EXPLICATING THE IMPLICIT:
AN EXPLORATION INTO THE PRAGMATIC COMPETENCE
OF ARABIC-SPEAKING TRAINEE TRANSLATORS

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ABSTRACT

This doctoral thesis is an investigation into the pragmatic competence of English-Arabic trainee translators, as represented by their inferential ability to interpret implied discourse relations in an English source text. Drawing on research into second language pragmatics acquisition, as well as the Relevance-Theory approach to utterance comprehension, the study employs a think-aloud protocol to monitor the participants' translation process. Different patterns of inferential processing are identified as regards the interpretation of discourse relations, which both demonstrate the problematic nature of this aspect of pragmatic competence, as well as highlight the role of classroom instruction in the development of such pragmatic abilities. This project aims to contribute to existing research in the fields of second language pragmatics acquisition and process-oriented translation studies. The study also sets out to make an empirically-based contribution to the area of research concerned with the application of second-language-acquisition concepts to translator training.
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LIST OF ABBREVIATIONS

DM  Discourse marker
EFL  English as a foreign language
ESL  English as a second language
L1  First language
L2  Second language
RST Rhetorical Structure Theory
SL  Source language
SLA Second Language Acquisition
ST  Source text
TL  Target language
TT  Target text
TAP Think-aloud protocol
1.1 General Outline

The present thesis is an investigation into the pragmatic competence of English-Arabic trainee translators, as represented by their inferential ability to interpret implied discourse relations in an English source text. This investigation is cross-disciplinary in at least three ways, in that it addresses a problem within translation studies, but it does so by drawing on research into Second Language Pragmatics Acquisition, as well as the Relevance-Theory approach to utterance comprehension. The study employs a think-aloud protocol to monitor the participants' translation process, in order to answer the following questions:

1. Do discourse relations unsignalled by a discourse marker pose a comprehension problem for Arabic L1/English L2 trainee translators, regardless of their English language proficiency?
2. Does a grounding in text-analysis improve Arabic L1/English L2 trainee translators' ability to comprehend discourse relations unsignalled by a discourse marker, regardless of their English proficiency?
3. What does the think-aloud protocol tell us about the translation process involved in the interpretation of discourse relations?

Pragmatic competence, an integral part of language proficiency, is the ability to comprehend and produce language appropriately in a communicative situation, taking into consideration such factors as social distance, indirectness, politeness and other contextual elements necessary to derive implicit meaning (Kasper and Kellerman, 1997). Pragmatic competence is therefore of paramount importance when engaging in any act of communication, particularly in an increasingly global world, where often largely dissimilar cultures come into contact, forcing translators and interpreters to confront the demanding task of reconciling differences, in an attempt to establish constructive communication. Nevertheless, most foreign language curricula around the world seem to place greater emphasis on grammatical ability than on pragmatic competence. The reason behind the primacy of grammar in such curricula is the commonly held belief that in order to be able to do things with words, these 'words' need to be there in the first place (Kasper & Rose, 2002: 164).
Similarly, most interpreting or translation courses demand a fairly advanced level of language proficiency in a prospective student's L2, as reflected in the results of tests such as IELTS and TOEFL. They therefore assume that, if a student has been admitted to one of their courses, he/she must have a prefect command of his/her working languages (Gile, 1995). However, it is now widely recognised, based on a growing body of empirical research, that pragmatic processing skills are distinct and separate from linguistic processing skills (e.g., Clark, 1991; Holtgraves, 1999; Leinonen, et al., 2003). Furthermore, a large number of studies in the field of Second Language Acquisition, designed to explore the relationship between grammatical proficiency and pragmatic competence have invariably always led to the conclusion that 'high levels of grammatical competence do not guarantee concomitant high levels of pragmatic competence' (Bardovi-Harlig, 1999: 686). In light of such findings, it seems rather unrealistic to assume that trainee translators and interpreters have already attained a satisfactory level of pragmatic competence, simply based on acceptable scores in a recognised language proficiency test.

With its subjects being Arabic L1 students training as Arabic-English translators, the purpose of this study is to explore areas of pragmatic competence in trainee translators with the above language combination, particularly with regard to pragmatic comprehension. While the role of the pragmatic dimension in an L2 user's general language proficiency is not disputed, the role of pragmatic comprehension has only recently become the subject of empirical investigation (Bardovi-Harlig, 1999; Kasper and Rose, 1999; Garcia, 2004). Equally, Arab learners of English are among the largest groups of non-native English speakers in the world. Nevertheless, while a number of aspects of English acquisition by Arab learners have received considerable attention, there is a shortage of research into their acquisition of pragmatic features (Rabab'ah, 2005; Al-Falasi, 2007). Process-oriented studies of English-Arabic translation are even more scarce (Darwish, 2003; Abdul-Fattah, 2008). This project aims to contribute to existing research in the areas of Second Language Pragmatics Acquisition and process-oriented translation studies. The study also sets out to make a contribution to a fledgling area of research, concerned with the application of second language acquisition concepts to translator training. While the connection between these two disciplines has indeed been recognised, existing studies which aim to draw an explicit connection between them are still largely lacking in an empirical focus (Colina, 2006).
1.2 Stating the problem

The news article genre is one in which Arabic and English display considerable differences in terms of discourse marker\(^1\) use. Discourse markers are textual devices which serve the function of marking connections or relations between discourse units. While English seems to permit unsignalled discourse relations (Taboada, 2005), Arabic is a language characterised by precisely the opposite: an explicit use of discourse markers, meant to bring to the surface the types of relations holding between different discourse segments (Khalil, 2000). From an English-Arabic translator's perspective, the mismatch between these two languages in terms of discourse marker use means that, in order to produce a well-formed Arabic text, they have to read between the lines, figure out implicit relations holding between different text segments, and then bring them to the surface in the shape of explicit discourse markers. In other words, they have to explicate the implicit.

Explicating implicit information is by no means restricted to English-Arabic translation. In fact, the universal, non-language-specific, tendency of translators to explicate the source text in translation, referred to as 'explicitation', is well documented in the literature (e.g. Baker, 1996; Olohan and Baker, 2000; Heltai, 2005; Pym, 2005; Dimitrova, 2005). However, based on anecdotal evidence, in addition to personal experience in translator training, it is suggested that the explication of an English source text's implicit discourse relations, in accordance with a stylistic requirement of Arabic, is a potentially problematic aspect of explicitation for Arabic L1/English L2 speakers. The problem is seen primarily as a comprehension issue, brought on by the comparative absence in English news texts of explicit indicators of text structure, such as discourse markers. Arabic native speakers appear to have difficulty in the disambiguation of unsignalled discourse relations, where the lack of a discourse marker has left the text open to more than one interpretation. One quick look at a sample of translated news articles from Arab media is enough, as the following example demonstrates, to reveal the implications of this problem:

\(^1\) Discourse markers have been variously referred to in the literature as 'pragmatic markers' (Fraser, 1990; Schiffrin, 1987), 'discourse connectives' (Blakemore, 1992), 'discourse operators' (Redeker, 1990, 1991) and 'discourse particles' (Fischer, 2006). Examples include 'Above all, accordingly, after all, again, all in all, all the same, alright, also, alternatively, although (...)’ (Fraser, 1990: 388).
The first text is an extract from an English article taken from Newsweek magazine, which explores the economic obstacles to marriage facing the Arab youth. Below it is the translation into Arabic of this extract, published in a renowned Syrian news website. The third text represents a back-translation into English of the Arabic text, showing, in italics, the discourse marker added in by the translator:

Mazen Younes, a 26-year-old Lebanese marketing researcher, is more interested in getting married. Having a job that pays $2,000 a month - three times more than average - has a lot to do with it. He says: "I may be able to marry before turning 30".

Newsweek Magazine, March 2007

[Among those is Mazen Younes, who is 26 and works as a researcher in marketing and earns an income of 2000 Dollars a month, which is 3 times as high as the average income, and despite this he says: "I may be able to marry before turning 30"]

Syria News, March 2007

As can be seen, this translator, seemingly motivated by the necessity to explicate, decided to include 'despite this' in the translation. While we cannot be certain about the reasons behind the choice to add in this particular discourse marker, where clearly no such connection is implied in the English text, it is conceivable that the modal 'may' could have been seen as casting doubt on the prospect of marriage, thereby causing the confusion.

Although the above example may constitute an extreme, though not entirely uncommon, case of failure to identify a discourse relation, the Arab press abounds with perhaps less catastrophic, but nonetheless inadequate, translations which appear to point to the same source of difficulty. The large number of Arabic texts largely lacking in discourse
markers, and therefore instantly recognisable as translations because they do not conform to the stylistic norms of the target language, provides ample evidence.

1.3 Theoretical framework

It is proposed that the comprehension problem pinpointed above can be investigated by drawing on the account of utterance comprehension proposed in Relevance Theory (Sperber & Wilson, 1986/1995). Following a brief yet comprehensive review of the main findings in Second Language Pragmatics Acquisition, Chapter 2 concentrates on the main concepts of the cognitive view of human communication offered by Relevance Theory. Alternative theories of text comprehension, mainly represented by the coherence-based approach (e.g. Halliday and Hasan, 1976; Mann and Thompson, 1988; Sanders and Noordman, 2000; Taboada, 2004) are also touched upon.

One of the main premises of Relevance Theory is that communication cannot be explained in terms of coding and decoding messages because it takes place regardless of whether a code is employed or not. Even when a code is involved, such as in verbal communication, there is clear evidence to suggest that the code carries only a small part of the message; the greater part is entirely subject to inference. The inferential process may also completely bypass and take priority over the code (Sperber & Wilson, 1986/1995; Carston, 2002; Blakemore, 2002).

This inferential process is innate to all human beings and operates a relevance-constrained, cost-effective retrieval of communicative intentions. In very simple terms, this means that, when presented with new information, we try to combine it with preexisting information (context) in order to derive contextual effects at a minimum cost of processing effort. The first interpretation arrived at through this process will automatically be considered as the one intended by the communicator. In other words, no processing effort will be expended if it is not offset by the cognitive effects gained from it. The cost-effective nature of the utterance comprehension mechanism put forward in Relevance Theory is seen as an aspect of how our cognitive systems have evolved, as a result of the constant process of natural selection aimed at increasing efficiency.
It is one of the main tenets of Relevance Theory that the responsibility for ensuring successful communication lies primarily with the communicator. If we apply this view to translation, essentially an act of communication itself, we find that as a communicator, the translator bears the responsibility of facilitating comprehension on the part of the reader. Given the gap between what is linguistically encoded and what is communicated, his job will involve building a full proposition based on the linguistic evidence provided in the source text, and incorporating his understanding of what is communicated into a corresponding target text. To achieve this, the translator has to make assumptions about his readership, and the extent of their access to the contextual assumptions required to reach the intended interpretation of the text. This Relevance-based view of translation was first proposed by Ernst-August Gutt (1991/2000) in his work 'Translation and Relevance: Cognition and Context'. A thorough description of this approach to translation, including a review and evaluation of claims and counterclaims, is found in Chapter 2.

1.4 Methodology

Given its empirical, process-oriented, approach to translation, the method of data collection adopted in this study is the think-aloud protocol, combined with a subsequent retrospective interview. Accordingly, an experiment was set up involving eighteen participants. The participants were all native speakers of Arabic, who, at the time of the experiment, were studying at different stages of a postgraduate course in Arabic-English translation and interpreting. Ten out of the eighteen participants had received training in text-analysis as part of their translation programme. The remaining eight participants had not received any training in text-analysis. The participants were asked to translate an English news article into Arabic, while simultaneously thinking aloud. This was followed by a retrospective interview, in which participants were asked open-ended questions regarding the translation task.

Chapter 3 of this thesis begins by taking a general look at translation-process research, a relatively recent approach to translation designed to investigate the workings of the translator's mind, by relying on introspective data collection methods such as the think-aloud protocol (Krings, 1987; Jääskeläinen, 1987, 1990, 1996, 1999; Séguinot, 1989; Tirkkonen-Condit 1989, 1997; Fraser, 1996). Special attention will be given to findings regarding the characteristics of the mental processes of expert versus novice translators,
a research aspect perceived as pertinent to the purposes of this study. This is followed by a review of the think-aloud method: its basic premises, advantages and drawbacks. The chapter concludes with a detailed, in-depth description of the experiment employed in this study, including its preliminary pilot phase and the modifications it prompted in the data collection procedure.

1.5 Data Analysis and discussion

The method of data analysis employed in this study consists in a combination of quantitative and qualitative analyses. Due to the relatively small number of participants in some of the categories devised for analysis purposes, the quantitative analysis is simply intended as an initial exploration of the data. As such, it plays a supplementary, though instructive, role in the overall data analysis. The subsequent qualitative analysis of the translation process constitutes the major focus of this research.

The qualitative data analysis examines the transcripts obtained from the think-aloud protocols and retrospective interviews. Each transcript is looked at against the corresponding translation product for each of the participants, in an attempt to locate patterns of inferential processing, related to the interpretation of implicit discourse relations. The analysis is structured around the four participant groups which represent the four combinations of the two variables: English language proficiency and exposure to text-analysis, found in the statistical analysis to have a bearing on a participant's discourse marker score. The groups are:

1. Intermediate & Non-Exposed
2. Intermediate & Exposed
3. Advanced & Non-Exposed
4. Advanced & Exposed

First, an intra-group analysis is carried out. The purpose of this analysis is to reveal whether there exist any significant differences among participants who belong to the same group, with regard to the inferential processes they employ – or fail to employ - in the comprehension of implied discourse relations. The intra-group analysis will be

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2 The translation into English of all Arabic examples presented in this thesis has been checked for accuracy by another native Arabic speaker.
followed by an inter-group analysis, which is intended to clarify whether the differences in translation performance observed across the four groups are matched with differences on the level of the inferential processing carried out by the participants.

In accordance with the proposed theoretical framework, the data analysis is essentially informed by Gutt's (1991/2000) application of Relevance Theory to translation. While it is recognised that translation can be investigated from numerous alternative perspectives, it is believed that the cognitive focus of Relevance Theory is better placed to examine the inferential processes involved in the interpretation of discourse relations, and is therefore better suited to the aims of this particular research project.

The data analysis is presented in Chapter 4, which is concerned with the identification of processing patterns, and their interpretation in light of the main theoretical concepts reviewed in chapters 2 and 3. Chapter 5 concludes the thesis with a discussion of the findings, including possible implications and suggestions for future research.
CHAPTER 2 - LITERATURE REVIEW

This chapter is divided into four parts. Section 2.1 comprises a general review of the main findings in the field of Second Language Pragmatics Acquisition. Section 2.2 focuses on the comprehension aspect of pragmatic competence, and presents the Relevance-Theory account of utterance comprehension. Section 2.3 discusses Gutt's (1991/2000) application of Relevance Theory to translation and explores the main issues in the debate regarding the validity of this approach. Finally, Section 2.4 provides an overview of discourse markers, and the role played by these linguistic devices in text comprehension, as perceived from two different perspectives: the coherence-approach and the Relevance-approach.

2.1 Acquisition of L2 pragmatics

2.1.1 What is pragmatic competence?

Up until the 1970s, second language learning was viewed primarily in terms of mastery of grammatical forms. Notably, Chomsky (1965), with his characteristic focus on form, rather than function, of language, was not interested in 'the actual use of language in concrete situations' (Chomsky, 1965: 4). This, he relegated to the realm of 'performance', which he regarded as distinct and separate from his abstract notion of 'competence', in the same way as a person can have an abstract knowledge of the Highway Code, independently of whether or not they can actually drive (Cook & Newson, 1996: 23).

The publication of Hymes's (1972) work provided us with a wider concept of competence, based partly on the observation that children acquire much more than just grammatical forms when they learn to speak:

"He or she acquires competence as to when to speak, when not, and as to what to talk about with whom, when, where, in what manner. In short, a child becomes

---

3 If we understand translation as a context-dependent act of communication (see section 2.3), then we are obviously concerned with a concrete aspect of language use. Accordingly, the term 'competence' is used here, not in the technical Chomskyan sense, but in its ordinary English meaning, i.e., knowledge, ability and skills.
able to accomplish a repertoire of speech acts, to take part in speech events and to evaluate their accomplishment by others"

(Hymes, 1972: 277-8)

Hymes' (1972) integration of the pragmatic component of being able to use language appropriately in context within the concept of competence sets him apart from Chomsky (1965), for whom language use, or 'performance', was 'a flawed realisation of competence' (Peterwagner, 2005: 10). Chomsky eventually incorporated the notion of pragmatic competence, which 'places language in the institutional setting of its use, relating intentions and purposes to the linguistic means at hand' (Chomsky, 1980: 225). He regarded pragmatic competence as separate from his conception of grammatical competence. In other words, while grammatical competence is the reason why we accept that 'why are you making such a noise?' is an acceptable English sentence structure and 'why you are making such a noise?' is not, pragmatic competence allows us to establish whether this sentence is a genuine question or a request to stop making noise (Cook & Newson, 1996: 23-4).

Chomsky's (1965) and Hymes' (1972) work paved the way for further exploration, leading to the development and expansion of the notion of communicative competence by Canale & Swain (1980). In addition to Chomsky's (1965) grammatical competence and Hymes' (1972) sociolinguistic competence, Canale & Swain (1980) proposed a component of strategic competence. This additional component comprises the strategies we have at our disposal for dealing with communication problems, such as when the previous two components fail us. In a subsequent work, Canale (1983) introduced a fourth and final element to the model. He calls it discourse competence, and defines it in terms of our knowledge of how texts (spoken or written) are put together, and our ability to infer implied meaning, including the connection between utterances (Skehan, 1998: 157-8).

The introduction of the model of communicative competence (Canale & Swain, 1980, 1983) has since had a significant impact in the field of second language acquisition, with its focus on the ability to use language in context as an equally crucial aspect of linguistic competence. This shift of focus underpinned further research developments in the area, which continued to refine the concept of language competence. Bachman's
(1990) construct of communicative language ability was one such development, which further emphasised the importance of pragmatic competence, defined largely in terms of illocutionary competence, i.e., the ability of a communicator to shape utterances in order to serve a variety of functions, as well as understand the functions an interlocutor's utterances are intended to achieve (Bachman, 1990: 90).

These studies were succeeded by further investigations as well as practical applications of the idea of communicative competence (Bachman & Palmer, 1996; O’Malley & Chamot, 1990; Skehan, 1995; Verhoeven, 1997; Kasper & Rose, 2002) which placed pragmatic competence firmly at the centre of our conception of linguistic competence, as a vital element of successful communication, equally essential as grammatical competence.

Following Leech (1983) and his view of pragmatic competence as composed of sociopragmatic competence and pragmalinguistic competence, Kasper & Roever (2005) see pragmatic competence as 'the ability understand and produce sociopragmatic meanings with pragmalinguistic conventions' (Kasper & Roever, 2005: 317):

"Sociopragmatic competence encompasses knowledge of the relationships between communicative action and power, social distance, and the imposition associated with a past or future event (...), knowledge of mutual rights and obligations, taboos and conventional practices (...), or quite generally, the social conditions and consequences of what you do, when and to whom"

(Kasper & Roever, 2005: 317-8)

"Pragmalinguistic competence comprises the knowledge and ability for use of conventions of means, such as the strategies for realizing speech acts⁴, and conventions of form, such as linguistic forms [for] implementing speech act strategies"

(Kasper & Roever, 2005: 318)

⁴ Speech Act Theory (Austin, 1962; Searle, 1969) is a theory of meaning that holds that every utterance has both a descriptive and an effective aspect: that saying something is also doing something. Examples of speech acts include admonishing, asserting, commanding, exclaiming, promising, questioning, requesting, warning (Horn & Ward, 2004).
2.1.2 The Development of Pragmatics and Grammar

Following a common research strategy in Second Language Acquisition (SLA) and other social sciences, whereby the subject of study is separated from related material, the study of developmental pragmatics has tended to isolate pragmatics from the other components of communicative competence, and investigate each of these independently. However, as Walters (1980) maintained, it is just as important to investigate the relationship, if any exists, between the different components that make up communicative competence:

"Are they [the various components] by and large independent like the syntactic and phonological components of a grammar? Or, do they frequently interact in complex ways like syntax and semantics? Do these components suggest a hierarchical organisation, or do they represent parallel levels of analysis?"


Accordingly, he examined the relationship between children's grammatical ability and sociocultural awareness, as evidenced in their ability to make polite requests. Following a series of experiments in which the children were asked to act out puppet scenarios involving requests, he concluded that grammatical ability and sociocultural knowledge are, in effect, two distinct and separate abilities. He observed that some of the utterances produced by the children were socioculturally appropriate yet grammatically incorrect (e.g. 'Do you know where is the can opener?'), while other requests were grammatically sound though lacking in politeness (e.g. 'Hey, buy a ticket') (Walters, 1980: 341-2).

Bardovi-Harlig (1999) echoes Walters' view regarding the importance of investigating how a particular pragmalinguistic feature relates to the corresponding grammatical knowledge involved in its use. Her and various other studies within this research agenda almost invariably led to the conclusion that 'high levels of grammatical competence do not guarantee concomitant high levels of pragmatic competence' (Bardovi-Harlig, 1999: 686).
2.1.2.1 The pragmatics-precedes-grammar scenario

Most foreign language curricula around the world seem to place greater emphasis on grammatical ability than on pragmatic competence. The reason behind the primacy of grammar in such curricula is the commonly held belief that in order to be able to do things with words, these 'words' need to be there in the first place (Kasper & Rose, 2002: 164). However, what this teaching approach is ignoring is the now established fact that, as opposed to children learning their L1, adult learners learning an L2 are already pragmatically competent in their mother tongue, in addition to other languages they may have learnt before (ibid). This means that, while children need to build a whole representational system of pragmalinguistic and sociopragmatic knowledge, adults already have such a system at their disposal, and merely have to develop processing control over what is already there. This is not to say that they would not be faced with the task of acquiring unfamiliar sociopragmatic conventions or pragmalinguistic features, but in doing so, they are building on a broad basis of previously acquired, quite-often-universal knowledge (ibid).

Examples of pragmatic universals include sociopragmatic notions such as the knowledge that conversations follow a definite turn-taking pattern, that communicative actions vary according to social power and psychological distance, that pragmatic intentions are often indirectly conveyed, and that they can be recovered by making use of contextual information (Kasper, 1997: 2). In addition, some languages also share pragmalinguistic features, such as those characterised by similar form-function mapping, where the resulting grammatical forms can be used in similar contexts to achieve similar communicative ends in both the L1 and L2. English, German and Danish, for example, share the use of the modal past in the formulation of requests (e.g. 'could/would you lend me your notes?'). This is a pragmalinguistic feature that speakers of any of these languages exploit by importing it into an L2 which belongs to the same group of languages (ibid: 3).

The idea of pragmatic knowledge being somehow omnipresent, acquired as a result not of instruction but of social interaction, may also be why pragmatic competence is taken for granted and largely ignored in second and foreign language learning settings. Accordingly, different theories of pragmatic development emphasize social interaction as a prerequisite for the development of pragmatic competence.
Schmidt's (1983) study of Wes, a 33-year-old Japanese artist who lived in Hawaii, provides ample evidence of the dissociation of grammar and pragmatics. Wes's improved pragmatic competence despite his grammatical weaknesses appeared to suggest that a limited interlanguage grammar does not necessarily hinder pragmatic development (Ellis, 1994/2003: 282).

This study was primarily intended as a test of Schumann's (1978) acculturation theory, which claims that social considerations such as an L2 learner's view of the L2 community, and his aspirations to become part of this community and 'be like' its members, are key to his linguistic development (Johnson, 2001). Schmidt (1983) observed that Wes socialised regularly with native speakers, and that he was always motivated to communicate his ideas. It is this eagerness to communicate, Schmidt (1983) speculates, that led to his accelerated acquisition of pragmatic competence. His grammatical ability, however, lagged considerably behind. The findings of this study therefore illustrate how a fairly high degree of acculturation does not necessarily guarantee an approximation to target-like grammar, whereas it does appear to have a strong effect on the development of pragmatic competence (Belcher & Braine, 1995: 5).

