun for the third person, in the subjective or objective case and its plural form, they, them. It, they and them are used to refer to things and the animal world. Classifier words and synonyms are used much more frequently than pronouns in order to avoid boring repetitions of some word or phrase.

5.3.2 Malay suffix NYA

An item of contrastive interest in this context is the frequently used, highly versatile Malay suffix 'nya'. Harimurti Kridalaksana conducted a study on the importance of this lexical item as an anaphoric marker.

There are 169 occurrences of this pronoun in the translated texts analysed and different usage patterns of 'nya' are also discerned in the texts. The following seem to be the more salient and regular ones.

In the first case, 'nya', affixed to a nominal, behaves as its modifier and is the Malay token for the English possessive pronoun 'its/his/hers/their'. Its
flexibility lends it the possibility of affixing with all categories of nominals, verbal nouns, common nouns and even adjectives. See examples below,

Case 1

Nominal + ‘nya’

tindakannya
jawapannya
kesannya
rembesannya
progeninya
makmalnya
bentuknya
tenaganya
spesisnya
bukunya

Adjective + ‘nya’

rapatnya
panjangnya
tebalnya
beratnya
besarnya

The next is what is termed the objective case. ‘Nya’ in this case is affixed to a preposition or verb, as in the examples below, and can be considered as the Malay translation for the personal pronouns, objective case of ‘it/him/her’.
Case 2

Verb + 'nya'

menghentikkannya
menjadikannya
meneutralkannya
menghasilkannya
membolehkannya
menerbitkannya
menyokongnya
mendedahkan
mengeluarkan

Preposition + 'nya'

terhadapnya
kepadanya

Out of 169 occurrences of 'Nya' in the texts, 73 of them, that is, 43.2% illustrate the third pattern of relationship, its function being that of a conjunct as in the examples below (cf. Appendix VI for a complete list of this usage of 'Nya').

biasanya
seterusnya
selanjutnya
pada umumnya
sekitar
pada asasnya
sebenarnya
terutamanya
In the case of affixation of 'nya' to an adjective the resultant expression is an abstract noun but if the expression has the lexical 'dengan' as its head, then, the outcome is an adverbial phrase. Consider the examples below,

dengan derasnya
dengan ketatnya
dengan mudahnya
dengan sendirinya
dengan cepatnya
dengan sepenuhnya
dengan banyaknya

5.3.3 Demonstratives

A far more prevalent kind of interreference in both the translated and the English texts are the demonstrative adjectives and pronouns, this, that, these, those and ini, itu. Deictics, that is, words like 'this' and 'that' or 'that one' or 'a certain one' in English and ini, itu in Malay are used to keep track of participants.

In English the distribution of this/that is governed by some rules analogous to those for demonstratives. In their deictic use these pronouns express the proximity/distance opposition. As anaphora this denotes the speaker's focus and signal change of focus while that co-specifies with the potential (or
old) focus. In Malay, proximal ini bears this feature only while in opposition to itu, otherwise it is neutral with respect to proximity (cf. pp. 105-107). In their anaphoric use Malay pronouns maintain this tendency since, if they are in opposition, they behave analogously to their English equivalents, signaling the new and old information, respectively. However, if ini alone is present, it gets neutralized to the effect it plays the function of a definiteness marker.

In the English texts examined there are 40 occurrences of the demonstrative pronoun and 26 instances of the demonstrative adjective out of a total of 5515 words. The tally for the Malay texts is 44 counts of demonstrative pronouns (28 Ini; 16 Itu) and 109 instances of demonstrative adjectives (75 Ini and 34 Itu) out of a total of 5267 words (See Table V pp. 183).