Koike (1989) reached a similar conclusion in her study of the comprehension and production of requests, apologies and commands in beginning learners of Spanish as a foreign language. She states that:

"(...) since the grammatical competence cannot develop as quickly as the already present pragmatic concepts require, the pragmatic concepts are expressed in ways conforming to the level of grammatical complexity acquired"

(Koike, 1989: 286)

Turning to another group of learners, this time advanced ESL learners, and the speech act of expressing gratitude, Eisenstein & Bodman's (1993) study lent support to the primacy of pragmatics hypothesis, as it showed how these advanced learners provided pragmalinguistically appropriate thanking expressions with ungrammatical forms. Some examples include:
- This is the thing what I've wanted; thank you. Sound is good.
- I never forget your kindness.
- I have never taken such a good dinner; it is so glad to me that I have such kind of good friend.


Wes and the participants in Eisenstein & Bodman's (1993) study demonstrated that, while advanced learners may still err on the grammatical side when performing speech acts, such grammatical mistakes need not affect the illocutionary force of their speech acts, as long as they do not constitute pragmalinguistic mistakes (Kasper, 2000: 13).

2.1.2.2 The grammar-precedes-pragmatics scenario

As we have seen so far, there seems to be compelling evidence to suggest that L2 learners do appear to make use of their previously-acquired L1 stock of pragmatic knowledge, through what is referred to in the field of SLA as 'positive transfer', whereby L2 learners successfully apply L1 linguistic principles – in this case sociopragmatic and pragmalinguistic rules - to a corresponding L2. However, L2 learners do not always do so:

"L2 recipients often tend towards literal interpretation, taking utterances at face value rather than inferring what is meant from what is said and underusing context information. Learners frequently underuse politeness marking in L2 even though they regularly mark their utterances for politeness in L1"

(Kasper, 1997: 3)

Indeed, there is convincing evidence from the pragmatics literature of often advanced L2 learners putting correct grammatical forms to the wrong pragmalinguistic or sociopragmatic use, which clearly suggests that language proficiency does not guarantee pragmatic success (Bardovi-Harlig & Hartford, 1993; Kasper & Rose, 1999; Williams, 2005).

The grammar-precedes-pragmatics hypothesis includes three different contentions:
1. Learners demonstrate knowledge of a particular grammatical structure or element but do not use it to express or modify illocutionary force.

2. Learners demonstrate knowledge of a grammatical structure and use it to express pragmalinguistic functions that are not conventionalised in the target language.

3. Learners demonstrate knowledge of a grammatical structure and its pragmalinguistic functions, yet put the pragmalinguistic form-function mapping to non-target-like sociopragmatic use.

(Kasper & Rose, 2002: 190)

Most of the above scenarios have been shown to be particularly applicable in the case of EFL students, whose environment is typically limited in terms of the pragmatic input it provides, which often goes unnoticed. For example, a study by Bardovi-Harlig & Dörnyei (1998) revealed that the Hungarian and Italian L2 learners they investigated readily recognised grammatically incorrect but pragmatically appropriate utterances, whereas they were far less attuned to pragmatically inappropriate but grammatically correct utterances. This observation applied equally to beginners as well as advanced learners, suggesting that 'without a pragmatic focus, foreign language teaching raises students metalinguistic awareness, but it does not contribute much to develop their metapragmatic consciousness in L2' (Kasper, 1997: 4-5).

As Kasper (1997) points out, there is clearly scope for pedagogic intervention here, not so much to introduce new pragmatic knowledge, but to 'make [L2 learners] aware of what they know already and encourage them to use their universal or transferable L1 pragmatic knowledge in L2 contexts' (ibid: 3).

2.1.3 Can pragmatic competence be taught?

The role of instruction in SLA has been a major topic of debate in recent years, particularly with regard to the nature of the relationship between input and intake, and the role of attention and consciousness in the process of L2 learning.
Schmidt's (1990) noticing hypothesis states that in order for input to become intake, it needs to be 'noticed'. Schmidt (1995) defines 'noticing' as the 'conscious registration of the occurrence of some event', and he distinguishes it from 'understanding', which implies the more abstract 'recognition of a general principle, rule or pattern' (Schmidt, 1995: 29). Schmidt posits noticing as a necessary prerequisite for learning, unlike understanding which he claims to be helpful but not essential:

'Those who notice most, learn most, and it may be that those who notice most are those who pay attention most'

(Schmidt, 1990: 144)

Although many reservations have been expressed about this contention, recent empirical evidence points to a definite association between noticing and learning (Mackey et al., 2002: 183). However, the role of individual differences as a mediating factor in the learning process cannot be overlooked. Schmidt (1990) acknowledges that 'learners are not free to notice whatever they want' (Schmidt 1990: 142). Individual characteristics that could potentially influence a learner's ability to 'notice' include aspects such as working memory capacity, a learner's particular developmental stage and the degree of automaticity or control they have over comprehension and production in an L2 (Mackey et al., 2002: 184).

The last factor is of particular importance in the acquisition of second language pragmatics, as postulated in Bialystok's (1993) two-dimensional information processing model. In simple terms, this theoretical framework states that L2 learners have a dual task which consists in, first, forming representations of pragmatic knowledge and, second, gaining control over processing (Barron, 2003: 44). As pointed out earlier, studies in L2 pragmatic development have shown that adult L2 learners can draw on an already established stock of L1 pragmatic knowledge, a finding which supports Bialystok's claim that since adult learners have largely completed the task of developing analytic representations of pragmalinguistic and sociopragmatic knowledge in their L1, the development of L2 pragmatic knowledge is only a minor task. All they need to do is gain control over the selection of knowledge (Barron, 2003: 44). Kasper (1993), however, is of the opinion that Bialystok underestimates the enormity of the task involved in incorporating L2 pragmatic knowledge (ibid).
Building on information processing hypotheses such as Schmidt's (1990) and Bialystok's (1993), several studies set out to test the effect of instruction in the development of L2 pragmatics (for a full discussion see Kasper, 1997). The results obtained from such studies provide strong evidence for the teachability of pragmatics (Jung, 2002). In particular, a study by Tateyama (2001) has demonstrated that even advanced aspects of pragmatic knowledge, such as the mapping of form to social context can be taught to L2 beginners who have not yet developed the mapping of form to function (ibid: 19). While pragmatic intervention cannot alter the developmental sequence of acquisition, it can nonetheless accelerate progress (ibid).

Many of the studies into the effect of instruction on pragmatic development have concentrated on examining the effect of explicit versus implicit teaching approaches in the acquisition of a given pragmatic feature (Jung, 2002: 19). While in explicit teaching methods 'the targeted pragmatic feature is made the object of metapragmatic treatment through description, explanation or discussion', in implicit teaching the pragmatic feature is 'included in contexts of use and practiced in various activities' (Kasper, 2000: 21). The general finding of these studies has been a distinct advantage for explicit teaching methods, regardless of the specific pragmatic objective, the learner's L2 proficiency level, their L1 background or the duration of instruction (ibid: 21). This suggests that, if classroom input can be manipulated in such a way as to increase its salience, this can have a facilitative influence on the learning process. However, Sharwood-Smith (1991) cautions that 'input enhancement' itself does not guarantee the learning outcome since 'externally induced salience may not necessarily be registered by the learner, and even when it is registered, it may not affect the learning mechanisms per se' (Sharwood-Smith, 1991: 118).

A constant finding in second language research appears to be that second language settings provide quantitatively and qualitatively superior input compared to foreign language settings, with the length of residence in the target community emerging as a significant factor in prompting pragmatic development. However, whether living in the L2 community overrides other important factors such as a learner's general L2 proficiency is still very much a matter for debate (Jung, 2002: 21). Other factors have been examined, though to a lesser extent, such as the effect of gender and age. In one study females were found to do slightly better than the males in terms of their
assimilation of L2 sociopragmatic norms, while in another gender was found to play no role whatsoever (Jung, 2002: 21). As for the influence of age, there seems to be a general agreement that learners who begin learning an L2 after puberty have less chance of ever attaining native-like proficiency levels compared to younger learners (ibid). Few studies touch on the influence of age in the acquisition of L2 pragmatics. A rare example is Kim's (2000) investigation of the age factor in the acquisition of request and apology strategies, which reports a correlation between an earlier onset stage and more native-like performance (ibid).

2.2 The relevance of Relevance Theory

Pragmatic competence, our ability to convey and understand meaning in context is, to a great extent, contingent upon our ability to deduce our interlocutor's intentions behind their utterances, itself dependent on our ability to infer implicit meaning, beyond what is explicitly expressed in the actual words. The field of pragmatics has witnessed various attempts to explain the process of utterance interpretation. Notable among these attempts is Relevance Theory, which emphasises the role played by the context in coding and decoding communicative intentions.

2.2.1 Pragmatic inference

Since a hearer has no direct access to the speaker's intended meaning, she has to rely on inference to arrive at the intended interpretation of an utterance. Inference can take the form of logical, deductive reasoning, such as the derivation of a specific conclusion from two specific premises, as demonstrated in the following example:

All men are mortal. (premise)
Socrates is a man. (premise)

_________________________
Socrates is mortal. (conclusion)

(Blakemore, 1992:12)
As Brown and Yule (1983) point out, this type of logical inference is rarely, if ever, employed in human communication. What takes place is rather a 'loose' form of inference:

"As discourse processors we seem to prefer to make inferences which have some likelihood of being justified and, if some subsequent information does not fit in with this inference, we abandon it and form another"

(Brown & Yule, 1983: 34)

For example, upon reading the sentence 'John was on his way to school' we are likely to assume that John is a pupil, that is until we reach the next sentence 'Last week he had been unable to control the class', which quickly leads us to abandon our original inference and replace it with the assumption that John is a teacher. Human communication, then, is governed by pragmatic rather than logical inference, which, in turn, is heavily dependent on the context (Brown & Yule, 1983: 34).

Understanding what a speaker means is therefore not a simple, straightforward matter of decoding a linguistic message. Recovering meaning requires a certain degree of **pragmatic** decoding, by means of which humans draw on contextual information in order to retrieve the message implied in a speaker's utterance (Blakemore, 1992; Blass, 1990). Several researchers within the field of pragmatics have conducted enquiries into the process of utterance comprehension, particularly as regards the recovery of non-literal meaning (e.g. Clark, 1991; Gibbs, 1999; Holtgraves, 1999; Taguchi, 2002). Most of these studies concentrated on the comprehension of indirect statements, implying an often negative message to be recovered through pragmatic inference, as the following example from Holtgraves (2002) illustrates:

A: What did you think about my presentation?
B: It's hard to give a good presentation.

(Holtgraves, 2002: 31)

Without exception, said studies clearly revealed that hearers always rely on contextual cues in their interpretation of linguistic input, selecting what seems most relevant to the utterance in question from whatever information is available to them at the time
Relevance-constrained pragmatic inference is therefore a major part of human communication.

### 2.2.2 Relevance Theory: Basic premises

Among the various pragmatic theories seeking to determine the nature of the process of utterance comprehension, Relevance Theory has been particularly influential. Starting from the assumption that human communication is dependent on the use of contextual information in the interpretation of linguistic input, Sperber & Wilson (1986/1995) offer us an account of the cognitive process by means of which relevant contextual information is selected.

Although pragmatic inference is an integral part of communication, in that it allows us to bridge the gap between what is said and what is meant, our ability to communicate would be seriously limited without language, without a shared code. However, the existence of a shared code, crucial as it is, does not by itself define the essence of communication:

"(…) just as no one would want to define fire as necessarily produced by the use of matches or lighters, it would be unreasonable to define communication as necessarily achieved by the use of codes"

(Sperber & Wilson, 1995: 27-8)

Sperber & Wilson (1986/1995) explain that humans have both an 'internal language' which allows communication, and an 'external language', or a code, which is used as an actual means of communication. However, there is not a one-to-one correspondence between the two:

"The fact is that human external languages do not encode the kind of information that humans are interested in communicating. Linguistically encoded semantic representations are abstract mental structures which must be inferentially enriched before they can be taken to represent anything of interest"

(Sperber & Wilson, 1995: 174)
Similarly, Blakemore (1992) refers to linguistically encoded information as a mere 'blueprint' which requires contextual knowledge before it can develop into a full meaningful proposition (Blakemore, 1992: 43). This process of contextualisation generates a 'whole range of thoughts and impressions' (ibid: 10). As Blakemore (1992) points out, it is not easy to define these thoughts and impressions, much less the mental processes that give rise to them (ibid). Sperber & Wilson's Relevance Theory constitutes a valuable step in this direction. Central to their attempt at elucidating the process of contextualisation is their notion of what context actually is, which is fundamentally different from previous accounts.

2.2.3 Context as a psychological construct

Sperber & Wilson's view of what constitutes a context runs counter to the definitions put forward by Lewis (1969) and Schiffer (1972). Such models postulate that in order to guarantee successful communication, the addresser and addressee should share mutual knowledge of every bit of contextual information needed to interpret the utterance. Sperber & Wilson (1986/1995) find the idea of mutual knowledge untenable because, even if the addresser and addressee did share the exact same physical environment, this does not necessarily entail that their respective representations of it will be identical:

"We do not all construct the same representation because of differences in our narrower physical environments on the one hand, and in our cognitive abilities on the other. Perceptual abilities vary in effectiveness from one individual to another. Inferential abilities also vary, and not just in effectiveness"

(Sperber & Wilson, 1995: 38)

Instead, they are more at home with the idea of 'mutual manifestness' rather than mutual knowledge, which they describe as 'a philosopher's construct with no close counterpart in reality' (Sperber & Wilson, 1995: 38). Manifestness, then, is defined in terms of what is 'perceptible or inferable', rather than what is 'known'. In the same manner, rather than a 'physical environment', they prefer to talk about a 'cognitive environment', defined not only by what an individual is aware of, but by 'all the facts that he is capable of becoming aware of' (ibid: 39). It is generally accepted, they add, 'that people have not
only the knowledge that they actually entertain, but also the knowledge that they are capable of deducing from the knowledge that they entertain' (*ibid*: 40).

The flexibility of the notion of manifestness lends it more psychological plausibility than the more rigid idea of mutual knowledge, and is therefore better placed to account for the fuzzy, complicated, no-guarantees nature of human communication. Indeed, as Sperber & Wilson remind us:

"(…) most cognitive processes are so complex that they must be modeled in terms of heuristics rather than failsafe algorithms. We assume then, that communication is governed by a less-than-perfect heuristic. On this approach, failures in communication are to be expected: what is mysterious and requires explanation is not failure but success"

*(Sperber & Wilson, 1995: 45)*

This notion of 'mutual manifestness' forms the basis of the definition of context proposed in Relevance Theory. From this perspective, context is seen as 'a psychological construct, a subset of the hearer's assumptions about the world' (Sperber & Wilson, 1995:15). The Relevance-Theory notion of context is therefore a comprehensive one, which 'is not limited to information about the physical environment or the immediately preceding utterances, but also encompasses 'expectations about the future, scientific hypotheses, religious beliefs, anecdotal memories, general cultural assumptions, beliefs about the mental state of the speaker' (*ibid*:15-16). In other words, factors such as place, situation and social status, which are seen by other theorists as part of an external context constraining communication, are incorporated in Sperber & Wilson's internal notion of context, as seen through the communicator's eyes.

Viewed from a Relevance-Theory perspective, context is then a cognitive, rather than physical, entity. But perhaps more important is the other central notion pertaining to the relevance-theoretic treatment of context: that it is not 'given' but 'chosen'; defined not by what is physically present (situation) or linguistically expressed (previous spoken or written discourse), but by what the hearer/reader *selects* out of this information.
2.2.4 The process of context selection

Relevance Theory views communication as ostensive-inferential. The term 'ostention' highlights the intentional nature of communication, and is defined in terms of the two layers of information that are transmitted in every act of communication: the actual information that is pointed out, and the fact that the communicator intended to point out said information. Within Sperber & Wilson's theoretical framework, ostention and inference are 'one and the same process, but seen from two different points of view: that of the communicator who is involved in ostention and that of the audience who is involved in inference' (Sperber & Wilson, 1995: 54). From the communicator's point of view, communication consists in sharing thoughts with an audience by providing evidence for them in the form of a verbal (e.g. an utterance) or non-verbal (e.g. a gesture) stimulus. From the audience's point of view, communication consists in inferring the communicator's thoughts from the stimulus provided as evidence.

Sperber & Wilson's (1986/1995) account of inferential communication is built upon the fundamental assumption that the human perceptual system is geared towards the maximisation of relevance. This is seen as an aspect of how our cognitive systems have evolved, as a result of the constant process of selection aimed at increasing efficiency. According to this view, we, by nature, 'tend automatically to pick out potentially relevant stimuli, our memory retrieval mechanisms tend automatically to activate potentially relevant assumptions, and our inferential mechanisms tend spontaneously to process them in the most productive way' (Wilson & Sperber 2004: 610). As we will see, in the relevance-theoretic sense, 'relevance' to an individual is defined in terms of the improvements it brings to her representation of the world (Sperber & Wilson, 1995: 103).

Also essential to our cognitive development is our ability to assess the information we interpret as our interlocutor's communicative intention, such as the recognition of someone's intention to lie. This ability is termed 'epistemic vigilance' and is believed to emerge around the age of four (Mascaro & Sperber, 2009: 367). According to this view, while our 'pragmatic ability' allows us to 'go beyond the literal meaning in constructing an interpretation of the speaker's meaning', the function of our 'epistemic ability' is to 'evaluate the output of the pragmatic interpretation process in deciding whether to
believe it (or to evaluate the output of the pragmatic production process and decide whether to formulate the utterance that way)' (emphasis in original) (Wilson, 2008: 5).

As seen earlier (see section 2.2.2), one of the main premises of Relevance Theory is that communication cannot be explained in terms of coding and decoding messages because it takes place regardless of whether a code is employed or not. Even when a code is involved, such as in verbal communication, there is ample evidence to suggest that the code carries only a small part of the message; the greater part is entirely subject to inference. The inferential process may also completely bypass and take priority over the code (Sperber & Wilson, 1995; Carston, 2002; Blakemore, 2002).

This inferential process is innate to all human beings and operates a relevance-constrained, cost-effective retrieval of communicative intentions. In very simple terms, this means that, when presented with new information, we try to combine it with preexisting information (context) in order to derive contextual effects at a minimum cost of processing effort. The first interpretation arrived at through this process will automatically be considered as the one intended by the communicator. In other words, no processing effort will be expended if it is not offset by the cognitive effects gained from it. If this occurs, processing stops until more information becomes available through, for example, asking questions. 'Contextual effects' are defined in Relevance Theory as the result of combining new and old information, a process which leads to the modification of our current cognitive environment in any of the following three ways:

"Newly presented information may:

(1) combine with an existing assumption to yield contextual implications;
(2) strengthen existing assumptions;
(3) contradict and eliminate existing assumptions"

(Matsui, 2000: 27)

The interaction between old and new information means that an individual's cognitive environment is constantly changing, an idea perceived as a challenge to alternative approaches such as Chomsky's (1980) and Fodor's (1983), which have generally tended to 'understand language processing as a unidirectional and standardized process
generating equal products, and see the human mind as a stable entity' (Alves & Gonçalves, 2003: 6).

The reason we go to the trouble of exerting the necessary cognitive processing effort in order to derive our interlocutor-intended contextual effects is because human communication is also governed by 'the principle of relevance':

"Every act of overt communication communicates a presumption of its own optimal relevance"

(Sperber & Wilson, 1995: 158)

This means that the very act of claiming someone's attention automatically creates the expectation that the ensuing act of communication will be 'relevant'. This 'promise of relevance', as it were, is referred to as 'the presumption of optimal relevance':

(a) The set of assumptions I which the communicator intends to make manifest to the addressee is relevant enough to make it worth the addressee's while to process the ostensive stimulus.

(b) The ostensive stimulus is the most relevant one the communicator could have used to communicate I"

(Sperber & Wilson, 1995: 158)

This is to say that, if a speaker makes manifest a communicative intention to a hearer, the hearer will expect the speaker's utterance (or any other communicative behaviour) to be consistent with the above principle of relevance, i.e., will expect to draw enough cognitive effects from the information communicated for it to be worth processing. To this end, the hearer will select a set of accessible contextual assumptions within which the interpretation of the utterance (or any other act of communication) will yield adequate cognitive effects at no unjustified cost of processing.

According to Sperber & Wilson, this selection of context is, in turn, governed by the following criterion: the more cognitive effects the hearer derives, the more the relevance of the input. Moreover, the greater the cognitive efforts required to process the input, the less its relevance.
In this sense, when initiating an act of communication, the addresser naturally assumes that there can be no other interpretation which will both produce enough contextual effects, and be the easiest to derive, than the interpretation he has in mind. The addressee, in turn, assumes that the context necessary for the derivation of the addressee-intended interpretation, which will yield the most cognitive effects for the least processing effort, is the one most readily accessible to her. In other words, that 'the first interpretation consistent with the principle of relevance is the only interpretation consistent with the principle of relevance: all other interpretations are disallowed' (Wilson, 1994: 51).

By proposing a criterion for context selection, Relevance Theory offers a solution to one of the main problems in pragmatic theory: how a hearer finds the appropriate context within which to understand an utterance (Sperber & Wilson, 1995:16). Successful communication depends on the addressee's ability to select the adequate context within which to interpret the addressee's utterance, i.e., the context originally envisaged by the addressee. In this sense, communication is akin to mind-reading, in that the hearer has to guess what a speaker's communicative intention might possibly be in a given situation, and interpret the ostensive stimulus accordingly, by combining it with relevant contextual information. This 'intention-reading' capacity is seen as uniquely human, and is believed to have been crucially involved in the emergence of language (Tomasello, 2003).

2.2.5 Strong implicatures and weak implicatures

It is one of the main tenets of Relevance Theory that there are varying degrees of strength with which a given intention can be communicated. This depends on the strength of the implicatures required to infer it. To Relevance theoreticians, an implicature is 'a contextual assumption or implication which a speaker, intending her utterance to be manifestly relevant, manifestly intended to make manifest to the hearer' (Sperber & Wilson, 1995: 194-5). It follows that part of the communicator's role consists in adjusting the strength of the implicatures required for his utterance to achieve relevance, in accordance with his assumptions about his audience's cognitive environment, i.e., so that his communicative intention can be derived without any gratuitous processing effort.
This forms the basis for the distinction made in Relevance Theory between *strong implicatures* and *weak implicatures*. A *strong implicature* is one which is essential for the recovery of the communicative intention; an assumption that is 'made so strongly manifest that the hearer can hardly avoid recovering' it (Sperber & Wilson, 1995: 197). On the other hand, a *weak implicature* is one which is not crucial to the interpretation process and is therefore less strongly manifest. In fact, an utterance can have a wide array of weak implicatures, none of which are necessary for the utterance to achieve relevance in a given context. For example, consider the following exchange:

(1) Peter: Would you drive a Mercedes?
(2) Mary: I wouldn't drive ANY expensive car.

(Sperber & Wilson, 1995: 194)

Although Mary does not give Peter a direct answer to his question, she does clearly lead him to entertain the premise:

(3) A Mercedes is an expensive car.

which he can then combine with (2) to derive the conclusion in (4), Mary's communicative intention:

(4) I wouldn't drive a Mercedes.

Therefore, (3) is considered a *strong implicature*. At the same time, it is not unreasonable that (2) could also lead Peter to entertain other premises such as:

(5) A Rolls Royce is an expensive car.
(6) A Cadillac is an expensive car.

And derive the conclusions:

(7) Mary wouldn't drive a Rolls Royce.
(8) Mary wouldn't drive a Cadillac.
However, the evidence Mary provides to suggest (7) or (8) is not as conclusive as the evidence she provides to back up (4), because the premises (5) and (6) are not made as strongly manifest as (3). (5) and (6) are therefore *weak implicatures*.

### 2.2.6 Differences between Grice and Relevance Theory

A discussion of Relevance Theory is not complete without acknowledging its debt to philosophers such as Grice, whose novel approach to communication played a major role in developing the foundations of Relevance Theory. However, the two approaches diverge in fundamental ways, as will be explained in this section.

From Aristotle's day, through to the second half of the twentieth century, all theories of communication were based on the code model of communication, according to which messages are encoded by addressers and decoded by addressees. It was not until the publication of works by Grice, notably 'Logic and Conversation' (1975), that the inferential model of communication saw the light (Sperber & Wilson, 1995: 2). Since then, Grice has continued to exert his undeniable influence over the works of modern pragmatists, including Sperber & Wilson's Relevance Theory.

Grice postulated the existence of four conversational rules or 'maxims', which he grouped under what he referred to as 'the cooperative principle' of communication:

- **a. Quantity**: Make your contribution as informative as required;
- **b. Quality**: Do not say what you believe to be false;
- **c. Relation**: Be relevant;
- **d. Manner**: Avoid obscurity of expression.

(adapted from Grice, 1975)

Breaching one or more of the above maxims could be the result of lack of knowledge. But they can also be flouted on purpose, for humorous effect for example, giving rise to 'implicatures', i.e., implied meaning recoverable through inference (*ibid*).

While Relevance theory did, in part, evolve out of Grice's maxim of relation, the two approaches to communication endorse significantly dissimilar notions regarding the
nature of human communication. First, Grice argues that communication requires a higher degree of cooperation than Sperber & Wilson believe is necessary. To them, the only aim a speaker and a hearer have in common is to achieve 'uptake', i.e., the hearer's recognition of the speaker's intention to communicate:

"Grice assumes that the communication must have 'a common purpose or set of purposes, or at least a mutually accepted direction' (Grice, 1975: 45) (...). We do not mean to deny that this is very often true (...). However, this does not follow from the principle of relevance, and is not automatically conveyed by every ostensive stimulus"

(Sperber & Wilson, 1995: 161-2)

Relevance Theory views human communication as a property of individuals rather than of dyads or collectives, it sees communication not as jointly negotiated between individuals but rather as 'a form of individual problem-solving (which may fail), driven not by a joint goal, but by the speaker's desire to have a hearer understand and a hearer's assumption that a relevant interpretation is derivable and worth the effort' (Foster-Cohen, 2004: 295). This is seen as a point in favour of Relevance Theory, and is part of the rationale for adopting it as an adequate framework to explain second language behaviour, in particular the acquisition of second language pragmatics (Foster-Cohen, 2004; de Paiva & Foster-Cohen, 2004; de Paiva, 2006). As Foster-Cohen (2004) argues, communication strategies in a second language fail more often that they do in a first language, which constitutes a challenge for theories which endorse a more cooperative view of communication.

A further difference between Grice's approach to communication and Relevance Theory is that, while Grice's maxims are norms meant to be learnt and consciously observed (or flouted to achieve certain effects) in communication, Sperber & Wilson's principle of relevance is innate to us, we adhere to it despite ourselves, and as such, because it is not a norm, it cannot be breached:

"Communicators and audience need no more know the principle of relevance to communicate than they need to know the principles of genetics to reproduce."
Communicators do not 'follow' the principle of relevance; and they could not violate it even if they wanted to" (Sperber & Wilson, 1995: 162)

In other words, because the principle of relevance applies without exception to every act of ostensive-inferential communication, it is entirely possible to be optimally relevant, while at the same time breaching one or more of Grice's maxims (ibid). This is because a speaker's utterance is relevant as long as a hearer can see how the speaker could have reasonably expected it to be relevant in a given context. As Sperber & Wilson rightly point out, 'people who don't give us all the information we wish they would, and don't answer our questions as well as they could, are no doubt much to blame, but not for violating principles of communication' (Sperber & Wilson, 1995: 162).

A further important distinction to be made between the two accounts of communication concerns the differences between relevance-theoretic and Gricean conceptions of explicit and implicit information, and, by extension, how these inform the distinction between semantics and pragmatics.

Within the Gricean tradition, the distinction between 'what is said' and 'what is implicated' is taken to correlate with the distinction between semantics and pragmatics. 'What is said' corresponds to the truth-conditional, linguistically-encoded, content of an utterance, while 'what is implicated' is derived through the application of certain pragmatic principles. In other words, the mandate of pragmatics does not extend beyond the recovery of implicatures. By contrast, rather than confined to what is implicated, Relevance Theory regards pragmatic processes as governing both sides of the semantics/pragmatics distinction (Carston, 2004: 633).

According to this view, utterance comprehension involves two complementary processes: decoding and inference. Decoding involves mapping linguistic stimuli onto semantic representations, which still does not generate a full proposition, but merely 'an incomplete semantic representation', with no definite truth condition. The outcome of the decoding process is itself subject to pragmatic processing, which involves combining it with contextual information in order to retrieve the full proposition. In Carston's (2004) words:
"The pragmatic system is in the business of inferring the intended interpretation or ("what is meant"); this is a set of propositional conceptual representations, some of which are developments of the linguistically provided template and others of which are not. The former are called EXPLICATURES, the latter IMPLICATURES"

(Carston, 2004: 633)

Carston (2004) maintains that the above explicit/implicit distinction made within Relevance Theory is not compatible with the distinction between semantics, as in linguistically decoded meaning and pragmatics, as in inferred meaning. She provides the following example to substantiate her view:

X:  How is Mary feeling after her first year at university?
Y:  She didn't get enough units and can't continue.

(ibid: 635)

In a certain context, X could have taken Y to have communicated the following assumptions:

a. Mary did not pass enough university course units to qualify for admission to second-year study and, as a result, Mary cannot continue with university study.

b. Mary is not feeling very happy.

(ibid)

Carston (2004) notes that the representation in (a) (an explicature) is more elaborate and specific than the encoded meaning of 'She didn't get enough units and can't continue', as it is the result of reference assignment, the assumption that there is a cause-consequential relation between its two conjuncts, in addition to several sentence components being assigned more specific meanings than they encode such as get and units (ibid: 636). Therefore, 'the conceptual content of an implicature is supplied wholly
by pragmatic inference, while the conceptual content of an explicature is an amalgam of decoded linguistic meaning and pragmatically inferred meaning (ibid). This follows from Carston's (2002) 'Underdeterminacy Thesis', which states that 'the linguistic semantics of the utterance, that is the meaning encoded in the linguistic expressions used (...), underdetermines the proposition expressed (what is said)' (Carston, 2002: 19-20). She offers the following interesting explanation as to why it is an intrinsic property of how our communicative system evolved that no sentence ever fully encodes the proposition it is used to express:

"I think that public language systems are intrinsically underdetermining of complete (semantically evaluable) thoughts because they evolved on the back, as it were, of an already well-developed cognitive capacity for forming hypotheses about thoughts and intentions of others on the basis of their behaviour"

(Carston, 2002: 30)

Carston's (2002, 2004) idea of the under-determinacy of linguistically encoded meaning clearly challenges the Gricean notions of 'what is said' and 'what is implicated':

"On the one hand, the meaning encoded in linguistic expression types falls short of 'what is said' and, on the other hand, the content of explicatures goes well beyond 'what is said', requiring for its recovery the exercise of pragmatic principles, just as much as implicatures do"

(Carston, 2004: 636)

2.3 Relevance and translation

The postulated discrepancy between what is linguistically encoded and what is communicated is an aspect of communication that carries direct consequences for the translator. It means that his job will involve building a full proposition out of the 'blueprint' provided by the source text, and incorporating his understanding of what is communicated into a corresponding target blueprint. Central to this whole process of interpretation is, of course, the context, which, to Relevance Theory theoreticians, is a
'psychological construct' (Sperber & Wilson, 1986/1995: 15). Also associated with a Relevance approach to communication is the contention that the responsibility for ensuring successful communication lies primarily with the speaker. All the hearer has to do is make use of whatever contextual information is accessible to him. Sperber & Wilson borrow an image from dancing to illustrate their point:

"Co-ordination problems are avoided, or considerably reduced, in dancing, by leaving the responsibility to one partner who leads, while the other has merely to follow. We assume that the same goes for communication. It is left to the communicator to make correct assumptions about the code and contextual information that the audience will have accessible and be likely to use in the comprehension process"

(Sperber & Wilson, 1995: 43)

If we apply this view to translation, essentially an act of communication itself, we find that as a communicator, the translator bears the responsibility of facilitating comprehension on the part of the reader. This entails fleshing out the linguistically encoded information provided in the source text by drawing on the contextual assumptions necessary to interpret it. So far, this process is not dissimilar to what happens when we read. Translation, however, involves the added process of producing a target version that comprises all the information originally inferred by the translator upon reading the source text, and making sure that it can be equally inferable for the target reader. To achieve this, the translator has to make assumptions about his readership, and the extent of their access to the contextual assumptions required to reach the intended interpretation of the text.

The above Relevance-based view of translation was first proposed by Ernst-August Gutt (1991/2000) in his work 'Translation and Relevance: Cognition and Context'. It is to this approach to translation that we now turn.

2.3.1 Translation as ostensive-inferential communication

Relevance Theory underlies Gutt's (1990, 2000a, 2000b, 2005) attempt to propose 'an explanatory theory in the sense of a cause-effect account of translation as a phenomenon
of communication' (Gutt, 2000a: 235). Crucial to Gutt's account is the relevance-theoretic notion of context, which he sees as allowing 'empirical predictions with regard to the likely success or failure of translation efforts' (ibid: 237).

Gutt views translation essentially as a form of ostensive-inferential communication. As such, it employs inferential abilities inherent to all human beings. The fact that it involves two different languages is, according to Gutt, incidental. This assumption places Gutt's account within the competence-oriented research into the translation process (see section 3.1), which aims to 'understand and explicate the mental faculties that enable human beings to translate in the sense of expressing in one language what has been expressed in another' (Gutt 2000a: 206).

Up until the emergence of this cognitive view of translation, with its focus on the translation process, literature had been mostly concerned with the translation product, positing lexical and structural differences between source and target languages as the likely causes for unsuccessful translation (ibid: 179). The focus on the human mind is what sets process-oriented research apart from the input-output research programme which aims to explain translation through comparisons between source and target texts. While source-target text comparisons are not entirely dismissed within the process-oriented approach, they are regarded as useful only in as much as they enable the derivation of conclusions regarding the mental faculties involved in translation. The idea is that, through exploring the underlying communicative competence of the translator, it can be retrospectively explained, in terms of communicative effects, how and why a certain input led to a certain output (ibid).

Gutt maintains that, due to the inferential nature of communication, whereby the interpretation of a stimulus is always context-dependent and Relevance-determined, conveying the same message in a target text that the source text was intended to convey is less likely the more different the context of the target language audience is from that of the source audience (ibid:103). Gutt (2008) refers to this basic principle of translation as the 'communicability condition', which states that 'a body of thought can be communicated to an audience only to the extent that the necessary contextual information is readily accessible in their cognitive environment' (Gutt, 2008: 2). Therefore, like Sperber & Wilson's lead dancer, the translator is responsible for avoiding any misunderstandings, a responsibility which entails making sure his
intention is communicable, in the sense that its interpretation is easily derivable in consistency with the principle of relevance.

This compels the translator to make assumptions about the audience's cognitive context, which at best, can only be speculative and therefore easily mistaken. Consequently, it is conceivable that 'due to mismatches in the contextual information used, the interpretation arrived at by the audience may not be the one the communicator had in mind. It just happened to be consistent with the principle of relevance' (Gutt 1996: 254). Perhaps this explains the widespread skepticism about how successful a translation can really be, and the unforgiving Italian proverb 'Traduttore, traditore' (translator, traitor) (Gutt 2000a: 179).

2.3.2 Translation as a case of interpretive resemblance

Gutt's (1991/2000) Relevance-oriented account of translation is largely informed by Sperber & Wilson's (1986/1995) distinction between descriptive and interpretive uses of language. Descriptive use refers to the use of an utterance or thought to represent a state of affairs in an actual or possible world. Interpretive use, on the other hand, involves the use of an utterance to represent another utterance, which it resembles in terms of the contextual implications it gives rise to. It follows that two utterances interpretively resemble each other if and only if they share logical and contextual implications, and the more contextual implications they share, the more they interpretively resemble each other. For example, based on the assumption that snakes are deceitful, the utterance in (2) interpretively resembles the metaphor in (1) because they both share the implication that Jill is deceitful:

(1) Jill is a snake.
(2) Jill is deceitful.

Put differently, interpretive resemblance can be characterised in terms of the extent to which two utterances share their explicatures and implicatures. It can therefore be seen as a continuum, with no shared explicatures or implicatures at one end, and complete resemblance of explicatures and implicatures at the other.
Translation, Gutt maintains, is an instance of interpretive use of language, in that a translated utterance interpretively resembles a corresponding utterance in the source language, by virtue of the contextual implications they share. Viewed from this perspective, although they differ in their grammatical form, the utterance in (3) and its translation into Spanish in (4) interpretively resemble each other because the indicative future tense in Spanish can be used to convey the meaning of wondering about something in the present:

(3) I wonder what she thinks of me.
(4) Que pensará ella de mí?
[What will she think of me?]

The notion of interpretive resemblance is favoured by Gutt, and is adopted in this study as a comprehensive criterion capable of fully accounting for all instances of translation, beyond the discrepancies in linguistic form that often arise between source and target texts.

2.3.3 Translation as a higher-order act of communication

In specific terms, within Gutt's relevance-theoretic account of translation, translation is seen as a higher order act of communication (HOAC), in that it constitutes an act of communication about another lower-order act of communication (Gutt, 2005: 25). In a lower-order act of communication, a communicator intends to convey a certain state of affairs as conceived by her. In a higher-order act of communication, what is communicated is a state of affairs as conceived (and communicated) by someone else (ibid: 33).

As is the case with all acts of ostensive-inferential communication, translation involves two main components: the stimulus, such as a source text, which acts as evidence for the communicator's intention; and the interpretation, i.e., the thoughts the communicator intends to communicate and expects the audience to infer from the stimulus (ibid: 34).

A higher-order act of communication can then prioritise either the stimulus or the interpretation of a lower-order act of communication. If the focus is on the reproduction of the stimulus, it is referred to as stimulus-oriented mode or s-mode. If, rather than
reproduce the stimulus itself, the higher-order communicator aims to provide his audience with access to the intended interpretation as gleaned from the lower order stimulus, this is then referred to as interpretation-oriented mode or i-mode. It follows that as a higher-order communicator, the translator is presented with a choice of s-mode versus i-mode, each with their respective implications in terms of the communicability of the resulting translation (ibid).

2.3.3.1 Interpretation-oriented s-mode of communication

Since, in translation, the higher-order act of communication and the lower-order act of communication belong to two different languages, s-mode would seem impossible because reproducing the stimulus would necessarily imply using the same language. According to Gutt (2005), verbal stimuli are more complex than non-verbal stimuli in that they tend to be composed of several layers, each displaying a set of properties: phonological, morphological, syntactic and semantic. Since it is generally accepted that languages are indeed quite similar and appear to share a number of properties, it seems feasible, in theory at least, to reproduce an original stimulus in another language by replicating some or all of its properties (Gutt 2005: 40). However, not all properties of a verbal stimulus have equal communicative value.

Indeed, as Gutt points out, only a small subset of properties has a bearing on the interpretation of a stimulus. He refers to these properties as communicative clues (Gutt, 2000a: 127) or communicative properties (Gutt 2005: 41). For example, the absence of a subject pronoun in the pro-drop Spanish phrase 'esta lloviendo' cannot be considered a communicative property. By the same token, the presence of a subject pronoun in its translation into non-pro-drop English 'it is raining' is not a communicative property either; both properties are merely imposed by grammatical constraints and play no role in the interpretation process. Consequently, although 'it is raining' differs from the original stimulus 'esta lloviendo' in a concrete property, it can still be seen as a reproduction of it in that, provided it is processed within the same context, it can still yield the same intended interpretation. Gutt refers to this hybrid mode of cross-language higher-order act of communication as interpretation-oriented s-mode of higher-order communication across language boundaries (Gutt 2005: 42).
It is worth pointing out that when the higher and lower acts of communication are in the same language, the receptors of an s-mode higher-order act of communication need not rely on the interpretive ability of the communicator at all since the reproduction of the original stimulus in this case does not require the retrieval of the intended interpretation. Indeed, as Gutt points out, an intralingual s-mode communicator need not even understand the intended interpretation. For example, a child can pass on a message verbatim without understanding it (Gutt, 2005: 38).

2.3.3.2 Interpretation-oriented s-mode versus i-mode in translation

As there are varying degrees to which one utterance can interpretively resemble another, depending on the number of implicatures and explicatures shared, it becomes the translator's task to decide the degree of resemblance required between the translated text and the original. This compels the translator to make assumptions about the target audience's cognitive environment in order to see which aspects of meaning of the source text will achieve relevance in the new context.

If interpretation-oriented s-mode is chosen, the translator has to produce another token of the original stimulus by replicating its communicative properties. Since the stimulus, context and intended interpretation are interrelated, in order for the replicated stimulus to give access to the intended interpretation, the target audience will have to process it in its original context. While this may require greater processing effort on the part of the target audience, it is counterbalanced by providing them with as close a version to the original as is linguistically permissible.

By contrast, if i-mode is chosen, the translator engages in interpretive use of language (see section 2.3.2). At the receiving end, in terms of processing effort, i-mode means that the audience does not need to access the original context as the intended interpretation is made accessible in their own context, which reduces the amount of processing required. On the other hand, not only does the target audience have to rely on the translator's ability to derive the interpretation intended by the original author, but they also have to rely on the translator's ability to adequately select those aspects of the meaning of the source text which will be relevant to them. Moreover, the information the target audience access through the translated text will also depend on the translator's preferences. These can be either idiosyncratic or dictated by the social environment of
the translator (Gutt, 2005: 37-8). By contrast, in s-mode, while the audience is still reliant on the translator's ability to identify communicative properties in the original stimulus (which can only be done through considering the intended interpretation), they do not need to rely on the translator's ability to select relevant aspects of the stimulus or on their personal preferences. Consequently, the degree to which the audience will ultimately be able to retrieve the intended interpretation will necessarily depend on how accessible the original context is to them (ibid: 44).

Gutt provides the following list, which summarises the options available to a translator faced with a situation in which the target audience's cognitive environment is judged to be potentially deficient as regards its access to the contextual information needed to establish the relevance of the translation:

"Resolving the incompatibility:

- Option A: Adjust the cognitive environment of the receptors so that the original meaning becomes comprehensible in it.
- Option B: Adjust the meaning (intended interpretation) to be communicated so that it can be comprehended in the current cognitive environment of the receptors.
- Option C: Adjust both the receptor's cognitive environment and the meaning (intended interpretation) in such ways that communicability is achieved"

(Gutt, 2008: 2)

2.3.4 Criticisms of Gutt

Some reservations have been expressed regarding the applicability of Relevance Theory to translation (e.g. Malmkjær, 1992; Thomas, 1994). The concerns raised by these and other translation scholars relate above all to the question of 'how and by whom the various 'rankings of relevance' are to be determined in particular contexts of translation' (Hatim, 2008: 208). In response to such criticisms, Gutt published a lengthy reply in the 2000 edition of his 1991 work 'Translation and Relevance: Cognition and Context' (Gutt, 2000: 202-38).
Perhaps one of the most common criticisms leveled at Gutt is that his account falls short of providing translators with anything of 'practical value'. Malmkjær's (1992) remark that 'if they [translators] want direct help with their everyday concerns, they should not expect to find it here' is representative of this view (Malmkjær, 1992: 306 cited in Smith, 2002: 114).

Among the Gutt-skeptics is also Mason (2008), who finds Relevance Theory insufficient to account for the intricacies of translation, which, in his view, is a 'special form of communication' (Mason, 2008: personal communication). His main reservation relates to the 'absoluteness' of Gutt's account of translation, when it proclaims that translation is just another instance of communication, and that therefore, Relevance Theory is all you need to account for it. In particular, Mason objects to Gutt's endorsement of interpretive resemblance as the sole criterion for translation, which states that all a translator/interpreter has to do is make sure that his version resembles the original 'only in those respects that can be expected to make it adequately relevant to the receptor language audience' (Gutt, 2000: 107). In Gutt's view, this can be achieved by expressing it 'in such a manner that it yields the intended interpretation without putting the audience to unnecessary processing effort' (ibid).

Mason presents a number of examples to illustrate his point, one of which is reproduced below. The following exchange is an extract from an interpreter-mediated British police interview with a Polish immigrant:

"Immigrant (in Polish): That is I had eight hours mop, and two hours Hyde Park.

Interpreter (in Polish): But from ten till six here at the hotel?

Immigrant (in Polish): Yes.

Interpreter (in English): Right, I worked nights at the hotel from 10-6 in the morning, and then from 6-8, I was picking up rubbish in Hyde Park"

(Mason, 2007: Online document)
The above example clearly reveals an attempt by the interpreter, seemingly motivated by relevance, to maximise contextual effects and minimise processing effort on the part of both the Polish immigrant and the British police officer, presumably given a perceived disparity between their respective cognitive environments. To achieve this, in her English version, she appears to add a substantial amount of information, making explicit a number of implicit assumptions - which no doubt would have been communicated previously by the immigrant at some point during the course of the interview - but which nonetheless, were not 'said' in his present statement. Although the interpreter's English version could be said to interpretively resemble the Polish original in aspects that make it optimally relevant to the receptor audience, it is plainly not what the immigrant actually 'said'.

This and several similar examples have led Mason to conclude that the notion of 'interpretive resemblance' is a 'vague' criterion, since it does not specify any limits to the adjustments a translator/interpreter is to make, in order to preserve the requirement of optimal relevance. In his view, adhering only to this notion, to the exclusion of other principles such as Grice's maxims for example, could potentially undermine the all-important requirement of establishing common ground between participants in an interpreted exchange (given that monolingual participants have no way of gauging the extent of interpretive resemblance that has been applied by the interpreter).

Mason and Malmkjær's opinions are representative of the objections voiced by various translation scholars regarding Gutt's account of translation. Smith (2002), on the other hand, maintains that these scholars are missing the point entirely. In his defense of Gutt's approach he states: 'although his theory has a significant contribution to make to translation theory and practice, his contribution has not been fully appreciated because of widespread misunderstanding and excessive debate about peripheral points' (Smith, 2002: 107).

Building on his conviction that translation should be understood a single phenomenon, governed by the same overarching principles, Gutt sought to provide a unified theory of translation, that would apply equally to instances of translation as distinct and disparate as the translation of sacred religious texts, and the translation of the writing on cereal boxes. Such a theory would succeed where existing functional theories of translation
were found to be deficient: both on grounds of their failure to offer a comprehensive account of the various kinds of translation, and the erroneous assumptions that they were based on regarding the nature of human communication (Smith, 2002: 108).

Since Gutt offers no concrete guidelines as to how to handle different kinds of source texts, translators who had become accustomed to such prescriptive approaches to translation dismissed Gutt's contribution, consigning it to the realm of the 'purely philosophical' (ibid: 115). However, Gutt's contention that translation can be accounted for as a form of communication is itself a very valuable contribution, in that it has given translators the tools with which to make informed choices about translation, based on the universal principles that govern human communication (ibid).

Given that the raison d'être of translation is to communicate, and bearing in mind that recent research in cognitive studies has revealed that 'the very structures that enable the human mind to communicate also impose significant constraints on the conditions under which communication can succeed' (Gutt, 2005: 26), it seems 'of paramount importance for translators to understand the cognitive factors that determine what is possible and what is not' (ibid). Far from prescribing specific guidelines for specific types of translation, it is this attempt to bring 'the expectations of translation in line with the cognitive realities of our minds' (ibid: 48); to provide a realistic account of what translators can and cannot be expected to achieve in their quest for effective communication, that is the legacy of Gutt's approach.

In fact, since the publication of 'Translation and Relevance: Cognition and Context', Gutt has been keen to clarify that he is not at all interested in recommending or promoting any one method of translation over another:

"(…) whatever decision the translator reaches is based on his intuitions or beliefs about what is relevant to his audience (…). Thus, our account of translation does not predict that the principle of relevance makes all translation efforts successful any more than it predicts that ostensive communication in general is successful"

(Gutt, 2000b: 386)
Gutt draws attention to the fact that, long before his application of Relevance Theory to translation saw the light, or even before the advent of Relevance theory itself, almost all the principles of translation prevailing at the time made reference to the idea of 'relevance' in one form or another, yet failed to explore this concept any further. For example, Vernay (1974) defines translation as '(…) an act which transfers information given in language A into a language B in such as way that the amount of relevant information received in language B will be identical with that in language A' (Vernay, 1974: 237 cited in Gutt, 2000b: 387).

In keeping with his view that an interpreted message should be 'clear, unambiguous and immediately comprehensible, that is to say, perfectly idiomatic, so that the listener does not have to mentally re-interpret what reaches him through the earphones' (Namy, 1978: 27 cited in Gutt, 2000b: 390), Namy (1978) recommends that an interpreter 'never hesitate to depart - even considerably - from the original if in doing so he makes the message more clear' (ibid):

"When a French Polytechnicien, addressing his American counterpart, says: "Quelle est la proportion de main d'œuvre indirecte que vous appliquez à l'entretien du capital installé?" should the interpreter say "What is the proportion of indirect labour you apply to the maintenance of the fixed capital?" or should he say, "How many people do you employ to keep the place clean and maintain the equipment?"