Indeed demonstratives seem to figure more importantly in Malay than in English. But this is only part of the picture. Itu/ini in Malay has multifunctional utility. Itu is also used in a multitude of expressions which have nothing to do with demonstrating or replacing a noun or noun phrase. Rather they are conclusion introducers. The study picked up a rather impressive list of such expressions from the texts in the corpus (cf. list below).
<table>
<thead>
<tr>
<th></th>
<th>English Texts</th>
<th>Malay Texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrative</td>
<td>this - 18</td>
<td>ini - 75</td>
</tr>
<tr>
<td>Adjective</td>
<td>these - 8</td>
<td>itu - 34</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>109</td>
</tr>
<tr>
<td>Demonstrative</td>
<td>this - 31</td>
<td>ini - 28</td>
</tr>
<tr>
<td>Pronoun</td>
<td>these - 4</td>
<td>itu - 16</td>
</tr>
<tr>
<td></td>
<td>those - 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>153</td>
</tr>
</tbody>
</table>

**Table V  Demonstratives in the Source and Translated Texts**

dan dengan itu
kesemua ini
maka dari itu
oleh sebab itu
akhir-akhir ini
selepas ini
dari itu
oleh kerana itu
kerana itu
yang serupa itu

In most occurrences of the demonstrative pronoun the referent is the whole previous text or the whole or part of the previous sentence as in Example 59 below.
Example 59 Text #06S and #06T

The thymus gland is situated in the thorax, close to the heart. It produces many of the body’s lymphocytes which then migrate to the lymph nodes but its principal function is to secrete a hormone which renders the lymphocytes capable of developing into antibody-producing plasma cells. It does this after birth, following which it gradually regresses.

Kelenjar timus terletak di toraks dekat dengan jantung. Kelenjar ini mengeluarkan banyak limfosit badan yang kemudiananya berpindah ke nodus-nodus limfa, tetapi fungsi utamanya ialah untuk merembeskan hormon yang membolehkan limfosit mengembang menjadi sel-sel plasma pengeluar antibodi. Ini dilakukannya selepas kelahiran, dan selepas ini kelenjar timus perlahan-lahan merosot.

Occasionally the referent is a noun or nominal expression in the preceding sentence as in the English text in Example 60 below. In the Malay text however, a different device is used, instead of a demonstrative pronoun, the noun ‘virus’ is repeated and modified by demonstrative adjective ‘ini’ thus creating a link with the previous sentence.

Example 60 Text #08S and #08T

Unlike antibodies it [interferon] is non-specific, i.e. it is effective against a wide range of viruses, not just one. These include the influenza and polio viruses.

Berlainan dengan antibodi, interferon tidak spesifik, iaitu ianya berkesan dengan banyak virus, bukan hanya satu sahaja. Virus-virus ini termasuklah virus influenza dan polio.
In the case of the demonstrative adjectives, slightly more than 80% of them refer to a whole sentence or set of sentences rather than to a preceding noun phrase, in the form of such expressions as 'this discovery', 'these difficulties', 'this general principle', 'this area', 'this idea', 'these two hypotheses', 'this chapter', this latter strategy' etc. The following are a few of the many examples to be found in the texts analysed.

Example 61 Text #18S and #18T

So we have two levels at which gene control may occur: at the level of transcription in the nucleus, and at the level of translation in the cytoplasm. These two hypotheses are not necessarily in conflict.

Dari itu kita mempunyai dua paras di mana kawalan gen boleh berlaku: pada paras transkripsi di dalam nukleus dan pada paras pentafsiran di dalam sitoplasma. Dua hipotesis ini tidak semestinya bercanggah.

Example 62 Text #14S and #14T

In man the two lungs contain approximately 700 million alveoli, giving a total surface area of over 70 square meter, i.e. if the lungs were opened out into a continuous sheet they would just about cover the surface of a tennis court! The capillary network in the lungs has a total area of about 40 square meters. In the lungs, therefore, an enormous surface area for gaseous exchange is packed into a comparatively small space. This general
principle also applies to other terrestrial vertebrates like amphibians and reptile ... is nothing so great.

Pada manusia dua paru-paru mengandungi kira-kira 700 juta alveolus, yang meliputi satu kawasan permukaan seluas lebih dari 70 meter persegi; yakni jika paru-paru dibuka dan dibentangkan menjadi satu helai atau yang bersambungan, ianya akan boleh meliputi kawasan sebuah gelanggang tenis. Jalanan kecil dalam paru-paru mempunyai jumlah kawasan lebih kurang 40 meter persegi. Oleh sebab itu dalam paru-paru satu kawasan permukaan yang luas untuk pertukaran gas ditumpatkan dalam suatu ruangan yang sangat kecil. Prinsip am ini juga berlaku bagi haiwan vertebrata daratan seperti amfibia dan reptilia, kecuali dalam haiwan vertebrata yang lebih primitif saiz paru-paru ... pada manusia

Example 63 Text #16S and #16T

If such drugs can be developed there is no reason why organs should not be transplanted freely between different individuals of the same species (homografts) or indeed between individuals of different species (heterografts) with reasonable success. Advances have already been made in this area at the research level and some people believe that in time it may become common medical practice.