Similarly, Newmark (1988) lists a number of specific guidelines for dealing with different kinds of translation:

"A technical translator has no right to create neologisms (…) whilst an advertiser or propaganda writer can use any linguistic resources he requires. Conventional metaphors and sayings (…) should always be conventionally translated (…) but unusual metaphors or comparisons should be reduced to their sense if the text has mainly an informative function"

To some extent, each of the above guidelines appears to suggest an application of the principle of relevance. While Vernay places emphasis on the transfer of 'relevant' information, Namy advocates reducing processing efforts on the part of the target audience, even if this means departing considerably from the original text. In the same vein, Newmark's instructions could be said to recommend that the translator tailor his version to the requirements of his target readership's cognitive environment, keeping in mind the communicative intention of the source text:

"In each case, the actual 'translation principle' is the same: do what is consistent with the search for optimal relevance. What differs are the specific applications of this principle that take into account the different 'rankings' of relevance that exist in different cognitive environments"

(Gutt, 2000b: 390)

Indeed, each of the above translation guidelines constitutes 'a generalisation about the comparative relevance of certain aspects of the original' (Gutt, 2000b: 392). However, in each of the envisaged translation situations, the rankings of relevance were different, which called for specific modifications to the general principle that would fit each situation individually. The resulting array of made-to-measure translation guidelines can give rise to contradictions which, if Savory's pronouncement is anything to go by, seem to have pervaded debate in translation studies for decades:

"It would almost be true to say that there are no universally accepted principles of translation, because the only people qualified to formulate them have never agreed among themselves but have so often and for so long contradicted each other that they have bequeathed to us a welter of confused thought which must be hard to parallel in other fields of literature"

(Savory, 1957: 49 cited in Gutt, 2000b: 392-3)

To justify his confusion, Savory (1975) provides a long list of contradictory translation guidelines from which the following examples are taken:
1. A translation must give the words of the original.
2. A translation must give the ideas of the original.
3. A translation should read as a contemporary of the original.
4. A translation should read as a contemporary of the translator.
5. A translation may add to or omit from the original.
6. A translation may never add to or omit from the original.

(Savory, 1957: 49 cited in Gutt, 2000b: 393)

In light of the above list, Gutt's comprehensive account of translation as an instance of communication emerges as a major step forward in the search for a unified, one-size-fits-all theory of translation. Far from being 'vague', the application of the principle of relevance to translation resolves the conflict illustrated in Savory's list of contradictions by restricting the applicability of each of its twelve guidelines with the condition: 'when required for consistency with the principle of relevance' (Gutt, 2000b: 393).

It is worth emphasising that most of the reservations expressed about Gutt's account seem to stem from the misconception that Gutt seeks to replace existing translation theories by advocating one absolute, failsafe, universal translation principle to be applied exclusively. In reality, Gutt's application of Relevance Theory to translation is not an attempt to supersede existing translation principles. In fact, 'depending on the nature of the translation project, relevance theory can endorse anything from largely literal to fairly free translations' (Smith, 2002: 116). What Gutt's account does do is empower translators to choose, out of the existing theories, the translation method that best delivers the original message, within the limitations of the receptor audience's cognitive environment:

"Relevance theory provides sound theoretical reasons for adapting the translation principles used to produce a translation to suit the target audience’s expectations and the contextual assumptions with which the target audience will interpret a translation. Each translator is free to select the specific translation method best suited to the needs of his or her target audience and translation objective"

(Smith, 2002: 116)
To say that translation is an act of communication, and can therefore be accounted for within a theory of communication, is not to deny that professional translation involves additional abilities and skills that distinguish it from other types of communication. The above discussion has attempted to demonstrate that the two views are by no means mutually exclusive. While we maintain that communication is the be-all-and-end-all of translation, we also recognise that translation demands certain profession-specific aptitudes that need not be brought to bear in monolingual communication. Ice hockey demands strong skating skills that regular field hockey does not require, but this does not take away the fact that the game is fundamentally still the same, with the same objectives, the same rules and, importantly, the same fouls.

Here, it is worth pointing out that translation studies abound with attempts to define the specific skills that a professional translator ought to master, which set translation apart from communication in the wider sense. For example, Colina (2003) suggests that 'translation is a special type of communicative competence that requires interlingual and intercultural communicative competence (…) in addition to separate communicative competences in L1 and L2' (Colina, 2003: 30). Similarly, Wilss (1982: 58) proposes a 'supercompetence' component and defines translation competence as consisting of a source language receptive competence, a target language reproductive competence and, crucially, a supercompetence to enable the transfer of messages between two languages. Lonsdale (1996: 92) also views translation as distinct from average communication and offers a detailed classification of the different elements which, in her view, constitute 'professional translator communicative competence':

- 'Ideal translator grammatical competence', i.e., knowledge of the rules of source and target languages including vocabulary, spelling and sentence structure.
- 'Ideal translator sociolinguistic competence', i.e., the ability to produce and understand utterances in context in both cultures.
- 'Ideal translator discourse competence', i.e., the ability to combine form and meaning to produce cohesive and coherent written and spoken texts in different genres in both languages.
- 'Ideal translator transfer competence', i.e., the ability to employ communication strategies that allow transfer of meaning from the SL to the TL.
The present study is concerned with three out of Lonsdale's four components, namely sociolinguistic competence, discourse competence and transfer competence. It is believed that the term 'pragmatic competence' as it is understood here, overlaps with and largely subsumes the sociolinguistic, discourse and transfer aspects outlined above. Given the particular scope of this investigation, the component referred to as 'discourse competence', i.e., the ability to negotiate cohesion and coherence in translation, is given prominence. It is to this aspect of translation the we now turn, and we begin with an exploration of discourse markers: what they are, how they contribute to utterance comprehension, and their implications for English-Arabic translation.

2.4 Discourse markers

Broadly speaking, discourse markers (henceforth DMs) have been looked at from two main perspectives: Coherence and Relevance Theory, which focus on textual functions and cognitive processes respectively (Müller 2005: 8). Within the coherence-based approach, DMs 'select a meaning relation from whatever potential meanings are provided through the content of talk, and display that relation' (Schiffrin, 1987: 318). On the other hand, within the Relevance-Theory approach, DMs 'encode instructions for processing propositional representations' (Blakemore 1992: 150). This means that they constrain the hearer's selection of the context within which to interpret a given utterance. A further, perhaps less well-represented approach within the literature is one which regards DMs as negotiating common ground and establishing an interactive relationship between speaker, hearer and message (Müller, 2005: 9).

2.4.1 Discourse markers: Definition and function

DMs have been subject to various attempts at definition in the literature (e.g. Schiffrin, 1987; Fraser, 1990, 1996; Schourup, 1999). However, despite extensive research within the field, there is still disagreement with regard to various issues of terminology and classification (Schourup, 1999: 228). Schourup's (1985) introductory statement to his study of DMs summarises the situation: 'This is a study of several common items in English conversation known variously as 'discourse particles', 'interjections', 'discourse markers', and less respectfully as 'hesitations' or 'fillers' (Schourup, 1985: 1). Moreover, there is not a definitive list of DMs, nor is it possible to determine whether the various terms used to refer to these linguistic expressions such as 'pragmatic markers' (Fraser,
1990; Schiffrin, 1987), 'discourse connectives' (Blakemore, 1992), 'discourse operators' (Redeker, 1990, 1991) and 'discourse particles' (Fischer, 2006) are indeed labels for the same phenomenon.

Following Lewis (2006), given that the term 'discourse marker' is the term most frequently used out of the various alternative terminologies (Lewis, 2006: 57), it will be adopted here as the term of choice to refer to the category of linguistic expressions exemplified in the following list from Fraser (1990):

"Above all, accordingly, after all, again, all in all, all the same, alright, also, alternatively, although, altogether, and, anyhow, anyway, as a consequence, as a result, at any rate, beside(s), better, but, by the same token, by the way, by way of contrast, by way of explanation, consequently, continuing, conversely, correspondingly, despite, equally, finally, first, for example, for instance, further(more), hence, here, however, in addition, in any event, in comparison, in conclusion, in contrast, in other words, in particular, in spite of that, in sum, in that case, in the meantime, incidentally, indeed, instead, last, listen, look, meanwhile, more precisely, more specifically, moreover, nevertheless, next, nonetheless, notwithstanding, now, OK, on the one hand, or, otherwise, overall, rather, regardless, say, see, similarly, so, specifically, still, still and all, that said, that is, then, therefore, though, thus, to begin, to conclude, to repeat, to return to my point, well, while I have you, you see"

(Fraser, 1990: 388)

It is important to mention that, as Risselada & Spooren (1998) point out, the popularity of the term 'discourse marker' is not merely a matter of terminology, but also represents a different approach. Research into discourse *particles*, particularly that carried out in the seventies and eighties, is predominantly semantic in its focus; whereas more recent research into discourse *markers* has tended to follow a discourse analysis orientation, distinguished by a reliance on corpus data (Risselada & Spooren, 1998: 131).

Although different theorists propose different lists of DMs, there does seem to be a more or less general agreement on a set of characteristics that DMs appear to share,
which mainly concern the fact that they operate on a discourse, rather than sentence, level, in addition to their non-truth-conditional meaning (Blakemore, 2003: 221, 222).

It is generally agreed that DMs serve the function of marking connections or relations between discourse units. For example, in Fraser's (1999) definition, 'they [DMs] impose a relationship between some aspect of the discourse segment they are part of (…) and some aspect of a prior discourse segment' (Fraser, 1999: 938). For Redeker (1991) what DMs connect is rather the utterance they precede and its context, 'bringing to the listener's attention a particular kind of linkage of the upcoming utterance with the immediate discourse context' (Fraser, 1999: 935).

A further characteristic associated with DMs is their optionality (Brown & Yule, 1983; Fraser, 1988; Brinton, 1996). DMs are seen as syntactically optional in that removing a DM does not affect the grammaticality of a sentence, as well as semantically optional, in that removing a DM does not affect the intelligibility of a sentence. In addition to the syntactic optionality aspect, DMs are considered syntactically independent also in the sense that they cannot be grouped under one homogenous syntactic category as they can be adverbials, parentheticals, conjunctions, etc. (Lewis, 2006: 44). They do however, as Schiffrin (1987) observes, tend to appear in sentence-initial position:

"Although markers often precede sentences, (…) they are independent of sentential structure. Removal of a marker from its sentence initial position, in other words, leaves the sentence structure intact. Furthermore, several markers – *y'know, I mean, oh, like* – can occur quite freely within a sentence at locations which are very difficult to define syntactically"  

(Schiffrin, 1987: 31-2)

Third, DMs are regarded as having a non-truth-conditional meaning because they do not contribute to the propositional content of the utterances that contain them. This particular characteristic has placed DMs at the centre of arguments regarding the existence of pragmatic meaning, and the distinction between semantics and pragmatics (Blakemore, 2003: 222). To borrow Blakemore's (2003) example, although 'but' suggests contrast by virtue of its linguistic properties, the truth of (1) depends on the truth of the propositions in (2) and not on the idea that they stand in contrast to each other:
Given that this particular characteristic attributed to DMs is relevant to the process of utterance comprehension, and hence also to the purposes of the present study, the pragmatic meaning of DMs will be discussed in further detail in the following section.

2.4.2 The pragmatic meaning of discourse markers

Gazdar (1979), who viewed semantics as the study of truth conditions, and pragmatics as the study of 'meaning minus truth conditions', contends that DMs belong to, and should be analysed within pragmatics. In this regard, Lewis (2006) observes that a lot of DMs are not entirely devoid of semantic content and do, in fact, have conventional meanings that we learn as part of our language (Lewis, 2006: 44). Examples that come to mind include DMs such as alternatively, for example, as a consequence, similarly, etc.

In his book 'Pragmatics', Levinson (1983) takes a less clean-cut approach to the classification of DMs than Gazdar (1979). He suggests that, when used in an utterance-initial position, words such as 'but, therefore, in conclusion, to the contrary, still, however, anyway, well, besides, actually, all in all, so, after all (...) have at least a component of meaning that resists truth-conditional treatment' (Levinson, 1983: 87-8). The meaning he refers to consists in indicating 'just how the utterance that contains them is a response to, or a continuation of, some portion of the prior discourse' (ibid).

2.4.2.1 Discourse markers in Grice (1989)

Another scholar who supports the idea that DMs do not belong to the domain of the truth-conditional is Grice (1989), who classified expressions such as but, therefore and so as conventional implicatures, in the sense that they do not form part of 'what is said', which he defines as follows:
An utterer $U$ says that $p$ iff:

$U$ did something $x$ (1) by which $U$ meant that $p$

(2) which is an occurrence of a type $S$ which means '$p'$ in some linguistic system.

(Grice, 1989: 88)

Instead, Grice (1989) sees such linguistic expressions as part of 'what is indicated':

'(…) I would wish to maintain that the semantic function of the word 'therefore' is to enable a speaker to indicate, though not to say, that a certain consequence holds.'

(Grice, 1989: 21)

Although he was among the first to recognise the role of inference in bridging the gap between what is linguistically encoded and what is communicated, Grice failed to take into account the other gap that exists between what is linguistically encoded and what constitutes truth-conditional meaning (see Sperber & Wilson (1995), Carston, (2002) and section 2.2.6 of this thesis). This, for him, was a stumbling block, which he attempted to overcome by introducing the idea of conventional implicatures (Blakemore, 2002: 47).

Grice's classification of DMs as conventional implicatures fits into his understanding of Speech Act Theory, in which he draws a distinction between two types of speech acts: central or ground-floor speech acts, which include making assertions, and non-central or higher order speech acts, which comment on the interpretation of the central or ground-floor speech act (Blakemore, 2002: 48).

Looked at from the perspective of Speech Act Theory, while a central speech act contributes to 'what is said', a conventional implicature is the aspect of meaning which results from the performance of a non-central speech act. Accordingly, in an utterance like (1) above, the speaker performs the central act of asserting the propositions in (2), and the non-central speech act by which she indicates, or conventionally implicates, that one assertion stands in contrast to the other (Blakemore 2004: 224). Any changes in the
performance of the non-central speech act, Grice maintains, will never 'touch the truth value (...) of the speaker's words' (Grice, 1989: 362).

2.4.2.2 Discourse markers in Fraser (1990)

Another proponent of the idea of DMs having a pragmatic meaning is Fraser (1990). Contrary to Schiffrin (1987), who suggests that DMs have a core meaning which does not change from use to use, Fraser maintains that 'any reliance on content meaning is ill-founded' and 'discourse markers should be analyzed as having a distinct pragmatic meaning which captures some aspect of a speaker's communicative intention' (Fraser, 1990: 393). He presents a list of common occurrences of the DM 'so' to substantiate his claim, from which the following examples are taken:

- John was tired. So he left early.
- Teenage son: The Celtics have an important game today. Disinterested parent: So?
- [Grandmother to granddaughter] So tell me about this wonderful young man you're seeing.

(Fraser, 1990: 393)

It is clear from the above list that the DM 'so' can have a range of different interpretations depending on where it occurs. Fraser (1990) claims that 'so' here does have a core meaning. However, rather than include the narrow notion of necessary result, all this meaning captures is the idea that the message it precedes has a 'consequential relationship to the prior material' (Fraser, 1990: 394), which is determined by the context. This leads Fraser to conclude that DMs have a core pragmatic meaning, 'a meaning separate from any content meaning of the homophonous form, and a meaning which signals how the speaker intends the message following to relate to the foregoing discourse' (*ibid*: 395).

2.4.3 The coherence-based approach

One of the pioneering works that set out to investigate what it is that makes a text cohere is Halliday & Hasan's (1976) *Cohesion in English*. In trying to answer this
question they identify a number of cohesive, semantic properties that differentiate a text from a string of random sentences. These are: reference, substitution, ellipsis, lexical cohesion and conjunction (for a full discussion see Halliday & Hasan, 1976). Within this framework, DMs play an essential role in creating a well-formed text, as cohesive devices which establish semantic relations between the sentences they connect.

According to Halliday & Hasan's approach, cohesion, defined as 'the set of possibilities that exist in a language for making a text hang together; the potential that the speaker or writer has at his disposal' (Halliday & Hasan, 1976: 18-9) is a text-defining property:

"The concept of cohesion is a semantic one; it refers to relations of meaning that exist within the text and that define it as a text. Cohesion occurs where the interpretation of some element in the discourse is dependent on that of another. The one presupposes the other, in the sense that it cannot be effectively decoded except by resource to it"

(Halliday & Hasan, 1976: 4)

Although they do recognise, rather self-contradictorily, that the limits of a text can be fuzzy and that it is not always possible to determine where one discourse finishes and another begins (Halliday & Hasan, 1976: 291-303), Kolaiti (2005) describes Halliday & Hasan's (1976) approach as typical of 'endeavours which either completely overlook the possibility of a symbiotic relation between Pragmatics and Text or see Pragmatics as playing only an occasional and incidental part in the overall framework of textual enquiry' (Kolaiti, 2005: 335). She argues that restricting the notion of coherence to a set of cohesive devices which operate within the boundaries of a text ignores the now established role of pragmatic inference in the recovery of communicative intentions, of which what is linguistically encoded is barely a sketchy, schematic representation (ibid: 342).

In fact, Halliday & Hasan's work was challenged much earlier by Brown & Yule (1983), who were not convinced that cohesion should necessarily be regarded as text-defining. Their point is that coherence is not determined by cohesion, but by the reader/hearer. In other words, it is up to the reader/hearer to decide if a string of sentences qualifies as text or not, depending on whether or not it fulfils their expectations of coherence. As Brown & Yule (1983) view it, Halliday & Hasan's
approach fails to distinguish between the underlying level of meaning relations and their explicit surface expression. According to them, it is the former, not the latter, that makes a text cohere. They substantiate their claim by suggesting that it is not difficult to find examples of texts that are not cohesive in the Halliday & Hasan sense, such as 'There's the doorbell. I'm in the bath', but which do nonetheless cohere to a reader who can infer the inherent extra-linguistic information: 'Well, I can't open because I'm in the bath' (Brown & Yule, 1983: 196). Likewise, it is possible to imagine a neatly cohesive 'non-text', which does not cohere. Consider the following example:

"The discussion between presidents ended last week. A week has seven days. Every day I feed my cat. Cats have four legs. The cat is on the mat. Mat has three letters"

(Brown & Yule, 1983: 197)

Similarly, de Beaugrande & Dressler (1981) also assign a major role to the reader/hearer, in accordance with their view that coherence is essentially in the mind of the text receiver. They therefore reject the thesis that cohesion alone determines textuality, but they do recognise that it contributes to it, and incorporate it, in addition to coherence, as part of their Seven Standards of Textuality. The remaining five standards are:

"Intentionality: the producer's attitude that a text should be cohesive and coherent.
Acceptability: the receiver’s attitude that a text should be cohesive and coherent.
Situationality: all the ways in which a text is relevant to a current or recoverable situation.
Intertextuality: The ways in which a text presupposes knowledge of other texts.
Informativity: the extent to which text events are uncertain, new or surprising"

(de Beaugrande & Dressler, 1981: 3-10)

Following the coherence-based approach to DMs, theoreticians such as Mann & Thompson (1988), Hobbs (1979) and Asher & Lascarides (1995) among others have argued, in general terms, that it is the search for textual organisation that plays the most
important role in our recovery of the intended message. In other words, utterance interpretation derives from making assumptions about the relations holding between different segments of a text.

Numerous studies have set out to identify a definitive set of text relations. However, the results are far from definitive, nor do the authors of such studies claim them to be. For example, Grosz & Sidner (1986) found only two, whereas for Hovy & Maier (1992) there are as many as seventy. Although they initially observe that 'no single taxonomy seems suitable', Mann & Thompson's (1988) account proposes twenty five relations (Mann & Thompson, 1988: 256). Terminology has also been a cause of disagreement, with text relations being referred to as 'rhetorical predicates', 'coherence relations', 'clause relations' and 'rhetorical relations' (Taboada, 2004: 106).

Besides disagreement over taxonomy and terminology issues, the role of coherence relations in text comprehension has been the subject of further controversy. On the one hand, Grosz & Sidner (1986) recognise that coherence relations are useful tools that facilitate text analysis, but do not believe that readers need to identify each coherence relation in a text in order to understand it. On the other hand, Hobbs (1979), Mann & Thompson (1988) and Knott & Sanders (1998) maintain that coherence relations are psychologically plausible cognitive entities:

"The psychological claim about coherence relations is that they should be seen as modelling the different ways in which the integration between propositions can occur. According to this idea, determining the coherence relations in a text is part of the process of understanding it"

(Knott & Sanders, 1998: 138)

2.4.3.1 Empirical evidence for the coherence-based approach

Some of the above claims have been subject to empirical investigation. For example, in one study it was observed that certain organisational features of text structure correspond to distinctive prosodic features. A correlation was found between pause and pitch range and the level of embedding of relations, with causal relations being associated with shorter pauses than non-causal relations (Taboada & Mann, 2006).
Further research by Sanders & Noordman (2000) aimed at testing the influence of relation type and explicit marking on reading tasks. Their experiment revealed that causal problem-solution relations require shorter processing time, and lead to better recall, than additive list relations. The finding led the researchers to assume that causal relations must enjoy a special status in text processing as they appear to connect text segments more strongly than additive relations do. Explicitly marked relations were also shown to require shorter processing time. However, they were not found to have any effect on recall, which is taken to indicate that, while explicit markers do have an effect during online processing, their influence tends to decrease over time. Echoing the view on coherence in which linguistic markers guide the reader toward a coherent text representation, the researchers conclude:

"(…) the results strongly support the idea that coherence relations are an indissoluble part of the cognitive representation itself, whereas linguistic markers like connectives and signalling phrases are merely expressions of these relations that guide the reader in selecting the right coherence relation"

(Sanders & Noordman, 2000: 56)

Crucially, Sanders & Noordman do recognise that it is unlikely that all coherence relations should necessarily exist in the mind, a question they believe is in need of further psycholinguistic investigation:

"(…) it is highly implausible to assume that all coherence relations are cognitively basic (…). It is far more plausible that readers make use of the knowledge of a very limited set of cognitive primitives to establish the coherence relation between text segments. One of these primitives is whether the relation is causal or additive, which constitutes the difference between problem-solution relations and list relations"

(ibid)

Further research into the effect of explicit signalling of coherence relations on text comprehension was carried out by Rickards et al. (1997). The aim of this study was to
determine the effect of what they refer to as 'signals', defined as 'signaling [sic] words such as (…) therefore' which point out 'the form of the argument and the key content elements', on the performance of note-takers listening to an audio recording (Rickards, et al., 1997: 508). The study revealed a reliance on explicit signals on the part of note-takers, evidenced by maximised recall in the case of signalled texts. The researchers attribute the results to increased strain on the participants' inferential capacity in the case of unsignalled texts, which slows down their search for structure:

"Such extensive processing requirements (derivation rather than detection of structure) under the constraints of listening resulted in severely depressed notetaking and recall. Under these circumstances, the notetakers probably reverted to a rather weak, rote learning, list strategy"

(Rickards et al., 1997: 512)

2.4.3.2 Rhetorical Structure Theory

Mann & Thompson's (1988) original set of rhetorical relations was chosen for the text analysis that was carried out as part of this study (see section 4.1.2). The purpose behind adopting this particular framework is its adequacy as a descriptive tool; no claim is made as to the psychological validity of the rhetorical relations identified.

Rhetorical Structure Theory (henceforth RST) is a theory of text organisation put forward by Mann & Thompson (1988), following a series of extensive analyses of texts. The theory was first employed in computational linguistics but has since been widely used across various disciplines including teaching English as a second language, applied linguistics, crisis negotiation and artificial intelligence (Taboada & Mann, 2006: 424).

Based on the assumption that coherence can be explained by 'postulating a hierarchical, connected structure of texts, in which every part of a text has a role, a function to play, with respect to other parts of the text' (ibid: 425), RST offers a systematic method for the analyst to annotate a text, which involves building a diagram to represent the relations connecting its units.
The RST framework includes two different types of units: *nuclei*, which are viewed as the most important part of a text; and *satellites*, which are considered secondary. For example, in an 'elaboration' relation, the nucleus is the part which contains the basic information, while the satellite provides additional information about the nucleus. Nuclei are therefore essential to the comprehension process, whereas satellites can largely be dispensed with.

Twenty one possible rhetorical relations are proposed to hold between nuclei and satellites. Examples of this type of relation include background, concession, elaboration, evaluation and evidence. The framework also includes four additional multinuclear relations: contrast, joint, list and sequence. The set of relations is, in principle, open, but has proved effective in its present form (for a full description see http://www.sfu.ca/rst/index.html).

Each relation is described in terms of the motivation of the writer in arranging textual units so that they relate to each other in a particular way, independently of whether she chose to explicitly signal these relations or not. The analysis is therefore subjective as it reflects a particular analyst's understanding of the text. Below is a sample text followed by the corresponding RST analysis diagram, taken from the RST website (Mann, 2005):

"*Lactose and Lactase*

*Lactose is milk sugar. The enzyme Lactase breaks it down. For want of Lactase most adults cannot digest milk. In populations that drink milk the adults have more Lactase, perhaps through natural selection*"

*(Scientific American, October 1972)*
Figure 1. A sample RST-analysis diagram

(Mann, 2005: Online document)

RST, then, offers 'a bird's eye view of a text, pinpointing the most important parts, and helping to make explicit some of the implicit relations present' (Taboada & Mann, 2006: 448). It is in this sense that RST represents a valuable descriptive tool, which fits in with the purposes of this research by providing, as will be shown, a necessary steppingstone in the process of data analysis.

2.4.4 The Relevance-based approach

The theoretical orientation underpinning the work of Mann & Thompson (1988), Knott & Sanders (1998) Sanders & Noordman (2000) and Taboada (2004) outlined in the previous sections is representative of the coherence-based approach to DMs. As mentioned earlier, a key premise in this approach is that texts are coherent due to the presence of a definite set of coherence relations, the recognition of which by the reader is a prerequisite for text comprehension. Within this framework, the function of DMs lies in explicitly signalling these relations, in order to facilitate comprehension. Also fundamental to this approach is the assumption that coherence is a property of texts; a measure of their well-formedness. In accordance with this idea, text and discourse grammars have been proposed. However, subsequent studies have revealed that the well-formedness of a text cannot be accounted for in the absence of a context (Blass, 1990: 7).

For example, while the sentence 'A dog is for life' may conform to our intuitions of grammaticality, it may still be considered unacceptable if it were printed on, say, an
electricity bill or a bank statement. If it were, on the other hand, stuck on a car window in a pet-loving culture, it would become acceptable (ibid). Similarly, if we consider the sentence 'Every chair has a nose', it is obvious that it stands in opposition to common sense and is therefore considered unacceptable on those grounds. However, if it were uttered at a child's birthday party where a clown was present then it is not difficult to imagine a scenario where it would indeed constitute a perfectly well-formed and acceptable discourse (ibid: 8).

It follows that, while the grammaticality of sentences is judged independently of the context, the well-formedness and acceptability of a discourse is inextricably linked to contextual assumptions; discourse acceptability judgments cannot be made in the absence of such contextual information. The same view applies to discourse relations:

He is tall; however, he likes jazz.

The above sentence is cohesive in the Halliday and Hasan sense, it contains a DM which makes obvious the contrastive relation intended between its two parts, yet it is still difficult to understand what is meant by it because it is baffling, in the absence of further contextual information, why being tall is at odds with liking jazz.

Examples like this led scholars to conclude that utterance comprehension has less to do with recognising coherence relations, and more to do with recognising contextual assumptions, i.e., envisaging a context within which the utterance could possibly make sense. In Relevance terms, 'connectivity in discourse is a pragmatic rather than a semantic matter: it results from relevance relations between text and context rather than from relations linguistically encoded in the text' (Blass, 1990: 1).

With proponents such as Blass (1990) and Blakemore (1987, 1992, 2002), the relevance-based approach to DMs supports the view that coherence is not a condition for comprehension but a result of it; a by-product of the hearer's search for relevance. Blakemore (2002) compares the coherence-based approach to text comprehension to speech-act-theoretic accounts of communication. Her argument is that to claim that you cannot understand a text unless you can identify the type of every coherence relation intended by the speaker is not dissimilar from saying that you cannot understand an utterance unless you can establish what type of speech act is being performed. She finds
that the following quote by Sperber & Wilson (1995) captures the comparison between the two approaches:

"To see the one type of investigation as necessarily shedding light on the other is rather like moving from the observation that tennis players can generally classify strokes as volleys, lobs, approach shots, cross-court back hands and so on, to the conclusion that they are unable to perform or return a stroke without correctly classifying it"

(Sperber & Wilson, 1995: 244)

Echoing Sperber & Wilson's conclusion regarding the speech act theoretic approach, Blakemore suggests that 'if a hearer identifies a coherence relation, then it is as a result of successful comprehension, rather than a prerequisite for it' (Blakemore, 2002: 169). In other words, what guides utterance comprehension is the search for relevance. Utterances are interpreted in the context which allows an interpretation that fits with the principle of relevance, i.e., leads to an optimally relevant interpretation. It follows that discourse coherence can be explained in terms of 'continuity of context'; a discourse is coherent if the 'assumptions made accessible by the interpretation of one segment are used in establishing the relevance of the next' (Blakemore, 2002: 170).

2.4.4.1 The conceptual/procedural distinction

One of the key postulates of Relevance Theory is that, as pointed out earlier, the linguistically encoded part of an utterance does not constitute a proposition, but merely acts as a blueprint upon which the hearer constructs a fully propositional mental representation, through pragmatic inference (Carston, 2002; Sperber & Wilson, 1995 and section 2.2.6 of this thesis).

A corollary of this view of utterance comprehension is that there exist two types of meaning: conceptual and procedural. First, linguistic expressions can encode concepts, described as the 'constituents of the conceptual representations that undergo inferential computations' (Blakemore, 2002: 475). On the other hand, linguistic meaning can also encode procedures, defined as 'the means for increasing the salience of a particular kind of inferential computation' (ibid: 476). Examples of procedurally encoded meaning
include 'pronouns and demonstratives (...), the indicative, imperative or subjunctive mood, rising or falling intonation, inverted word order and some particles and markers like 'please' and 'let's' (Carston, 2002: 162).

Carston (2002) offers the following illustration of the different roles that some linguistic devices may have in terms of whether they encode conceptual or procedural information, how this relates to their level of explicitness or implicitness, and their contribution to the truth-conditions of an utterance:

"She doesn't like cats but, happily, she has agreed to look after Fleabag.

a) 'cats' – conceptual, explicit, truth-conditional (contributes its content to a proposition expressed);
b) 'she' – procedural, explicit, truth-conditional (constrains the derivation of a proposition expressed);
c) 'happily' – conceptual, explicit, non-truth-conditional (contributes its content to a higher-level explication);
d) indicative mood indicator – procedural, explicit, non-truth-conditional (constrains the derivation of a higher-level explication);
e) 'but' – procedural, implicit, non-truth-conditional (constrains the derivation of implicatures)"

(Carston, 2002: 164)

Blakemore (1987, 2002) applied her proposed conceptual-versus-procedural distinction to the study of DMs such as after all, so, but, therefore and moreover. Her account of DMs as having a procedural, rather than conceptual meaning constitutes a key contribution in the study of DMs. Based on this approach, rather than contribute to the conceptual content of an utterance, DMs act as guidelines which constrain the processes of pragmatic inference involved in the interpretation of conceptual expressions.

The claim that languages have means of indicating inferential procedures fits perfectly within a Relevance-Theory view of communication, in the shape of 'effort-saving devices you would expect to feature in a code which is subservient to a relevance-processing mechanism (...) geared to deriving cognitive effects at least cost to the
processing resources of the system' (Carston, 2002: 162). Accordingly, 'the use of an expression which encodes a procedure for identifying the intended contextual effects would be consistent with the speaker's aim of achieving relevance for a minimum cost of processing' (Blakemore, 2002: 477). Looked at from this perspective, a DM may facilitate the recovery of a speaker's intended message in any of the following ways:

"It may allow the derivation of a contextual implication (e.g., so, therefore, too, also);
It may strengthen an existing assumption, by providing better evidence for it (e.g. after all, moreover, furthermore);
It may contradict an existing assumption (e.g. however, still, nevertheless, but);
It may specify the role of the utterance in the discourse (e.g., anyway, incidentally, by the way, finally)"

(Blakemore, 1992: 138-41)

In response to coherence-based accounts of DMs, particularly those which offer function-based DM taxonomies, Blakemore argues that it is impossible to match each discourse relation with a particular DM, given that 'it is not clear that this sort of approach can reflect the (often extremely subtle) distinctions between the meanings of certain discourse connectives such as but, nevertheless and however' (Blakemore, 2002: 161).

Towards the end of her discussion of procedural meaning, Blakemore (2002) recognises that not all DMs fit into the procedural meaning category; some expressions referred to as 'discourse markers' encode concepts such as in contrast. She therefore calls off the search for a single set of DMs, and concludes her discussion with a recommendation that taxonomy-oriented research on DMs give way to an investigation into the relationship between linguistic form and pragmatic interpretation (Blakemore, 2002: 184-5).

2.4.5 Implicit coherence in English texts

Basing her analysis on Mann & Thompson's (1988) Rhetorical Structure Theory, which, as we have seen, explains coherence on the basis of identifiable rhetorical relations holding between text parts, Taboada (2006) carried out a study designed to investigate
how and when rhetorical relations are marked by a DM. Her point of departure was examining the assumption that DMs guide the text receiver in the recognition of text rhetorical relations, and that it is through the recognition of rhetorical relations that a hearer assigns coherence to a text. She defines rhetorical relations as 'paratactic or hypotactic relations that hold across two or more text spans' (Taboada, 2006: 568).

Having looked at a large corpus of newspaper articles, Taboada (2006) found that the relations she looked at, namely concession, circumstance, result, background, elaboration and summary, were marked in only 43% of their total occurrences. More specifically, concession, circumstance and result relations, assumed in the literature to be frequently marked, were marked in Taboada's corpus in approximately 72.62% of the cases. On the other hand, background, elaboration and summary relations, regarded as rarely marked, were found to be marked in only 13.32% of their total occurrences.

The most frequent markers in the case of background relations - signalled in 26.56% of occurrences and defined as relations where one discourse segment 'increases the reader's ability to comprehend' another segment - were X earlier, X later, over X, from X to Y, but X after, between X, in X, where X and Y indicate temporal relations. Other markers included expressions such as but, now, for, and, previously, since, thus, and up to now (Taboada, 2006: 583). In elaboration relations - signalled in 9.79% of occurrences and defined as offering additional information - the most frequent markers were and, but, in fact, in addition. However, more often than not, elaboration relations were merely signalled by punctuation marks such as colons, semi-colons, dashes and parentheses. As for summary relations, which were the least marked, only 3 times in a total of 75 occurrences (4% of the entire corpus), the markers used were all this, in any case, and but.

The findings from this study demonstrate that not only is it possible to leave rhetorical relations unsignalled in news texts, but that, more often than not, relations are in fact left unsignalled by a DM. Taboada (2006) suggests that genre-specific constraints may dictate which relations are signalled and which are not. However, she adds that 'whether signalled or not, the rhetorical relations (...) are recognised as such by the recipients' (Taboada, 2006: 589). This is because, she speculates, it is the readers' knowledge of the genre structure of a news article that enables them to comprehend unsignalled
relations. For example, it is part of the generic features of a news article that it should proceed in a series of elaborations, whereby the title and the beginning of the article give most of the information, while the rest of the article offers further detail.

In a similar vein, Green (1979) notes that devices such as *then, because, but, as a result, in particular*, which make clear the relevance of one sentence to another are largely absent from news texts in particular. She offers the following explanation:

"Obviously, if paragraphs are going to be written so that they can be deleted from the story without it requiring further alteration, they cannot contain temporal or logical connectives such as *meanwhile, later, therefore, however*, which relate their content to something preceding them which an editor might want to cut" 

(Green, 1979: 32)

Consequently, writers come under editorial pressure to produce short articles, from which paragraphs can be deleted as necessary. This restricts their freedom to include explicit anaphoric connections between discourse units. As a result, what might appear in another type of writing as: 'X. The reason why X is significant is Y' gets written as: 'X. Y.' (Green, 1979: 33).

An alternative, perhaps more interesting, explanation comes from Lewis (2006), who, like Taboada (2006), observes that in English discourse, a minority of discourse relations are overtly signalled by a DM, leaving the interpretation of most relations entirely up to the reader, despite the obvious availability of expressions which could unequivocally signal them. One of the reasons for this preference for implied relations, Lewis (2006) speculates, could be to do with politeness. She explains that, since the expression of 'speaker-oriented meanings' such as beliefs, opinions, criticism, etc involves face, one way of saving face, as it were, is making the recovery of intentions subject to inference rather explicitly declaring them (Lewis, 2006: 57). Another possible reason, she adds, could be related to argumentation, in that allowing the readers to come around to the writer's way of thinking by drawing their own conclusions may make for a more effective persuasion strategy. The third reason is more in line with Green's (1979) editorial policy explanation, and concerns economy. Discourse relations are mostly left
unsigned because most relations do not require clarification, and when they do, the
tendency is 'for the idea and the comment on it to be accommodated in a single clause,
for relational predicates to be collapsed into single lexical items, and so on' (ibid).

2.4.6 Explicit coherence in Arabic texts

Contrasting with the tendency to imply discourse relations in English news texts is the
Arabic preference for explicitly marked coherence. Not only are DMs more frequent in
this language, but they are also indispensable, even if the relation holding between the
two text segments they connect is obvious:

"This frequent use of connectives results in a high degree of textual cohesion in
Arabic writing that contrasts significantly with the terser style of written
English. Not only are parts of Arabic sentences coordinated or subordinated in
various ways, but most sentences within a text actually start with a connective
word that links each sentence with the previous one"

(Ryding, 2005: 407)

In fact, Arabic has been described as the language of connection (Lugat al-Wasl) (Anis,
1975: 327), an aspect which defines Semitic rhetoric in general, which is characterised
by 'fluidity', a preference for serial clause connection represented by connectors of
continuation (Khalil, 2000: 146). It would seem that what matters in Arabic is not only
the presence of the underlying semantic relationships but also the proper presentation,
through connectives, of these relationships. Arabic DMs are not simply a matter of
stylistic choice; their absence affects the coherence and acceptability of a text.

Drawing on Halliday & Hasan's (1976) seminal work 'Cohesion in English', Al-Batal
(1990) set out to examine Arabic 'connectives', broadly defined as 'any element in the
text, which - regardless of whether or not it belongs to the form class of conjunctions –
indicates a linking or transitional relationship between phrases, clauses, sentences and
paragraphs exclusive of referential or lexical ties' (Al-Batal, 1990: 2). His main
motivation to undertake this research was his observation that students of Arabic as a
foreign language generally fail to include connectives in their writing, in the frequency
that Arabic requires them. He observes that:
"MSA [Modern Standard Arabic] seems to have a connecting constraint that requires
the writer to signal continuously to the reader, through the use of connectives, the type
of link that exists between different parts of the text. This gives the connectives special
importance as text-building elements and renders them essential for the reader's
processing of a text"

(Al-Batal: 1990: 256)

For Khalil (2000), whose interest is the use of Arabic DMs in news texts, the role of
these markers stretches beyond signalling links. They appear to 'signal the writer's
perspective on textual propositions and the relevance of the underlying information'
(Khalil, 2000: 146). He focuses on the following eight Arabic DMs which tend to
appear in news texts in particular: qad, kana qad, mimma yudkaru anna, fa-, min
nahiyyatin/jihatin uxra, min al-ma rufi anna, fi-spacio-temporal activity, fi al-waqt
nafsih/fi guduni dalika) (ibid). Beyond indicating coherence relations, these markers,
according to Khalil (2000), signal to the reader the relative importance of a text segment
within the grounding structure of the text as a whole. He defines grounding as 'the
organisation of text meaning or propositional structure in terms of FG-BG (foreground-
background) structure, based on what information in the model has greater or lesser
importance in the present (con)text' (ibid).

Based on this view, Khalil associates failure to adequately signal discourse relations in
an Arabic text, such as that brought on by inadequate translation from English or non-
native language use, with a resulting grounding problem, caused by background
meaning acquiring foreground meaning status, due to the absence of DMs:

"Surface structure would in these cases manifest a serious imbalance in the
signalling of the FG-BG structure in the news text; the absence of certain initial
markers would become a crucial factor affecting the intelligibility as well as the
interpretation of the FG-BG structure of the whole text"

(Khalil, 2000: 155)

Furthermore, he argues that, in addition to undermining the logical structure of a text,
selecting an inappropriate Arabic DM could also lead to blurring text-type distinctions.
This is so given that certain text types such as predominantly-argumentative editorials are characterised by a reduced occurrence of the eight markers listed above, and a markedly increased use of 'attitudinal' DMs such as *enna* (certainly) and *lakin* (argumentative morpheme which introduces opposition) (Khalil, 2000: 167). Such attitude-heavy DMs do not normally appear in regular news reports:

"Perpetuating the connectivity patterns of English, and failing to employ sentence-initial markers, would leave a subject or verb in initial position. This (...) endangers a break or disruption in the sequence, creates an emphatic structure, changes meaning and leads to text-type shift (...). Failure to communicate appropriate grounding values is associated with a failure to deliver the appropriate type of text"

(Khalil, 2000: 171)

The following sections will introduce three different Arabic DMs, singled out from Al-Batal (1990), Ryding (2005) and Khalil's (2000) proposed DM taxonomies, due to their relative salience in the data obtained for this study, as well as the perceived lack of correspondence between these expressions and any close English equivalents, as far as their function is concerned. The three DMs are 'wa', 'fa' and 'enna'.

2.4.6.1 *The discourse marker 'wa'*

'wa' is the most frequently used of all DMs in Arabic. Often translated as simply 'and', 'wa' accounts for almost fifty per cent of overall DM occurrences. 'wa' signals an additive relationship between the text units it connects, whether they are phrases, clauses, sentences or paragraphs. It indicates a flow in the discourse, an uninterrupted argument (Al-Batal, 1990: 246). Unlike English 'and', 'wa' is commonly used in sentence-initial position. In news reports, it is not unusual to find 'wa' at the start of every paragraph except the first (Holes, 2004: 267). The use of 'wa' to introduce sentences or paragraphs is considered good style in Arabic, but should not be translated into English where starting a sentence with 'and' is far less common (Ryding, 2005: 409).
2.4.6.2 The discourse marker 'fa'

This particular DM has been hailed as 'the most interesting of the ambivalent functionals' (Beeston, 1970: 98), owing to its versatility and the multitude of discourse functions it performs. Depending on how it is used, 'fa' can have a sequential meaning (and then), a resultative meaning (and so), a conclusive meaning (and therefore, in conclusion) or it can also indicate a slight shift in topic (and also, moreover) (Ryding, 2005: 410).

The elusive meaning of 'fa' motivated a study by Saeed & Fareh (2006), which looked at the difficulties experienced by Arabic-English translators with regard to the translation of this particular Arabic DM. In addition to the functions listed above, Saeed & Fareh (2006) draw attention to two further possible meanings of 'fa': explanatory and causal. These two types of 'fa' were found to be, by far, the most problematic in translation.

A clause or sentence introduced by explanatory 'fa' 'explains a preceding discourse segment by providing an example for it. This type of 'fa' is best translated as 'for example', or it can also be replaced by semicolon. In Saeed & Fareh's (2006) study, only 35% of the examples containing explanatory 'fa' were correctly translated. The researchers explain that this could be due to a reluctance on the part of participants to choose the zero alternative whereby an Arabic DM is replaced by punctuation in translation.

As for causal 'fa', also found to be problematic but to a lesser extent than explanatory 'fa', this DM introduces a cause that accounts for what is presented in a preceding statement. This type of 'fa' is best rendered as 'since' or 'because'. A considerably higher percentage (71%) of the examples featuring a causal 'fa' were given correct translations in Saeed & Fareh (2006) study, which the authors attribute to this aspect of 'fa' being comparatively less ambiguous.

The difficulty of associating 'fa' with one definitive discourse relation makes 'fa' an ideal candidate for Blakemore's (2002) procedural-meaning treatment, since it clearly contains very little semantic content, its interpretation being almost entirely dependent on pragmatic inference. From this perspective, Kammensjö (2005) suggests that 'fa' gives rise to a strong implicature, imposing a clear constraint on the interpretation of the
discourse segment it introduces by strictly narrowing down the ways in which it can relate to previous discourse. She compares it to 'wa', which, by contrast, evokes a weak implicature as it 'leaves great leeway for interpretation' (Kammensjö, 2005: 39). While 'wa' is essentially 'and', 'fa' is 'and plus something' (ibid).

2.4.6.3 The discourse marker 'enna'

While 'fa' can sometimes prove difficult to translate into English, 'enna' is even more problematic to approximate in terms of its function. This marker belongs to what is referred to as 'attitudinal particles', which signal the involvement of the writer in the meaning expressed in the sentence they introduce. More precisely, 'enna' affirms the truth value of a sentence and is used rhetorically with the intention to convince. It indicates 'the commitment of the self to the preposition' (Khalil, 2000: 167-8).

2.4.7 Explicitation in translation

From the perspective of an English-Arabic translator, the mismatch between these two languages in terms of DM use means that, in order to produce a coherent, stylistically appropriate Arabic text, they have to read between the lines, figure out implicit relations holding between different text segments, and then bring them to the surface in the shape of explicit Arabic DMs. In other words, they have to explicate the implicit. However, this tendency to explicate the implicit is by no means exclusive to English-into-Arabic translation. In fact, this tendency has a name: 'explicitation', and has been posited as one of the 'translation universals', i.e., 'features that typically occur in translated text rather than original utterances and which are not the result of interference from specific linguistic systems' (Baker, 1993: 243).

Explicitation was first proposed as a concept by Vinay & Darbelnet (1958/1995), who defined it as 'the process of introducing information into the target language which is present only implicitly in the source language, but which can be derived from the context or situation' (Vinay and Darbelnet, 1958: 8). The phenomenon of explicitation has since been investigated by a number of scholars (e.g. Baker, 1996; Olohan and Baker, 2000; Heltai, 2005; Pym, 2005; Dimitrova, 2005).
Three types of explicitation have been suggested: obligatory, optional and pragmatic. Obligatory explicitation refers to the changes a translator is compelled to introduce to the target text because the semantic or syntactic structures of the source language are incompatible with those of the target language. Optional explicitation, by contrast, is a term used to describe the cases in which translators freely opt for explicitation, although there is no formal language impediment to producing grammatically correct – albeit clumsy and unnatural - structures in the target language. Examples of this kind of explicitation include the addition of cohesive links where there is none in the source text. Finally, pragmatic explicitation refers to instances where the source text contains culture-specific information which the translator decides to explain to facilitate comprehension in the target culture (Klaudy, 1998: 82-3). Séguinot (1988) suggests that the term 'explicitation' should exclude all obligatory cases, and be reserved only for those instances where additions in the target text cannot be accounted for in terms of structural, stylistic or rhetorical disparity between two languages:

"(…) to prove that there was explicitation, there must have been the possibility of a correct but less explicit or less precise version. This is the only way to distinguish between choices that can be accounted for in the language system, and choices that come about because of the nature of the translation process"

(Séguinot, 1988: 108)

It has been claimed that, regardless of the specific language pair involved, a translation is always longer than an original (Vinay and Darbelnet, 1958/1995). In accordance with this view, Blum-Kulka (1986) proposed her 'Explicitation Hypothesis', which states that explicitation is a translation universal, inherent in any kind of language mediation, regardless of the degree of translation expertise:

"This argument may be stated as 'the explicitation hypothesis', which postulates an observed cohesive explicitness from SL to TL texts regardless of the increase traceable to differences between the two linguistic and textual systems involved. It follows that explicitation is viewed here as inherent in the process of translation"

(Blum-Kulka, 1986: 19)
Explicitation has recently become the subject of empirical investigation into the translation process. For example, Dimitrova (2005) employed the think-aloud-protocol method to investigate the explicitation of cohesive links in translation between Russian and Swedish. She reports that explicitation in her data came in two shapes: norm-governed and strategic. Norm-governed explicitation is defined as the result of a non-problematic decision-making process. This kind of explicitation was observed in instances of translation of implicit additive and contrastive links, which appeared to be made explicit in the participants' translations as a matter of course. Strategic explicitation, on the other hand, is defined as the type of explicitation that obtains as a result of the translator having encountered a translation problem, which they decide to solve through explicitation. Dimitrova (2005) notes that this latter type of explicitation is a recurrent feature observed in the translation processes of students and professionals alike:

"When translators evaluate a tentative TT solution negatively, they tend to resort in the first place to reformulation in the TL, rather than engaging in renewed processing of the corresponding ST chunk and subsequent renewed transfer into the TL"

(Dimitrova, 2005: 237)

2.5 Conclusion

This chapter has attempted to present an overview of the main theoretical concepts which will inform the data analysis reported in Chapter 4. The following chapter will be dedicated to introducing the method of data collection employed in this study, in the context of the wider area of research referred to as translation-process analysis.
CHAPTER 3 - METHODOLOGICAL DISCUSSION

Before moving on to a description of the think-aloud experiment conducted in this study, it seems necessary to begin by taking a look at the larger field of translation-process analysis, which has employed the think-aloud protocol as its main method of investigation. Special attention will be given to a particular area of translation-process research, dedicated to identifying the characteristics of translation expertise, which is perceived as closely related to the purposes of this study. The discussion will then turn to the think-aloud protocol itself: its basic premises, advantages and drawbacks. The last section of this chapter comprises a detailed description of the experimental design adopted in this study.