Sekiranya dadah-dadah seperti ini boleh dimajukan tidak ada sebab mengapa organ-organ tidak boleh dipindahkan secara bebas antara individu-individu yang berlainan tetapi dari spesis yang sama (homograft) ataupun individu-individu dari spesis yang berlainan (heterograft) dengan kejayaan yang sewajarnya. Kemajuan-kemajuan telah dicapai dalam lapangan ini pada peringkat penyelidikan dan setengah-setengah orang mempercayai bahawa dalam sedikit masa lagi akan menjadi amalan perubatan yang biasa.
Thus it seems the demonstrative in science texts functions primarily as a connecting link between parts of the text rather than as a connection between occurrences of nouns within the text. In general the sentence with a demonstrative contains a conclusion which can be drawn from the text to which the demonstrative refers. See Example 64 below. This function is transparent in the Malay text through such phrases as, maka dari itu, oleh sebab itu, semua ini, oleh kerana itu, di samping itu.

Example 64 Text #04S and #04T

Air is drawn into the lungs via the trachea and bronchi. the expansion is brought about by the upward and outward movement of the ribs accompanied by flattening of the diaphragm (Fig 8.2B and C). The rib movements are achieved by contraction of its radial and circular muscles. All this constitutes inspiration.


Nominal groups such as 'scheme of things', 'point of view', 'way of putting it' and 'line of reasoning or thinking' fulfil the same discourse function as the single lexical items. Such nominal groups have not been included in the classification, since this would have
complicated an already complex task and since they can all be paraphrased as single nouns with roughly the same meaning: 'point of view' - viewpoint, 'line of reasoning or thinking' - argument or thinking, and so on.

Any noun is potentially a pro-form provided it is functioning as a pro-form and as such is an anaphorically cohesive device, referring metadiscursively to a stretch of discourse preceding it, and if facing forwards, that is, it is presented as the given information in terms of which the new propositional content of the clause or sentence in which it occurs is formulated. In other words, it must be presented as synonymous with the propositions immediately preceding it.

Pronouns function by means of text coherence and at the same time, help create it. The fact that sentences in a text are related, and that the receiver relies on this to be so, allows a pronoun to refer to elements outside the sentence it occurs in itself. Pronouns explicitly signals coreference thereby strengthening the bonds between sentences.
5.3.4 Lexical Cohesion

Another area of cohesion which gives rise to much speculation and engenders a great deal of interest in any contrastive exercise is that of lexis.

The results from the analysis conducted on the texts constituting the database seem to highlight one phenomenon - the unequivocal evidence of the existence of lexical networks at the level of text which are intimately concerned with the construction of subject matter. This confirms to a certain extent what Martin Phillips says in his study on 'aboutness' (Phillips, 1994) that a relatively small number of lexical items called nuclear modes are primarily responsible for the lexical structure of text.

One conclusion can be made from the study as regards lexical cohesion, and that is lexical cohesion is a case of there being particular lexical items which always have a cohesive function. Every lexical item may enter into cohesive relation, but by itself it carries no indications whether it is functioning cohesively or not. That can be established only by reference to the text. The effect of lexical, especially collocational cohesion on a text is subtle and difficult to estimate. With grammatical cohesion,
the effect is relatively clear. Reference items, substitutes and conjunctions all explicitly presuppose some element other than themselves.

As apparent in the texts examined, the selection of vocabulary items from a common semantic domain adds greatly to the cohesion of a text. Using different forms of the same word to talk about a phenomenon or event or feature as in the examples below, can also help to show that a number of sentences within a paragraph belong together or are interrelated.

Example 65 Text #15S and #15T

Leaves are generally thin and flat and collectively present a large surface area to the light. Their thinness minimizes the distance ... take place. Of course being thin and [being] flat makes them liable to sag, ...