3.1 Translation-process analysis: Major findings

Up until the 1980's translation theory was mostly concerned with examining the product of translation, through drawing comparisons between source and target texts. This interest in the translation product led to 'highly abstract models of equivalence' that were 'prescriptive in nature and of very limited use for the practical translator' (Lörscher, 2005: 597). Such models of translation were considered reflections on the ability of the translator. However, whilst attempting to understand the order of operations involved in translation, they rarely involved the use of empirical methodologies to investigate the translator's 'black box' (House, 2000: 149-50).

Over the last thirty years or so, there have been many attempts to redress this imbalance, with a shift towards more empirically-based methods designed to explore the process of translation. Starting with early studies which employed think-aloud protocols such as those of House & Blum-Kulka (1986) and Færch & Kasper (1987), the inner workings of the translator's mind began to be teased out. These advances reflected a parallel shift in the broader field of applied linguistics from conducting contrastive analyses to investigating the psychologically-based construct of 'the interlanguage' (House, 2000: 150).

An important factor that boosted interest in translation-process research is the increased attention to translator training, which was believed to benefit from an investigation into the specific processes that lead to quality translations (Lee-Jahnke, 2005: 361). As a
result, an alternative way of looking at translation has emerged, which relies on introspective data collection methods such as the think-aloud protocol and the retrospective interview to investigate unobservable mental processes during translation. This research area has come to be known as 'translation-process analysis' (Krings, 1987; Jääskeläinen, 1987, 1990, 1996, 1999; Gerloff, 1988; Séguinot, 1989; Tirkkonen-Condit 1989, 1997; Jääskeläinen & Tirkkonen-Condit, 1991; Fraser, 1996b, 1996c).

One of the first pioneers of translation-process research was Krings (1987), who aimed at classifying the different translation strategies employed by translators. Other studies followed within the same area of research, but with a slightly different focus, such as that conducted by Gerloff (1988), whose objective was to compare the size of the 'units of analysis' that several groups of translators with varying proficiency levels divided the source text into to work on one at a time. She found that, while non-professional translators generally worked with individual words, professionals processed words automatically, which allowed them to concentrate their processing efforts on the text as a whole.

With a similar purpose in mind, Tirkkonen-Condit (1989) compared the performance of professional and non-professional translators with regard to the types of translation decisions they made, and the extent to which they relied on background knowledge in the course of their translation. A collaboration with Jääskeläinen (Jääskeläinen & Tirkkonen-Condit, 1991) ensued, in which it was found that while non-professional translators were largely focused on the word level, professionals were less concerned with individual words and paid more attention to text-level features such as cohesion and the potential target text receivers. In a subsequent study, Jääskeläinen (1999) directed her focus to examining the characteristics of the cognitive processes involved in translation. She found that translation experience does not guarantee the automation of translation processes, as these appeared to be affected by the translators' familiarity with the type of text they were presented with. The psychological aspects related to the translation process have also been investigated. For example, Tirkkonen-Condit (1997) found that the more professionally confident a translator is the higher the number of evaluative comments they make about the target text they have produced.
3.2 Professional versus non-professional translation processes

As can be observed in the brief review presented above, much of the research into the translation process is dedicated to identifying the features of expertise in translation. To that end, there have been a number of studies carried out with the aim of comparing the translation performance of professional translators to that of non-professional translators, through the use of introspective methods. This particular aspect of research is perceived to be closely related to the purposes of the present study, given its focus on uncovering the mental processes, or translation strategies, that lead to producing a 'quality' translation. It is believed that the results obtained from such studies can act as a point of reference in the interpretation of the think-aloud protocols produced by the participants in this study. Accordingly, a fairly inclusive review of said studies and their respective findings is included below.

3.2.1 Words versus text

One of the main areas of difference identified with regard to professional versus non-professional translation is what is described as a focus on individual words on the part of trainee translators, which stands in contrast to a wider focus on the text as whole in the case of professional translators. For example, Lörscher (2005) carried out a study designed to compare the translation performance of professional translators to that of language learners. His object of comparison was 'units of translation', defined as 'the SL text segments which subjects extract to put into their focus of attention in order to render them into the TL as a whole' (Lörscher, 2005: 605).

Professional translators, Lörscher (2005) notes, worked with significantly larger units comprising phrases, clauses or sentences; whereas language learners appeared to be confined in their processing to individual words. What this means in terms of processing is that professional translators realise problems while they are translating a given unit of translation, whereas language learners realise them before they begin to translate because the text units they work with are smaller. In the case of non-professionals, the problems they identify usually revolve around lexical transfer difficulties. The professionals, by contrast, pay more attention to the global, text-level, expression of meaning, in accordance with the stylistic norms of the target language (Lörscher, 2005: 605).
Lörscher's findings were echoed in various similar studies (Gerloff, 1988; Séguinot, 1989; Fraser, 1993, 1996b). Notably, Gerloff (1988) and Séguinot (1989) concurred in their conclusions as they both found that translation trainees tended to be confined in their processing to smaller translation units, largely failing to exhibit any evidence of text-level processing. Professional translators, on the other hand, appeared to work with comparatively larger translation units and consider the text as whole. Fraser (1996) makes the additional observation that the professional translators in her study appeared to use their overall understanding of the text as a framework that informed lower-level decisions such as lexical choices, idiom appropriateness and grammatical constructions (Fraser, 1996b: 74).

In a study designed to explore the differences in translation performance among translation trainees of varied proficiency levels, Lee-Jahnke (2005) reports that less proficient students rely on their memory but are not adept at exploiting the connections in their memory. This manifests itself in their tendency to focus on what she refers to as 'fixed entities' such as vocabulary, and their inability to handle 'loose entities' such as expressions. This, she suggests, leaves them exposed to interference from the source language and, at the same time, hinders their inference ability (Lee-Jahnke, 2005: 369). Conversely, more proficient students appear to possess a 'higher analytical sense', which allows them to readily identify any problematic parts in the text and use their encyclopedic knowledge to interpret them through inference. Interestingly, this ability to infer meaning means that they pay little attention to 'fixed entities' such as names or numbers, which often results in the type of vocabulary mistake that less proficient learners manage to avoid with their close attention to words (Lee-Jahnke, 2005: 369).

Another interesting indicator of translation expertise as found in Tirkkonen-Condit's (2005) study is that professional translators, referred to as 'experts', appear to invest their processing efforts 'strategically'. They do not linger on problematic vocabulary items unless these are seen as playing an important role in the text, and could, if inadequately translated, affect the target text as whole (Tirkkonen-Condit, 2005: 407). Along similar lines, Fraser (2000) suggests that, even if professional translators have not received academic training, they tend to develop a set of theories and assumptions about translation that they adhere to, which are often dictated by 'the pragmatic need to be efficient and effective' (Fraser, 2000: 112). Not unrelated is what Tirkkonen-Condit
(2000) refers to as a 'tolerance of ambiguity or uncertainty' in the source text on the part of proficient translators, believed to be a necessity for 'reconciling the optimal with what is feasible' i.e., their view of what constitutes an ideal translation and what they can expect to achieve within reason, presumably in order to maximise efficiency (Tirkkonen-Condit, 2000: 123).

In her discussion of literal translation and whether or not it constitutes a legitimate base for translation, Tirkkonen-Condit (2005) remarks that both novices and experts appear to produce literal translations, as observed in their think-aloud protocols, as well as their target texts. However, in the case of experts, if they verbalise a literal translation, it is more likely that this is merely an 'audition' in which the literal translation is vetted for idiomatic appropriateness before settling on an acceptable final version. By contrast, the protocol transcripts of novices seem to indicate that their literal rendering of the source text is not, for the most part, subjected to a similar kind of evaluation (Tirkkonen-Condit, 2005: 410).

In Jensen & Jakobsen's (2000) study it was found that, while professional translators appeared to frequently fall back on one-to-one relationships on the word level, professional translators almost always resorted to paraphrasing. The extent to which professionals consistently refrained from using formal equivalence in their translations prompted the researchers to observe that they were 'deliberately avoiding direct translation strategies, possibly in order to escape the tyranny of the source-text form' (Jensen & Jakobsen, 2000: 114). Fraser's (2000) findings point in the same direction. She observes that professional translators display a 'reluctance' to use dictionaries, which, in her view, stems from the fact that they typically possess a greater sense of self-confidence compared to non-professionals (Fraser, 2000: 111-12).

3.2.2 Use of dictionaries

In one of the earliest studies conducted with the purpose of comparing the translation performance of translation trainees to that of professionals, Gerloff (1988) found that one of the main differences between these two groups of translators that became evident in her experiment concerns the use of dictionaries. She found that, while translation students' use of dictionaries was restricted to looking up the meaning of unfamiliar
words, professional translators tended to use dictionaries as an aid to jog their memory; a source of inspiration as it were, to help them come up with better expressions.

In the same vein, Tirkkonen-Condit's (2005) findings with regard to the use of comprehension aids also indicate an over-reliance on dictionaries on the part of non-professional translators. She maintains that translation expertise is distinguished by 'a highlighted proportion of knowledge inferred from the source text' (Tirkkonen-Condit, 2005: 406). In other words, while novices in Tirkkonen-Condit's (2005) study tended to turn to external aids to comprehension such as dictionaries or various other electronic sources as soon as they were faced with a comprehension problem, experts tried to glean as much information as they could, be it semantic or pragmatic, from what was contained in the source text itself. This observation fits into the general view outlined in the previous section, to the effect that professional translators operate global comprehension processes, whereas non-professional translators are more locally oriented.

3.2.3 Self-monitoring

Lörscher (2005) provides us with an explanation for the global-versus-local distinction as regards the approaches of professional and non-professional translators respectively. He remarks that the language students who took part in his study followed a largely 'form-oriented' approach in their translations, based for the most part on the 'exchange of language signs'. This resulted in stylistically and grammatically unacceptable target texts, even when the translation was into the students' mother tongue. Such deficient translations, Lörscher (2005) speculates, are brought on by the translation task itself, in which the requirement to produce a meaningful target text is not emphasised. As a result, the students' 'monitor which checks on the sense of their translations remains largely inactive'. By contrast, professional translators followed a sense-oriented approach, which prevented them from committing major violations of the target language stylistic norms (Lörscher, 2005: 605).

Similarly, in yet another study designed to explore what it is that constitutes translation expertise, Hansen (2003) points out the self-monitoring skills observed in the performance of expert translators and notes that a prerequisite for such skills is that the translator possess a 'sense of correctness', a concept of what constitutes the 'ideal
product' to measure up to in their translation (Hansen, 2003: 28). This, she perceives as a feature they have in common with creative individuals:

"Creative individuals and experts possess the ability to give feedback to themselves. They have a clear goal and are in control of their actions. They feel and know at once if they have done something really well, or not so well"

(Hansen, 2003: 26)

3.2.4 Attention to the target text

A further area of difference in translation performance concerns the extent to which professionals and non-professionals keep an eye on the emerging target text as they translate. In two of Lörscher's (1991, 2005) studies, language students tended not to check their target texts except the parts they had previously identified as problematic, which they checked mainly with regard to lexical equivalence. Professional translators, on the other hand, constantly monitored their target text, and went on to produce stylistically adequate renderings of the source text, which stood in marked contrast to the often grammatically and stylistically unacceptable target versions produced by the language learners (Lörscher, 2005: 605).

Further evidence for the overall focus on the quality of the translated text on the part of professional translators comes from Tirkkonen-Condit's (2005) study, in the form of a higher number of evaluative comments regarding the target text contained in the think-aloud protocols of professional translators, relative to those produced by non-professionals (Tirkkonen-Condit 2005: 407).

Also important is another observation made by Tirkkonen-Condit (2005) regarding the text production phase of translation. She notes that a typical feature of professional translation is that many decisions regarding the target text are made early on in the text production process, even before the participant begins to translate. These decisions include such crucial aspects as the overall style or tone of the text, or whether any adaptations are called for in order to fulfill the specific purposes of the translation (Tirkkonen-Condit, 2005: 406). Central to such preliminary decision-making on the part of professional translators, Fraser (2000) explains, is the translation brief, which,
whether assigned or assumed, appears to guide the translation process of professionals to a greater extent than that of non-professionals (Fraser, 2000: 112).

3.2.5 Criticisms

It should be mentioned that Breedveld (2002) has called into question the validity of the results obtained from studies designed to compare the translation performance of translators with varying levels of expertise. Her skepticism concerns the extent to which overall mean scores representing the frequency of certain cognitive processes can be relied upon as accurate indicators of differences in the performance of expert versus novice translators.

Breedveld presents evidence from writing-process research to the effect that writing is a 'dynamic process', in which the writer's cognitive process changes as the text produced evolves. This causes a variation in the frequency of the cognitive processes employed, depending on the particular moment and context in which they occur. Breedveld (2002) extends these results to translation and claims that the suggested variability and time-dependency of cognitive processes makes global cognitive activity frequencies averaged over the translation process as a whole 'hardly meaningful' (Breedveld, 2002: 224).

This variability, coupled with individual differences that are bound to exist in the performance of translators, even those belonging to the same group of either novices or experts, are seen as constituting 'a considerable obstacle for any attempt at generalisation' (Breedveld, 2002: 235). She proposes an alternative 'dynamic approach to translation processes', in which time is a crucial variable, 'that can account for both the intra-individual variability of those processes and the inter-individual differences between those intra-individual patterns' (Breedveld, 2002: 235).

In addition to raising the issue of what it is that determines a 'quality translation' to begin with, Breedveld (2002) mentions a number of other factors besides expertise that may have a significant effect on the resulting translation. These are: the type of text involved, inspiration, attitude and affect, and professional self-concept (Breedveld, 2002: 237). Given such influences, she argues, no group of translators can be presumed homogenous:
"To my mind, a presentation of the data according to subject groups is contradictory in this respect. If differences that are found between the subjects in the experiment turn out to be dependent on their level of proficiency, this can only be a result of the investigation, not a point of departure"

(Breedveld, 2002: 237)

Breedveld's argument regarding the intra-individual time-dependency of cognitive processes is in line with our justification for singling out one source text paragraph for the translation process analysis (see section 4.2.1.1). This choice was based on the paragraph's position halfway through the source text, where think-aloud protocols were consistently found to be of a better quality. Equally, every attempt was made to take as much information as possible into account regarding the participants' individual profiles and backgrounds, both before the data analysis in dividing the participants into categories, but also during the course of the experiment as individual characteristics emerged in the think-aloud protocols.

3.3 The think-aloud protocol

The following is a definition of thinking aloud, taken from Mann's (1982) study, which, to our knowledge, is one of the most comprehensive and thorough explanations of this data collection procedure available in the literature to date:

"Thinking aloud involves externalizing the contents of our minds – what we are currently aware of – as we engage in a particular activity, without in any way inferring the mental processes or strategies involved"

(Mann, 1982: 87)

The term 'introspection' involves the added element of 'inferring the particular processes in operation and reporting them as they occur' (Mann, 1982: 87). However, Mann (1982) clarifies, 'thinking aloud' and 'introspection' are used interchangeably, with both taken to mean thinking aloud.
Retrospection, on the other hand, is 'reporting after the event how one engaged in a particular task, focusing for example on motivational factors or mental processes' (Mann, 1982: 88). Mann (1982) adds that 'it demands that the subject infer their own mental processes or strategies from their memory of the particular mental event under observation' (ibid). Retrospection is often used as a source of secondary data, meant to support and inform the data obtained from a previous experiment.

3.3.1 Issues regarding the validity of think-aloud protocols

As implied in the above definitions, a central premise in any investigation into the process of translation is the idea that the translator is at least partially aware of some of the processes that they are employing and that therefore these mental activities are to some degree accessible to the translator through introspection. However, introspection raises its own set of unique questions. For example, how can we be sure that what is articulated by the subject truly represents their underlying mental processes? Furthermore, how can we be sure of the extent to which all mental processes are available to the subject's introspection? Which ones are included and which are not? Finally, does the very act of introspecting interfere with the translation processes we aim to investigate? (House, 2000: 151).

3.3.1.1 To what extent are mental processes available to introspection?

One of the most influential works on the think-aloud protocol is Ericsson & Simon (1984/1993). Most subsequent research in this area is based on their information processing model, which predicts that information recently heeded in the central processor is stored in short-term memory and is therefore accessible to think-aloud protocols, unlike information stored in long-term memory. While short-term memory (STM) has a limited capacity and storage duration but is easy to access, long-term memory (LTM) is characterised by a larger capacity and storage duration but is relatively more difficult to access (Ericsson & Simon, 1987).

Ericsson & Simon's model thus builds on the hypothesis that 'human cognition is information processing: that a cognitive process can be seen as a sequence of internal states successively transformed by a series of information processes' (Ericsson & Simon, 1987: 25). It has, however, also been argued by Ericsson & Simon (1984) that think-aloud methods allow the participant to access only conscious processes whereas
other processes that may have become automatised due to extensive practice remain beyond verbal reports (Jääskeläinen, 2000: 75).

Krings (1987) views this as an advantage rather than a problem in that distinguishing automated from non-automated processes, i.e., those that are not verbalised and those that are, could itself be an important contribution to translation theory, particularly as it could highlight potential differences in the performance of trained and untrained translators (Krings, 1987: 165-66). Fraser (2000), on the other hand, does not share the view that extensive translation experience may stand in the way of a participant's ability to produce a useful think-aloud protocol due to the automatisation of processes. She maintains that, despite the commonly held assumption, 'the vast majority of professionals are, however, able to verbalise to a useful extent the processes they engage in' (Fraser, 2000: 112)

Drawing on research findings from the field of neuropsychology, Hansen (2005) contests the idea that think-aloud protocols truly represent what is going on in the translator's mind. She bases her argument on a study by Damasio (1994), who contends that there can be no separation between thoughts and emotions. Damasio (1994) suggests that each time we meet a person or confront a situation, 'dispositional representations' are inevitably activated evoking associations with previous emotion-laden experiences, which consequently triggers an emotional response. To approximate the scale of complexity of such processes, Damasio (1994) states:

"(…) the time scale for firing (of neurons) is extremely small, on the order of tens of milliseconds – which means that within one second in the life of our minds, the brain produces millions of firing patterns over a large variety of circuits distributed over various brain regions"

(Damasio, 1994: 259 cited in Hansen, 2005: 516)

The implication of Damasio's findings, Hansen (2005) claims, is that a participant's think-aloud protocol at best represents barely 'a fraction of all the thoughts during a process, and only those that the subject can single out and encode into verbal form' (Hansen, 2005: 516). In this sense, rather than 'concurrent', verbalisation is always 'retrospective' (Hansen, 2005: 519).
In a similar vein, Mann (1982) remarks:

"And in all cases, however directly the process may be expressed, we are at least two steps away from the actual phenomenon we wish to observe and we are likely to lose or gain data as it passes from the subject's mind to the protocol, from the protocol to the analyst's mind, and from the analyst to the presentation of the analysis"

(Mann, 1982: 95)

It should be clarified that in Mann's (1982) study, this statement is not, by any means, intended as an argument against the validity of the think-aloud protocol as method. Rather, it is presented as part of a discussion of the constraints inherent in this data collection method, which should be borne in mind when interpreting the data it yields in order to ensure the reliability of the results (ibid).

3.3.1.2 Psychological factors

Mann (1982) quite rightly points out that conducting a think-aloud experiment constitutes a 'social activity', which the participants, as well as the researcher, approach with certain attitudes and expectations as to the nature of the experiment involved. For example, participants may be 'unsure of themselves' or have a feeling of 'inferiority' brought on by their perception of what they believe to be the researcher's 'true purpose'. This may cause them to act 'over-obliging' in their desire to be 'good' subjects. Conversely, they may also react by being 'reticent', 'uncooperative', 'bored, tired and confused'. The researcher on the other hand, may be 'anxious, over-demanding, biased, impatient and over-suggestive' (Mann,1982: 93). All these psychological factors can combine to create an uncomfortable situation:

'This interaction is not likely to be clean, clear-cut, clinical and efficient, but is potentially a tense and threatening situation in which I believe the onus is on the researcher to temper it as much as possible"

(Mann,1982: 93)
It is important to factor in such psychological aspects when attempting to analyse the data obtained from a think-aloud experiment. Points to take into account include the possibility that a participant may feel constrained by the demanding nature of the task, express thoughts that are not necessarily representative of his mental processes in a hope to give the expected performance, or be limited in his ability to state his thoughts for lack of metacognitive awareness (ibid: 95).

Similarly, Fraser (1996) stresses the importance of taking into consideration the effect that a participant's personality may have on their ability and/or willingness to produce a think-aloud protocol. She refers to a study by Henderson (1987), in which it was found that translators tend to be more 'reserved' than interpreters when it comes to expressing their thoughts. Gerloff (1988) and Jääskeläinen (1987) also raise the issue but observe that training translators to think aloud before taking part in the experiment confers a slight advantage, although it does not override personality factors.

In her recommendation that instructions for the think-aloud experiment be clear, including a statement of the overall purpose of the research, Mann (1982) points out that one of the subjects who took part in her study felt threatened and acted defensive after being told that the researcher was interested in how she read. She observes that there 'seems to be a feeling among subjects that the experimenter has some ulterior motive beyond the one overtly stated' (Mann, 1982: 92).

### 3.3.1.3 Does thinking aloud interfere with the translation process?

As indicated earlier, translation-process research is largely based on the ideas put forward in Ericsson & Simon (1984/1993). Central to their argument for the validity of the think-aloud protocol as a method of investigation is the contention that 'think-aloud and retrospective reports do not influence the sequence of thoughts', although they tend to 'increase the solution time due to the time required for the verbalisation' (Ericsson & Simon, 1993: xxii)

Ericsson & Simon (1993) distinguish between three different types of verbalisation:

- Level 1, or 'direct' verbalisation, which involves the direct verbalisation of information as it is heeded.
• Level 2, or 'encoded' verbalisation, in which the subject encodes, describes and explicates his thoughts.

• Level 3, where thoughts are justified and explained in relation to other previous thoughts.

Ericsson & Simon (1993) maintain that Level 1 verbalisation is the 'closest reflection of cognitive processes'. It is this level of verbalisation that corresponds to what most researchers who employ the think-aloud method hope to obtain, described by Jääskeläinen (2002: 108) as 'a spontaneous, unedited, undirected, stream-of-consciousness type of account'. This kind of verbalisation, Ericsson & Simon (1993) argue, does not interfere with whatever thought processes are under investigation (Ericsson & Simon, 1993: 30).

There has, however, remained some debate among translation-process analysts as to how much thinking aloud interferes with the translation process. For example, Toury (1991) has suggested that the very process of thinking aloud affects the outcome of the task because the two modes of translation (oral and written) necessary for a think aloud experiment may interfere with each other. As a result, 'TA translation clearly exhibits a greater tendency towards formal correspondence than non-TA translation' (Toury, 1991: 61).

It should be mentioned that, in a study designed to test Toury's (1991) hypothesis, Jääskeläinen's (2000) findings partially supported his ideas in that formal correspondence did indeed characterise the resulting translations, but only at the lexical level. While their lexical choices may have been affected by interference, Jääskeläinen's translators displayed a readiness to introduce changes to the syntax (Jääskeläinen, 2000: 79-80).

Also somewhat skeptical is Hansen (2005), who questions the ability to engage in two tasks which demand attention simultaneously. She mentions three studies carried out by Schneider et al. (1994), Raichle (1994) and Passingham (1996), in which two separate brain regions were found to be involved in the execution of practiced, as opposed to
novel, tasks. The former, which are typically accompanied by automatised processes, are connected to posterior regions of the brain. Novel tasks, on the other hand, demand higher levels of attention, and appear to be associated with anterior areas of the brain. The implication of these findings is that it is impossible to perform two novel, unpracticed, tasks simultaneously without them interfering with each other (Hansen, 2005: 512). In this regard, Ericsson & Simon remain convinced that 'when the CP [the central processor] attends to or activates a structure in memory that is orally encoded, then this structure can at the same time be vocalised overtly without making any additional demands on processing time or capacity. At any time when the contents of STM [short-term memory] are words (i.e., are orally encoded), we can speak these words without interference from or with the ongoing processes' (Ericsson & Simon, 1993: 62).

As illustrated above, the adequacy of the think-aloud as a method to investigate the translation process has been called into question by some scholars. However, researchers within the field have continued to adopt, and defend the validity of, this method of data collection, while at the same time acknowledging its limitations. For example, Jensen & Jakobsen (2000) recognise that the requirement to think aloud may indeed have slowed down their participants' translation performance, thus introducing 'an undesirable laboratory distortion of the data' (Jensen & Jakobsen, 2000: 115). At the same time, they emphasise the advantages of this method of introspection, particularly when the data obtained from it is supported by further data gathered through additional methods such as Translog\(^5\), questionnaires or retrospective interviews, allowing the juxtaposition of several sets of translation-process data, and facilitating their subsequent interpretation in relation to each other (Jensen & Jakobsen, 2000: 115).

Jakobsen (2003), whose study was designed to investigate the effects of thinking aloud on segmentation, translation speed and revision, concluded that thinking aloud does indeed have an impact on the first two, but no significant effect on the third. More specifically, Jakobsen (2003) reports that thinking aloud delays translation by about 25\% and compels translators to process the text in smaller segments than they would

\(^5\) Translog is a computer program, developed by Jakobsen & Schou (1999), which logs all keyboard activity about the translation event in real time, including pauses, corrections and electronic dictionary lookups.
under normal circumstances (Jakobsen, 2003: 69). This applies to both professional translators and final-year translation students, the two groups that took part in Jakobsen's (2003) study. In addition, the direction-of-translation factor was found to have a direct bearing on translation speed, with translation into a second language being particularly slow. The cause, Jakobsen speculates, could be 'a conflict between thinking aloud in L1 and simultaneously producing a text in L2' (Jakobsen, 2003: 78). As regards segmentation, Jakobsen (2003) found that thinking aloud forced translators to segment the target text to a higher degree compared with those translating without the requirement to think aloud. This effect was found to be more significant when the translation direction was from L1 to L2 (Jakobsen, 2003: 93). He is keen to point out that his conclusion 'in no way challenges Ericsson & Simon's more fundamental claim that the think-aloud condition, though it may slow down the primary mental activity, does not change the activity or process structurally' (Jakobsen, 2003: 79).

Further support for the validity of think-aloud protocols as a method for translation research comes from Krings (1987). Building on Ericsson & Simon's (1984/1993) distinction between Level 1 and Level 2 and Level 3 types of verbalization outlined above, Krings (1987) maintains that, since translating is a linguistic process, a think-aloud protocol during a translation task would merely externalise what is already linguistically encoded in the mind. This would result in little if any interference with the task at hand, as opposed to thinking aloud while, for example, putting together a puzzle, where there is the extra task of verbally encoding the cognitive processes involved (Krings, 1987: 166).

He notes that the higher the level of selectivity, abstractedness and inference involved in the translation task, the lower the validity of the think-aloud data obtained. This means that participants presented with a specific, hypothetical, translation problem to solve are not in as good a position to provide verbal reports representative of the underlying cognitive processes than those asked to verbalise anything that comes into their mind (Krings 1987: 165). This perhaps coincides with the idea of 'cognitive load', which predicts that there are limited processing resources that get used up during particularly complicated translation tasks affecting participants' ability to verbalize (Jääskeläinen, 2000: 75). In this regard, Krings (1987) draws attention to the importance of not forcing participants to verbalise, which would make it no longer possible to distinguish between automated processes (not accessible to think-aloud
protocols) and non-automated processes (accessible to spontaneous thinking aloud) (Krings, 1987: 165).

Concentrating on the psychological aspects associated with think-aloud experiments, Mann (1982) argues that the degree of metacognitive awareness required to produce a think-aloud protocol can place extra demands on short-memory capacity, which could potentially distort the process under investigation (Mann, 1982: 89). Also important are the psychological demands that may come with asking someone to do something they are not used to doing. This may result in feeling under pressure which may, in turn, hinder the participant's ability to fully and clearly express themselves. Conversely, some participants may 'overcompensate in the desire to be 'good' subjects', and will attempt to deduce from the experiment what it is that the researcher is interested in, reporting what they think is relevant information, but which may not necessarily be representative of the process heeded during the experiment (ibid).

While they do not go as far as invalidating the think-aloud method, such psychological factors ought to be taken into consideration when analysing the data obtained from think-aloud protocols, bearing also in mind that such data is itself indirect and meant to be interpreted as evidence of unobservable mental processes (Mann, 1982: 89).

3.3.1.4 The think-aloud protocol: Still a valid method for translation research?

It is felt that despite the very important and difficult challenges presented by these questions, the think-aloud method has its strengths in other areas, which makes it a valid and beneficial tool for the linguistic researcher. For example, think-aloud protocols allow the investigator to go deeper than the surface translation product and into the underlying mental processes behind it. Think-aloud protocols can also provide data that is descriptive and broader in its scope, which may subsequently reveal multi-layered processes that normative data cannot provide evidence for (House, 2000: 152). In particular, Fraser (1996) reports, think-aloud methodology appears to be especially helpful in uncovering the strategies employed by translators to resolve specific translation problems (Fraser, 1996: 6). Lörcher (2005) concurs and affirms:
"It can be assumed that thinking aloud, in combination with retrospective probing, represents a useful instrument to formulate hypotheses on mental processes in general and about translation processes in particular"

(Lörscher, 2005: 599)

3.3.1.5 The present study in light of TAP-skepticism

What follows is an attempt to place the present study in the light of some of the major issues raised as regards the adequacy of the think-aloud protocol as a method for investigating the translation process.

Although Hansen (2005), and to an extent, also Mann (1982), present it as a downside of think-aloud protocols, potentially invalidating the whole methodology, the argument that think-aloud protocols can only include what a participant is willing and able to put into words may even constitute an advantage for the purposes of the present study.

It is one of the aims of our study to establish whether or not the participants taking part in the experiment are conscious of the requirement to explicate implicit discourse relations in order to enhance the communicability of their translation into Arabic. Accordingly, if a participant makes reference to the above issue in their verbal protocol, this necessarily implies that they are conscious of it, irrespective of the hundred other thoughts that cross their minds and go unexpressed.

Furthermore, what a participant chooses to express or not express is largely dependent on this particular person's unique experience and emotions. In other words, it is subject to individual differences, a factor which is by no means restricted to think-aloud protocols, but which researchers in general have to contend with, regardless of how stringent their methodology is. In the case of introspection-based studies in general, and the present study in particular, each and every participant will presumably select, from yet another selection of thoughts available to introspection, only those thoughts that they are willing and able to express. Therefore, since this is a limitation that applies equally to everyone involved in the experiment, comparing the resulting verbal protocols will still mean comparing like with like, regardless of the postulated under-representative nature of the method of elicitation employed. In addition, it is expected
that the fact that participants are presented with a task of a specific nature, which demands a certain level of attention, i.e., translate and think aloud at the same time, should allow participants to channel their thoughts and focus on performing the task in question, excluding all irrelevant thoughts. In this sense, being asked to translate a text is different from being asked to meet a person or confront a situation (Damasio, 1994), which would conceivably evoke a myriad of thoughts and emotions.

Moreover, the text used in the experiment is a critique of the UK's environment policies. Since the participants taking part in the experiment all come from the Arab world, where the issue of climate change is not as prominent in public debate as it is in the UK for example, it seems reasonable to assume that they will approach the text with a certain degree of apathy. In fact, several participants even pointed out that they were either insufficiently informed or had little interest in the particulars of British environment policies. In accordance with the aims of this investigation, the text was the result of a deliberate choice to include a topic about which participants would lack ready-access background knowledge. The idea was that a deficient background about the topic would add to the challenge of comprehending implicit discourse relations, and consequently throw more light on the process of constructing a context online, as opposed to relying on a priori contextual assumptions (Sperber & Wilson, 1986/1995).

3.4 Experimental design

So far, we have attempted to present a reasonably comprehensive review of translation-process research to date, mainly with regard to its chosen method of investigation, the think-aloud protocol. We have also tried to situate this study in the context of some of the criticisms leveled at the think-aloud protocol as a method to investigate the translation process. We will now proceed to present a thorough, step-by-step description of the think-aloud experiment conducted as part of this study. It is believed that a detailed description of the data elicitation method is of great importance not only because the nature of the data gathering procedure has a determining influence upon the data obtained, but also because a detailed description of the experiment would make it possible to compare it with similar experiments, replicate it, or simply avoid its pitfalls in subsequent research.
In order to answer the research questions posed in this study (see Chapter 1), an experiment was set up in which eighteen participants were asked to complete a translation task, while simultaneously thinking aloud. No time limits were set. The participants were all native speakers of Arabic, who, at the time of the experiment, were studying at different stages of a postgraduate course in Arabic-English translation and interpreting. Out of the eighteen participants, ten had received previous training in text-analysis as part of their translation course (see section 3.4.2.2). After the think-aloud part of the experiment was completed, the participants were asked to silently review their translation, only verbalising any changes that they decided to make. This was followed by a retrospective interview, in which participants were asked open-ended questions regarding the translation task. The experiment yielded approximately twenty eight hours of audio data, which was transcribed in its entirety over a period of two months.

Before turning to a detailed description of the experimental design, it is important to mention that this experiment was preceded by a pilot study involving two participants, the results of which helped in the fine-tuning of the data collection procedure.

3.4.1 The pilot study

The pilot study involved two translation trainees, who were asked to verbalise all their mental processes as they translated an English news article into Arabic. No time limits were set and a dictionary was provided, in addition to the possibility of consulting the internet. The researcher was present during the experiment but did not talk to the participants at any point. After considering the results of the pilot study the following adjustments were deemed necessary:

3.4.1.1 Access to dictionaries

It became clear while observing the two participants during the experiment that providing them with dictionaries and the possibility of using online resources resulted in excessively long protocols. On practical grounds, the participants were spending a significantly long time looking up words and doing background reading on unfamiliar issues, which was seen as a futile, time-and-energy-consuming exercise, since it was not
directly pertinent to the research purposes. More importantly, this was seen as contributing to a tendency to mull over individual words, which was perceived as taking the focus away from the production of an acceptable, coherent text in the target language. One of the adjustments made as a result was the provision of a glossary including English words and phrases and their translation into Arabic, in addition to a brief explanation of any potentially confusing, culture-specific concepts.

3.4.1.2 Protocol instructions

Another perceived weakness in the pilot study was the fact that the researcher did not sufficiently emphasise the requirement not to provide explanations for mental processes. Following Ericsson & Simon (1993), attempting to explain every translation decision may increase the cognitive load, which may in turn interfere with the translation task at hand and consequently affect the quality of the protocol. This was precisely the case with one of the pilot study participants, whose protocol sounded rather like a lecture on translation theory. Clearly, he assumed that the purpose of the experiment was to test his ability to apply theoretic notions of translation learnt throughout the postgraduate course to the translation task he was presented with.

This prompted a revision in the protocol instructions, which were slightly reworded to place more emphasis on the fact that the experiment was in no way intended as a test of the participants' theoretic knowledge, and that they were required to approach the text not as students sitting a translation theory exam but as professional translators doing their job.

3.4.1.3 Translation brief

Related to the importance of participants not perceiving the experiment as a translation theory exam is Fraser's (1996b) argument for the assignment of a clear translation brief, which she regards as paramount in 'creating and maintaining a sense of context' (1996b: 76). In her view, defining what and who the translation is intended for plays an important role in participants' general translation approach. She adds that even where a brief is not provided, as in her (1993) study, translators assume one and adapt their performance to it (ibid). Accordingly, it was decided to include a written brief detailing the exact purpose of the translation.
3.4.1.4 Researcher intervention

As with every research design, it is important to consider the effect of the experimental conditions under which the data collection procedure is carried out on the validity and credibility of the resulting data. One of the main factors represented in the think-aloud protocol literature is the role of the researcher (Krings, 1987; Gerloff, 1988; Gass & Mackey, 2000). The level of researcher intervention appears to range from none at all, to merely answering direct questions to prompts to keep talking if the participant falls silent. The latter approach was adopted by Fraser in one of her studies, and she reports divergent reactions to the prompting, with some participants finding it intrusive and others disagreeing and even finding it helpful (Fraser, 1996b).

In the pilot study it was decided not to intervene at all, except to answer the participants' questions. The researcher was present throughout the experiment, albeit not too close to the participants as if monitoring their every word but farther away, and pretending to be engaged in a different activity such as reading, while in reality paying careful attention to the protocols. The intention was to reduce pressure on the participants, in an attempt to create as comfortable an atmosphere as the experimental conditions allowed. The effect, it was thought, would be a relaxed participant, naturally and spontaneously thinking aloud. Instead, what happened was that the participants were mostly just reading aloud and, when they were confronted with a translation problem that required thinking, they were completely silent. This, of course, defies the entire purpose of the experiment. Therefore, it was decided that the researcher should intervene in order to remind the participants to keep talking, as suggested in Ericsson & Simon (1993). However, Krings (1987) points out that think-aloud protocols are generally more valid when the participants are not subjected to any pressure to verbalise. This was borne in mind and such interventions were kept to a minimum.

The same applies to the retrospective interview phase of the experiment, where it was considered particularly important, given the specific focus of the study, not to draw the participants' attention to the issue under investigation. 'Fishing' for comments was also criticised in Gass & Mackey's instructions for stimulated recall, as this would increase the likelihood that the recall comments will be based on what participants think now,
some other memory/perception, or some flawed or biased recollection' (Gass & Mackey 2000: 59)

3.4.1.5 Think-aloud training

Færch & Kasper (1987) point out that, while delayed introspection does not appear to require explicit training, in the case of simultaneous introspection studies have shown that it is important to get participants used to verbalisation. One way of doing this is by having a practice phase prior to data collection (Færch & Kasper's, 1987: 15-16). This was taken into account in the pilot study, particularly as neither of the participants had the slightest idea of what a think-aloud protocol was, let alone having ever taken part in one. They were therefore given a short 40-word extract from the same article to start off with and it was explained to them that this was intended as practice/warm-up to prepare them for the actual task.

While the warm-up exercise did seem to help the participants overcome the first few uncomfortable moments when they were still not quite sure what they were doing, it was not perceived as having a significant impact on their ability or willingness to verbalise their thoughts. This is because, although the warm-up phase may have allowed the participants to feel slightly more at ease and less self-conscious of being recorded, there was little or no difference in their performance between these few warm-up minutes and the rest of the protocol. It was therefore decided to replace the warm-up exercise with listening to five minutes of a sample think-aloud protocol in which the researcher acts as a participant. This was seen as a better way to ease the participants into the task while, at the same time, giving them a clearer idea of what exactly is expected of them, possibly improving the overall quality of the think-aloud protocols as a result.

3.4.1.6 Revising the translation

When the pilot study was carried out, it was assumed that after completing the translation, the participants would, as a matter of course, revise it one last time to see how the text sounded in Arabic. This was based on what was believed to be normal practice among translators. However, it was only the case with one of the two participants.
In view of the contention held by some in the literature that there are limited processing resources that get used up during a think-aloud protocol, affecting the participants translation performance (Jääskeläinen 2000: 75); it was considered important to make sure all participants had a chance to go over their translation once it was completed. This, it is proposed, allows them to approach the text without any potential distraction thinking-aloud may have caused. It was therefore included, in the initial instructions, that there would be a few minutes at the end of the think aloud protocol where the participants would be asked to go over their translation, this time in silence, only verbalising any last minute changes they deemed necessary.

3.4.2 The experiment

What follows is a detailed description of the experiment, organised around its main aspects.

3.4.2.1 The participants

The study involved eighteen postgraduate translation students who were all native speakers of Arabic. Ten out of the eighteen participants had received training in text-analysis as part of their translation programme. The remaining eight participants attended a different translation course, and received no such training. The following table contains information about the participants with regard to their age, sex, exposure to text-analysis, IELTS score, translation work experience and length of stay in the UK:

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<th>Age</th>
<th>Sex</th>
<th>Exposure to text analysis</th>
<th>IELTS Score</th>
<th>Work Experience</th>
<th>UK Stay (months)</th>
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<td>8.00</td>
<td>yes</td>
<td>24</td>
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<tr>
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Table 1. The participants' general profiles

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3.4.2.2 The text-analysis training

In general terms, the pedagogical orientation of the translation course attended by some of the participants in this study is 'to proceed from the top down, from the macro to the micro level, from text to sign' (Snell-Hornby, 1988: 69). Within this approach, the text is perceived as composed of a series of elements, which are organised in a hierarchy of communicative status, and combined by means of a network of discourse relations in order to serve an overall rhetorical purpose (Hatim, 1997: 55).

One of the main advantages associated with this approach to text organisation is that it improves a student's ability to distinguish between 'structural' and 'orthographic' paragraphs. Failure to recognise paragraphs as defined by their respective rhetorical function, rather than the boundaries of indentation, is regarded as a source of serious, discourse-level comprehension errors, often committed by even advanced language learners (Hatim, 1997: 64). Within this approach, a text typology is proposed, which divides texts into two major types according to their rhetorical purpose, namely exposition and argumentation. These two types are, in turn, based on de Beaugrande and Dressler's (1981) distinction between 'monitoring' and 'managing' a situation:
"(…) if the dominant function of a text is to provide a reasonably unmediated account of the situation model, SITUATION MONITORING is being performed. If the dominant function is to guide the situation in a manner favourable to the text producer's goals, SITUATION MANAGEMENT is being carried out"

(de Beaugrande and Dressler, 1981: 162)

Drawing on the above distinction, 'expository' texts are defined as those which set out to monitor a situation by analysing given concepts, describing objects or situations, or narrating actions or events. 'Argumentative' texts, on the other hand, aim to manage a situation by 'promot[ing] the acceptance or evaluation of certain beliefs or ideas as true v. false, or positive v. negative' (de Beaugrande and Dressler, 1980: 184). To these two basic text types, a third sub-type is added, referred to as 'instruction', which seeks to regulate action and includes texts such as contracts, cooking recipes and instruction manuals.

Within the argumentative text type, two major types of argumentation are identified: 'Through-argumentation' and 'counter-argumentation'. While the former is 'characterised by extensive substantiation of an initial thesis', the latter 'involves the rebuttal of a thesis cited, followed by a substantiation and a conclusion' (Hatim, 1997: 47). The use of one form of argumentation or the other is largely determined by societal norms such as politeness, or other socio-political factors such as attitude to truth, freedom of speech, etc (ibid). Modern Standard Arabic, it is suggested, tends to employ through-argumentation, in which a given stance is condoned or condemned, without necessarily acknowledging opposing viewpoints. English, by contrast, is characterised by a more frequent use of counter-argumentation (ibid).

Broadly speaking, the concepts outlined above constitute the basis for the twelve-month postgraduate translation course attended by ten out of the eighteen participants who took part in this study. Students are encouraged to look at the source text bearing in mind the text-analysis notions outlined above, and then make translation decisions accordingly. Also during the course, attention is drawn to the differences in DM use between English and Arabic (see sections 2.4.5 and 2.4.6), and the role played by DMs in explicitly signalling a text's structure. As this particular postgraduate course includes
a core component of conference interpreting, and is primarily designed to develop interpreting skills, the students only have one biweekly two-hour translation session in each language direction. However, to supplement translation class, the students also attend a weekly 'reading class'. This support class runs for two hours, during which students are given a variety of articles to read, taken mostly from UK broadsheets, as well as magazines such as 'The Economist', 'Newsweek' and 'Time Magazine'. The class takes a dynamic, interactive approach in which texts are discussed and analysed. This function-focused approach to texts is believed to curb the fascination with individual words typical of trainee translators, in order to give way to a more comprehensive, global, sense-oriented understanding of the source text.

3.4.2.3 The text

The source text chosen for the experiment is the following 343-word extract from an article entitled ‘Out of Touch’, which was published in ‘The Independent’ in November 2006:

Out of touch

The inclusion of a Climate Change Bill in the Queen's Speech today is likely to prove a hollow victory for environmental campaigners. All the signs are that the bill will not commit the Government to annual targets for the reduction of carbon emissions. According to the Environment Secretary, David Miliband: "... no one seriously believes binding annual targets are a serious way forward."

But it is Mr. Miliband who is failing to be serious. The fact is that in recent years UK carbon dioxide emissions have been rising, not falling. The Government's current strategy is not working. Annual, binding, emission-reduction targets are now the only realistic way of controlling UK CO2 output. But targets are not an end in themselves. Their role would be to make it politically impossible for the Government to avoid implementing the type of radical measures that it has always balked at. The London mayor’s tough congestion charge scheme is an example of the type of action that can really change public behaviour.

The Government's excuses for inaction do not stand up to scrutiny. Ministers point out that the UK’s energy requirements in any given year will vary, and so, as a result, will
our emissions. In other words: annual targets are wrong because they would be difficult to meet. But this is the whole point. A more plausible explanation of the Government's reticence is that it is afraid of punishment at the ballot box if it implements the sort of radical measures necessary to meet such targets. But here ministers show how out of touch with the public mood they have become. Both main opposition parties and two-thirds of MPs now agree that the time has come for annual targets. And recent polls suggest that a majority of the public would be prepared to pay higher green taxes to contain the effects of climate change.

At home and abroad, global warming is gradually establishing itself as the great challenge of our times. Those politicians who fail to rise to that challenge will not be judged kindly by history.

(adapted from 'Out of touch and still offering lame excuses', The Independent, November, 2006)

The rationale for choosing this particular text is that it contains several instances of implicit logical links between ideas, giving participants ample opportunity to show evidence in their think-aloud protocols of how they deal with such implicit links in translation.

3.4.2.4 The brief

The source text was preceded with the following translation brief, which, as mentioned earlier, was included in order to give the participants an idea of who the translation was intended for:

You work as a translator for an Arab embassy in London. Your job entails translating articles which cover topics relevant to the UK government policy found in the British press. The translation of the following article from British News Online is to be circulated for information purposes to relevant government departments in the Arab country.

3.4.2.5 The glossary

Along with the text and the brief, participants were provided with the following English-Arabic glossary. The glossary entries are largely based on the vocabulary items
which were most frequently looked up by the two pilot study participants, in addition to some phrases they seemed to find particularly problematic to translate. The main purpose of supplying a glossary was, as explained earlier, to shift the focus as much as possible from individual words to the text as a whole, as well as to save time.

Glossary

Climate Change Bill: قانون التغير المناخي
is likely to prove a hollow victory: قد يكون نصراً بالشكل فقط
environmental campaigners: الناشطين البيئيين
all the signs are: كل الدلائل تشير إلى
commit the government to annual targets: يلزم الحكومة بأهداف سنوية
reduction of carbon emissions: تخفيف انبعاث غاز ثاني أكسيد الكربون
Environment Secretary: وزير البيئة
no one seriously believes: لا أحد يعتقد جدياً
a serious way forward: خطوة جدية إلى الأمام
failing to be serious: تنقصه الجدية
annual, binding, emission reduction targets: أهداف سنوية ملزمة لتخفيف انبعاث غاز ثاني أكسيد الكربون
controlling UK CO2 output: ضبط نتائج المملكة المتحدة من غاز ثاني أكسيد الكربون
Targets are not an end in themselves: الأهداف ليست غاية بحد ذاتها
Radical measures it has always balked at: الإجراءات الجذرية التي طالما تغلبها
The London mayor: عمدة لندن
congestion charge scheme: نظام ضرائب الإزدحام المروري
The Government's excuses for inaction do not stand up to scrutiny: الأعذار التي تقودها الحكومة لتبرير تفاؤلها لا تصمد أمام الحقائق
UK's energy requirements: حاجة المملكة المتحدة من الطاقة
A more plausible explanation: تفسير أكثر منطقية
The Government's reticence: تردد الحكومة
The ballot box: صندوق الاقتراع
Out of touch with the public mood: بعيد عن الاتجاهات السائدة بين العامة
Opposition party: حزب معارضة
MPs: أعضاء البرلمان
Polls: استطلاعات الرأي
Green taxes: ضرائب الحفاظ على البيئة
The Climate Change Bill sets out a vision for how the UK can move to a low carbon economy including a series of clear targets for reducing carbon dioxide emissions – such as making the UK’s targets for a 60% reduction by 2050 and a 32% reduction by 2020 legally binding.