Daun biasanya nipis serta pipih dan bersama-mengadakan kawasan permukaan yang luas terhadap cahaya. Kenipisannya mengurangkan... karbon dioksid. Kenipisan dan kepipihannya sudah tentu menjadikan daun-daun senang terkulai, ...

Example 66 Text #01S and #01T

Hormones are secreted by endocrine organs directly into the bloodstream. The word endocrine means 'internal secretion' and the endocrine organs are therefore glands of internal secretion.
Hormon dirembes oleh organ endokrin secara langsung ke dalam aliran darah. Perkataan endokrin bermakna 'rembesan dalam' dan oleh itu organ endokrin adalah kelenjar rembesan dalam.

However, in addition to this more general lexical cohesion, are other surface structure lexical ties created through the use of synonyms, antonyms, substitution of more generic words for specific words, parallel expressions and so on.

In the texts under consideration expectancy chains provide a special kind of lexical cohesion (Sentence 1, Text #13S and Text #13T; Sentence 4, Text #16s and #16T Appendices IA and IB). One might expect that all such expectancy chains would match between the languages, but this is not necessarily so. Events which can be left implicit in one language need not be made explicit in another, since they are part of the expectancy chain. For example, in English we can say He went to town and no further event is needed. However, in many languages it is expected that the event arrive will also be included. That is the sentence would need to include both He went to town and he arrived.

Since such expectancy chains are a very important cohesive device, in translation, the natural form of the target language should be used including making
implicit events explicit. Expectancy chains usually operate on a sentence level as illustrated by the texts in our corpora.

At paragraph level a common lexical cohesive device is that of substituting generic vocabulary for more specific vocabulary (organ for kidneys, heart, lungs etc. Text #16S Appendix IA). Between sentences within a paragraph, many languages inclusive of Malay use repetition of the verb as a cohesive device. That is, one sentence ends in a verb and then the same verb is picked up at the beginning of the next sentence as in the following example.

**Example 67 Text #09T**

_Ini boleh berlaku dengan beberapa cara yang berlainan tetapi umumnya antibodi itu melekat kepada permukaan mikroorganisme dan menjadikannya berkelompok (*aglutinasi*), ataupun mungkin menyebabkan mikroorganisme itu luluh (*lisis*). Kadangkala *aglutinasi* diikuti oleh *lisis* ...

This analysis clearly indicates that foremost among the lexical devices are the relations of synonymy and hyponymy. Hyponymy or superordinate terms help a passage to achieve a continuity of lexical meaning, though the contribution by meronyms should not in any way be overlooked (cf. Appendices III A3.4 and IV A4.4).
Technical terms accumulate meanings in a single word. And it is to be remarked that scientific textbooks build up from superordinate to sub-class rather than the other way round. Establishing the proper inter-connectors among generic and specific terms is a problem of the lexicon. It is to be expected that certain classifier relationships which function for one scientific discipline will not work for another discipline.

In both lexis and text we can make useful generalizations as long as we accept that our generalizations are not water-tight and not predictive. In English, for example, we can note that the 'er' suffix will convert an action verb into a noun with the meaning of 'human performer of action' (dancer, speaker, singer etc.) but we will need to note the aberrant instances (a cooker is non-human) and the odd noun with no equivalent verb (carpenter, stranger). The same observation is relevant to the prefix 'pe', 'pen', 'pem', 'peng', 'peny' and so on in Malay. Here the generalizations are even less water-tight and less predictive.

The noun phrases in English discourse are often identifiable, although for some languages such as Malay, there can be considerable controversy over the precise
definition of the noun phrase. Verbs too, are identifiable, though as we can see from our analysis of the translated texts, apparently there seems to be no distinction between nouns and verbs. Functionally, noun phrases are identifiable by the roles they play: subject, object and so on.

In expository discourse, instead of an arbitrary alternation of noun phrases and pronouns, the choice of the noun phrase over pronoun is strictly governed by the structure of the text. Within peak sentences, that is, sentences of particular semantic importance within a segment of a paragraph, full noun phrases occur. Segments in expository discourse specify the purpose of a given unified section of the paragraph. See example below.

Example 68 Text #16s and #16t

Transplantation surgery is an important field of medical endeavour in which great advances have been made in recent years... For success the tissues of the donor and recipient must be as genetically similar as possible. [How close they are can be determined by tissue-typing, a procedure which is a necessary preliminary to surgery] ... The high failure rate in transplantation operations is due to the patient succumbing to a disease or a rejection of the organ ... However it is well to remember that tissue grafting and organ transplantation are highly unnatural events which never occur in nature.
Pembedahan pemindahan adalah bidang yang penting dalam kerja-kerja perubatan dan dalambidang ini kemajuan besar telah diperolehi dalam tahun-tahun kebelakangan ini. Untuk mencapai kejayaan, tisu-tisu penderma dan penerima hendaklah serupa sebanyak mungkin dari segi genetik. [Betapa rapatnya hubungan ini boleh ditentukan secara penjenisan tisu, satu aturan kerja yang perlu sebelum pembedahan]. ... Kadar kegagalan yang tinggi dalam pembedahan-pembedahan pemindahan adalah disebabkan oleh pesakit mengalah kepada penyakit, biasanya pneumonia, atau kepada penolakan organ itu. ... Walau bagaimanapun, eloklah diingati bahawa pencantuman tisu dan pemindahan organ adalah peristiwa-peristiwa bukan semula jadi yang tidak pernah berlaku dalam alam tabii.

Within non-peak sentences, pronouns occur to refer to the topic of the paragraph (cf. bracketted sentence in Example 68 above, in particular the English text). In certain cases, the situation is sometimes more complex than this.

This type of conditioned alternation is not limited to English as is evident in the texts examined. Pronouns may not be such a frequent feature in Malay texts of scientific discourse but the same observation of conditioned alternation holds in other types of texts where they do occur.

The relationships among the noun phrases and verb phrases which occur in sentences of the text determine to a certain extent the structure of the text. Many
sentences in a text may have the same subject noun and differ in the verb phrase which occurs with this noun phrase (see Example 69), or the same verb phrase may reoccur with varying noun phrases (see Example 70). In some cases the subject noun phrase of one sentence may occur as the object noun phrase of another sentence.

Example 69 Text #07S and #07T

Enzymes can be divided into two main groups ... extracellular. Enzymes are grouped according to the type of reaction they catalyse.

Enzymes that specifically catalyse the removal of hydrogen atoms ...

Other important types of enzymes are ...

Enzim boleh dibahagikan kepada dua kumpulan: intrasel dan luar sel ...

Enzim-enzim digolongkan mengikut jenis tindakbalas yang memangkinkannya ...

Enzim-enzim yang khusus memangkinkan penyingkiran atom hidrogen ... dehidrogenase ...

Jenis-jenis enzim penting yang lain adalah ...

Example 70 Text #07S and #07T

Enzymes that specifically catalyse the removal of hydrogen atoms from a substrate are called dehydrogenases and those that catalyse the addition of oxygen to hydrogen are oxidases. ... Also important in respiration are the phosphokinases which catalyse the addition of phosphate groups to a compound.
Enzim-enzim yang khusus memangkinkan penyingkiran atom hidrogen dari suatu substrat disebut dehidrogenase, dan yang memangkinkan penambahan oksigen kepada hidrogen adalah oksidase. ... Juga penting dalam pernafasan ialah fosfokinases yang memangkinkan penambahan kumpulan-kumpulan fosfat kepada sebatian.

These patterns of reoccurrence establish relationships among the sentences of a text. The difference in the pattern of reoccurrence can serve to distinguish among various types of texts.

In certain kinds of texts, descriptions of conceptual structures of science for example, the same noun phrase will be the subject of many sentences in the text. In other types of texts such as a hypothesis verification, no two sentences will have the same noun phrase as subject. In distinguishing among types of scientific texts the pattern of noun phrase reoccurrence is more significant than the reoccurrence pattern of verb phrases. And certain classifier words like 'micro-organisms', 'diseases', 'food', 'amphibians' and 'vertebrates' are also considered as repetitions of the more specific phrase(s). Their equivalents in Malay would be 'mikroorganisme', 'penyakit', 'makanan', 'amfibia', 'vertebrata' and so on.
One concluding remark as regards cohesion through lexical relationship is that our study shows that Malay relies more heavily on repetitions of lexical items both in the nominal and verbal form.