Written by the Government and delivered by the reigning monarch, the Queen’s Speech outlines the Government’s proposed policies for the year ahead. The event usually takes place in November of each year and marks the beginning of the parliamentary session.

The London congestion charge scheme is a strategy to reduce traffic jams which consists in charging a fee for some motorists entering the Central London area.

Green taxes are taxes designed to protect the environment, charged by the Government on consumption of natural recourses.

2.4.2.6 The instructions

After a brief chat and some introductory remarks about the experiment, the participants were given a set of instructions. These were not read out verbatim but were expanded on and incorporated into a conversation with the participant, in which they had a chance to react by asking questions or making comments. The instructions were along the following lines:

I am going to ask you to translate this English article into Arabic, while at the same time voicing every thought that comes into your mind. In other words, I’m asking you to literally think aloud, in spoken Arabic.

Try not to stay silent for too long. If you do, I may ask you to tell me what you are thinking about. The purpose of this experiment is to try and get some access into the processes going on in our minds as we translate. It is in no way intended as a test of either your linguistic ability or your translation ability, and above all, it’s not a test of how good you are at applying theoretic notions of translation that you learnt in class to this translation task. I’m not interested in that.
When you have completed your translation, I am going to ask you to silently read through it again, just to see if you are happy with the text as it is, or if you need to make any changes. Once you have finished this, there will be a short interview where I will ask you to comment on the translation.

What you say will be recorded, and then transcribed and analysed by myself, but you will remain anonymous. Your name will not be mentioned anywhere in the data.

I know this is awkward and that you have never done a think-aloud protocol before, but I need you to try and relax, sip your coffee and translate as naturally as you can.

Before you start, I’d like you to listen to a few minutes of a think-aloud protocol, recorded by myself, just to give you a better idea of what it is that I am asking you to do.

3.4.2.7 The language of the protocols

Since all the participants in the experiment were native speakers of Arabic, it was decided, in both the pilot study and the experiment, that Arabic should be the language of the protocols. However, Arabic has two varieties: a standard variety used in written communication and a regional variety used in spoken communication.

It was assumed that Arabic speakers will normally think in the regional spoken variety used in everyday conversation rather than in the more formal, standard variety. Still, participants were given the choice to verbalise their thoughts in whichever language they normally think in, in case they had other preferences. This was invariably said to be the regional variety of Arabic. In addition, because some of the participants had spent some time in the UK, and were using English as the language of communication on a regular basis, they were given the freedom to switch into English at any point during both the think-aloud protocol and the retrospective interview, if they felt it was more comfortable to do so. These small measures were intended to impose as little mental strain on the participants during the verbalization as the experimental conditions allowed, in an attempt to contain the potential effects of thinking aloud on the performance of the task.

In addition to the concerns mentioned above, having the participants speak Arabic was also thought to help in dispelling any ideas that the participants' knowledge of the
English language was what was being investigated, which would have added extra pressure. This coincides with the concerns raised by Gass & Mackey (2000) regarding the language of the stimulated recall method. Since their experiment dealt with beginner learners of English, the recall language, it was a major concern for the researcher whether the participants' limited linguistic resources would have any effect on the quality of their reports in that they may not be able to fully express their mental processes. This adds an extra dimension to the criticism leveled at think-aloud protocols with regard to the extent to which they truly represent cognitive processes anyway. Despite the added time-consuming task of translating the protocols, it is felt that using the mother tongue contributes to a more relaxed attitude on the part of the participants, which could conceivably lead to more verbalisation and consequently, improve the quality of the data.

3.4.2.8 Researcher intervention

During the think-aloud protocol, any intervention on the part of the researcher was restricted to (infrequent) prompts to keep talking. This was partly motivated by the general considerations mentioned earlier regarding the importance of not putting pressure on participants to verbalise. A more immediate concern related to this particular study was that, given that the research aim is to investigate participants' awareness of the issue in question, it would jeopardize the results to draw their attention to it by asking direct questions.

3.4.2.9 The retrospective interview

The think-aloud part of the experiment was followed by a retrospective interview. Since, as mentioned earlier, the researcher kept probes into the participants' protocols to the minimum, it was thought that a retrospective interview would provide the perfect opportunity to elicit explanations for any decisions the participant had made with regard to the research topic.

Because a large number of the participants belonged to one group of students, and the protocols took place over the period of two weeks, it was paramount that they did not discuss the purpose of the experiment amongst each other. This is why the questions needed to be of a general nature, along the lines 'Are you happy with your translation?',
'If you were working at this embassy, would you submit your translation in its present form to be circulated?'. The participants' answers to such questions determined the subsequent course of the interview. If the participant gave a negative answer, which was the case in the vast majority of the interviews, they were asked to elaborate on the reasons. If, then, the participant so much as hinted at the research topic, further clarification was requested and the discussion became focused on this from then on.

3.4.2.10 Researcher-participant interaction

As Jaspal (2009) points out, contrary to the assumption commonly held in psychology that in quantitative research, the researcher and the participants are entirely separate and independent of one another, studies have demonstrated that in qualitative research this is rarely the case. The researcher is, in reality, an inseparable part of the data collection and her relationship to the participants is bound to affect both the data and its interpretation. With regard to introspective data collection methods in particular, Færch & Kasper (1987) suggest that the interaction between participants and the researcher can have an effect on the resulting data, even in the case of think-aloud protocols where there is little if any intervention on the part of the researcher. This socio-psychological dimension was taken into account in the present study as the researcher made a point of joking with the participants about the oddity of talking to an audio recorder, in an attempt to ease them into an admittedly unnatural task.

Moreover, Jaspal's (2009) investigation into the nature of the researcher-participant relationship centered around exploring what he refers to as the 'insider/outsider dynamic'. He found that the participants' perception of the identity of the researcher as either a member of their group (insider), or an outside observer (outsider) had an influence on the nature of the data they supplied. This dynamic was recognised to some extent in the present study as some participants exhibited an expectation that the researcher, as a native speaker of Arabic, should be familiar with the rhetorical conventions and stylistic norms of this language. Accordingly, there is a possibility that they may have considered it superfluous to go into too much detail regarding some of their translation choices, therefore neglecting to express certain aspects of their thought processes.
In a similar vein, Shi (2006) uncovered some problematic data collection aspects related to the dual roles of the researcher and the participants, the former as both a researcher and a teacher, and the latter as both research participants and students. Although she attempted to eliminate any pressure to participate in her experiment by allowing students to opt out of the research project anonymously, both she and the participants experienced tension as they tried to switch roles between research and teaching/learning. She adds that some students even complained about feeling used as research participants. In the present study, this aspect of the researcher-participant relationship had to be borne in mind as eight out of the ten participants had previously attended a course taught by the researcher. However the fact that the experiment took place after the course was completed should have helped to mitigate any tensions of the type that Shi refers to. Nevertheless, it was still deemed important to separate the experiment as much as possible from the teacher-student dynamic of the classroom. The participants were therefore reminded that the experiment was in no way intended as a test of their linguistic/translation abilities (at least in the exam sense) and that they would, of course, remain anonymous.

3.4.2.11 Audio recording Equipment

Initially, a Sony WM-D6C Professional Walkman Stereo Cassette Recorder was used to record the think-aloud protocols. This was later replaced with the more modern Marantz PMD620 Solid State Digital Recorder, once it became available at the university’s audio-visual resources department. Although both recorders provide a high sound quality, the Marantz PMD has the added advantage of recording in (.WAV) format, in addition to having an inbuilt microphone, which reduces the amount of recording equipment spread out in front of the participants.

3.5 Conclusion

This chapter has attempted to discuss the think-aloud method in the context of the general research area of translation-process analysis. A detailed description of the experimental design was provided in the second half of the chapter, including its initial pilot phase. It is proposed that the combination of two data collection methods, namely the think-aloud protocol and the retrospective interview, will contribute to enhancing the validity of the data analysis results. The transcripts should then provide an adequate backdrop against which to examine the participants’ translations.
CHAPTER 4 - DATA ANALYSIS

4.1 Quantitative data analysis

Having provided a review of the method of data collection employed, including a thorough description of the experimental design adopted in this study, the present chapter will proceed to the data analysis. The preliminary statistical analysis will be presented first, followed by the qualitative analysis.

4.1.1 Identifying unsignalled discourse relations

The first step in the data analysis was to identify and number all instances of unsignalled discourse relations in the source text in order to facilitate comparison with the resulting target texts. Eleven instances were found, which are illustrated in the following text:

Out of touch

The inclusion of a Climate Change Bill in the Queen's Speech today is likely to prove a hollow victory for environmental campaigners. (1) All the signs are that the bill will not commit the Government to annual targets for the reduction of carbon emissions. (2) According to the Environment Secretary, David Miliband: "... no one seriously believes binding annual targets are a serious way forward."

But it is Mr. Miliband who is failing to be serious. (3) The fact is that in recent years UK carbon dioxide emissions have been rising, not falling. (4) The Government's current strategy is not working. (5) Annual, binding, emission-reduction targets are now the only realistic way of controlling UK CO2 output. But targets are not an end in themselves. (6) Their role would be to make it politically impossible for the Government to avoid implementing the type of radical measures that it has always balked at. (7) The London mayor’s tough congestion charge scheme is an example of the type of action that can really change public behaviour.

The Government's excuses for inaction do not stand up to scrutiny. (8) Ministers point out that the UK’s energy requirements in any given year will vary, and so, as a result, will our emissions. In other words: annual targets are wrong because they would be
difficult to meet. But this is the whole point. (9) A more plausible explanation of the Government's reticence is that it is afraid of punishment at the ballot box if it implements the sort of radical measures necessary to meet such targets. But here ministers show how out of touch with the public mood they have become. (10) Both main opposition parties and two-thirds of MPs now agree that the time has come for annual targets. And recent polls suggest that a majority of the public would be prepared to pay higher green taxes to contain the effects of climate change.

At home and abroad, global warming is gradually establishing itself as the great challenge of our times. (11) Those politicians who fail to rise to that challenge will not be judged kindly by history.

4.1.2 Source text analysis

The next step was to analyse the source text in order to determine the different kinds of implicit discourse relations holding between the ideas it presents. It was decided that a Rhetorical Structure Analysis (Mann & Thompson, 1988 and section 2.4.3.2 of this thesis) would be useful in bringing out these relations.

Since such analyses are inherently subjective, their outcome being determined by a particular person's understanding of the text, it was deemed necessary to have more than one person examine the text. Three people with a background in Rhetorical Structure Analysis then looked at the text, and the following analysis was agreed upon:

Out of touch

The inclusion of a Climate Change Bill in the Queen's Speech today is likely to prove a hollow victory for environmental campaigners. (1) [Evidence] All the signs are that the bill will not commit the Government to annual targets for the reduction of carbon emissions. (2) [Elaboration] According to the Environment Secretary, David Miliband: "... no one seriously believes binding annual targets are a serious way forward."

But it is Mr Miliband who is failing to be serious. (3) [Evidence] The fact is that in recent years UK carbon dioxide emissions have been rising, not falling. (4) [Result] The Government's current strategy is not working. (5) [Solution] Annual, binding, emission-reduction targets are now the only realistic way of controlling UK CO2 output. But targets are not an end in themselves. (6) [Elaboration] Their role would be to make it
politically impossible for the Government to avoid implementing the type of radical measures that it has always balked at. (7) [Elaboration] The London mayor’s tough congestion charge scheme is an example of the type of action that can really change public behaviour.

The Government's excuses for inaction do not stand up to scrutiny. (8) [Evidence] Ministers point out that the UK's energy requirements in any given year will vary, and so, as a result, will our emissions. In other words, annual targets are wrong because they would be difficult to meet. But this is the whole point. (9) [Interpretation] A more plausible explanation of the Government's reticence is that it is afraid of punishment at the ballot box if it implements the sort of radical measures necessary to meet such targets. But here ministers show how out of touch with the public mood they have become. (10) [Evidence] Both main opposition parties and two-thirds of MPs now agree that the time has come for annual targets. And recent polls suggest that a majority of the public would be prepared to pay higher green taxes to contain the effects of climate change.

At home and abroad, global warming is gradually establishing itself as the great challenge of our times. (11) [Result] Those politicians who fail to rise to that challenge will not be judged kindly by history.

4.1.3 Scoring criteria

Having identified the rhetorical relations in the text, it was now possible to proceed to have a closer look at the participants' translations, in order to determine whether, and to what extent, the eighteen translations accurately reflected the rhetorical structure of the source text.

As explained above (see section 2.4.6), Arabic imposes a 'connecting constraint' which requires a writer to make explicit the rhetorical relations holding between different discourse segments. This makes comparisons between 'implicit' English source texts and 'explicit' Arabic target texts a straightforward matter of checking the DMs provided in the translations against the rhetorical relation they are supposed to signal in each corresponding text segment.

Accordingly, all eighteen target texts were analysed and given a score out of eleven points, depending on the number of rhetorical relations adequately signaled in the
translation. This means that points were awarded not on the basis of a participant having supplied a discourse marker, but only if the marker supplied is in keeping with the rhetorical structure of the source text. This is because responding to the connecting constraint Arabic imposes does not necessarily entail correctly signaling a discourse relation. The participant can always rely on the connector 'and', which in Arabic can be used to 'glue' sentences together, purely to adhere to the style conventions of the language, without sounding repetitive, and, more importantly, without running the risk of committing to any potentially incorrect interpretation of the text. Each participant's discourse-marker score, referred to as 'DM score' will therefore, for the purposes of this study be considered as a measure of their ability to correctly interpret the implicit discourse relations which make up the logical structure of the target text. The following graph illustrates the scores obtained by all eighteen participants:

Graph 1. DM scores (out of 11) for all 18 participants

As can be seen in the Graph 1, the range of scores is reasonably varied, suggesting differences in the participants' ability to adequately reflect the logical structure of the
source text. These differences merit further observation through examining the effect of each of the independent variables, namely, age, sex, work experience, UK stay, IELTS score and exposure to text analysis. However, it has to be noted that due to the small sample sizes in some data categories, much of the analysis that follows has only a small effect size and is intended to be instructive rather than authoritative.

4.1.4 Data exploration

4.1.4.1 Relation between DM score and the age of a participant

The following graph illustrates the correlation between a participant's age and their DM score:

Graph 2. Correlation between participants' ages and their DM scores

From a brief glimpse at Graph 2 there appears to be a reasonably wide spread of the data that indicates that there is little correlation between age and DM score. However,
there is a small bit of clustering indicating that there may be an effect. A correlation test
was then carried out and correlation was found to be very low.

4.1.4.2 Relation between DM score and the sex of a participant

In order to determine whether the sex of the participant has any bearing on their DM
score, the mean scores of males and females were compared.

Graph 3. A comparison of mean scores according to the sex of the participant

As can be seen in Graph 3, males and females appear to achieve almost identical mean
scores, which suggests that the sex of a participant has no significant effect on their DM
score. There was a greater difference in the males' standard deviation though, indicating
that there were more men performing at disparate levels compared to females. No
statistical significance was found.

4.1.4.3 Relation between DM score and a participant's length of stay in the UK
The next independent variable to be considered against participants' DM scores is the length of their stay in the United Kingdom.

Graph 4. A comparison of mean scores according to length of stay in the UK

As observed in Graph 4, participants who, at the time of the experiment, had been in the UK for a period longer than six months appear to perform slightly better in their DM scores than those whose stay in the UK was shorter than six months. However, a $t$ test reveals that the effect of a participant's length of stay in the UK is not statistically significant: ($t(16) = -1.38$, sd = 2.39, $p = 0.19$).

4.1.4.4 Relation between DM score and a participant's work experience

The next independent variable to be examined against the participants' DM scores is whether or not they have had previous translation work experience. Graph 5. illustrates the relationship between the two variables:
Graph 5. A comparison of mean scores according to translation work experience

Graph 5. shows that previous work experience as a translator appears to confer a slight advantage as the DM scores of participants who reported having worked as translators before are slightly higher than those of participants who have not. However, the results of a \( t \) test demonstrate that the effect of previous work experience is not statistically significant: \( t(16) = -1.38, \text{sd} = 2.39, p = 0.19 \).

4.1.4.5 Relation between DM score and a participant's IELTS score

Since none of the above independent variables appears to have any substantial effect on the participants' performance as regards their DM scores, it was assumed that their English language proficiency scores were likely to be an overriding factor in their ability to comprehend implicit logical connections in a text, as represented by their DM score.
In order to facilitate comparison, it was decided to divide the participants into two categories: 'advanced' if their IELTS score was seven or above, and 'intermediate' if their score was below seven. Graph 6 illustrates the relationship between English proficiency and DM scores:

Graph 6. A comparison of mean scores according to English proficiency

Indeed, English language proficiency does appear to have a considerable effect on the participants' DM scores. The $t$ test carried out here supports the effect of English language proficiency observed in Graph 6 as it indicates a fairly high statistical significance compared to the other variables: ($t(16) = 2.70, sd = 2.10, p = 0.016$).

In order to look at the effect of this variable in further detail, DM scores were grouped into three categories: 'Poor' if a participant's DM score was within the range (0 – 3), 'good' if it was within the range (4 – 7) and 'excellent' if a participant scored anything within the range (8 – 11):
As can be seen in Graph 7, within the 'advanced' group, the majority of the scores were in the 'excellent' category, while half as many participants in this category produced 'good' discourse marker scores, and there were no 'poor' scores. By contrast, in the 'intermediate' group, most of the participants scored within the 'good' range, a relative few produced 'excellent' discourse marker scores, but just as many fell into the 'poor' category.

4.1.4.6 Relation between DM score and a participant's training

As stated earlier, the aims of this study include determining the effect of being exposed to a text-analysis approach to translation in the classroom on a person's ability to comprehend implicit logical connections between ideas. The next graph compares the DM scores of 'exposed' and 'non-exposed' participants:
Graph 8. A comparison of mean scores according to exposure to text analysis

Graph 8 illustrates the effect of exposure to text analysis in the classroom, as 'exposed' participants appear to achieve higher DM scores compared to the 'non-exposed' group. While the \( p \) value in the \( t \) test carried out here does not quite reach statistical significance (\( t(16) = 1.97, sd = 2.27, p = 0.066 \)), it is very close, which could be taken to indicate that if the experiment was repeated with a larger sample size, a more significant result might be obtained. The \( t \) test result still serves as an indication of a positive trend in the data regarding the effect of exposure to text analysis, which is further clarified in the following graph:
Graph 9. Frequency of DM scores according to exposure to text analysis

Graph 9 shows us that participants who have received training in text analysis as part of their translation course appear to produce an equally high frequency of 'excellent' and 'good' DM scores, and no 'poor' scores. As concerns participants who had not received any such training in their translation courses, while they do seem to produce a few 'excellent' scores, these is matched by an almost identical frequency of 'poor' scores.

4.1.4.7 Relation between DM score and a combination of the proficiency and exposure variables

Having noted the significant effect of English language proficiency, and the almost-significant effect of exposure to text analysis, it is now important to consider the effect of the combined variables of language proficiency and exposure to text analysis on the participants' DM scores. With this purpose in mind, participants were divided into four categories: advanced & exposed, advanced & non-exposed, intermediate & exposed, intermediate & non-exposed:
As can be seen in Graph 10, both advanced and intermediate participants who have received training in text analysis appear to achieve a higher mean DM score than those who have not received any such training. Notably, 'intermediate & exposed' participants perform considerably better than participants from the 'intermediate & non-exposed' category, and are even ahead of those in the 'advanced & non-exposed' category.

A $t$ test could not be applied in this case due to the small numbers of participants in some of the categories, which would have led to a false conclusion. However, Graph 10 should nonetheless serve as an indication of the effect of exposure to text analysis on a participant's DM score, indicative of their ability to correctly interpret the implicit discourse relations which make up the logical structure of the source text.
4.2 Qualitative translation-process analysis

Having carried out an overall translation-product-based statistical data analysis, we now turn to the translation process. We proceed to an analysis of the transcripts obtained from the think-aloud protocols and the subsequent retrospective interviews. Each transcript will be looked at against the corresponding translation product for each of the participants, in an attempt to locate patterns of inferential processing, related to the interpretation of implicit discourse relations.

4.2.1 Preliminary remarks

4.2.1.1 Participant groups

The analysis will be structured around the four participant groups (see Graph 9), which represent the four combinations of the two variables: English proficiency and exposure to text analysis, found in the statistical analysis to have a bearing on a participant's DM score. The groups are:

1. Intermediate & Non-Exposed
2. Intermediate & Exposed
3. Advanced & Non-Exposed
4. Advanced & Exposed

First, an intra-group analysis will be carried out. This should reveal whether there exist any significant differences among participants who belong to the same group, with regard to the inferential processes they employ – or fail to employ - in the comprehension of implied discourse relations. The detailed look at individual performances within each group will be followed by a more general appraisal of the performance of the group as a whole. This should provide us with an overall perspective on translation performance across the four analysis categories. The purpose of this phase of the data analysis is to clarify whether the differences in translation performance observed across the four groups are matched with differences on the level of inferential processing carried out by the participants. This should, in turn, shed more light on the nature of the role played by the two variables under scrutiny, namely:
English proficiency and exposure to text analysis, in relation to a participant's comprehension of implied discourse relations.

Due to space constraints, and given the high number of unsignalled discourse relations contained in the text used for the experiment, this portion of data analysis will only concentrate on the following text extract:

'But it is Mr. Miliband who is failing to be serious. The fact is that in recent years UK carbon dioxide emissions have been rising, not falling. The Government's current strategy is not working'

The main reason for choosing the above sequence of sentences as a fair representation of a participant's performance is that it occurs almost halfway through the text. As protocol transcripts indicate, this appears to be the part around which participants produce the most thorough and verbose protocols. A possible explanation for this could be that, at the start of the experiment, participants tend to get nervous either because they feel uncomfortable or because they are still unsure of what they are supposed to be doing, so they are slightly hesitant in their verbalisation. Likewise, towards the end of the experiment, participants tend to get tired and, consequently, verbalise less of their processes and produce relatively under-representative protocols. This is especially the case given the length of the text used, and the demanding nature of the method of data elicitation employed.

4.2.1.2 Presentation of examples in the data

The performance data belonging to each participant will be presented in the following order: First, the participant's translation into Arabic of the text extract under scrutiny will be reproduced. A back-translation into English will be provided next, in which any DMs introduced by the participant will appear in italics and boldface to make them more readily identifiable. This will allow the reader to appreciate any resulting changes in the discourse structure of the target text. Following this, extracts from the respective participant's think aloud protocol and retrospective interview will be presented. As mentioned earlier, participants were given the freedom to express their thoughts in either Arabic or English, or to switch back and forth between the two languages if they felt it was more comfortable to do so. Accordingly, any think-aloud protocol or
retrospective interview extracts featured in the data analysis will be either translated from Arabic or reproduced in English, depending on the language they were originally expressed in.

Since participants' think-aloud protocols do not always touch upon DMs, or hint at comprehension problems related to the lack of them, the extracts presented will be restricted to those that are relevant to the purposes of this study, excluding any references to glossary look-ups, grammar or word-order issues even if these pertain to the portion of the text chosen for analysis.

Finally, participants will be identified as P1, P2, P3, … P18, and their identification will be added between brackets after each of their respective translation, verbal protocol and retrospective interview transcripts.

**4.2.1.3 Back-translation of Arabic DMs 'fa' and 'enna'**

Before embarking on an in-depth analysis of the participants' translations and their respective think-aloud protocol transcripts, it is important to explain and justify an exception made with regard to the translation into English of two Arabic DMs: namely, 'fa' and 'enna'.

As Saeed & Fareh (2006) rightly point out, DMs rarely have exact equivalents, and there is usually no one-to-one correspondence between DMs in different languages (Saeed & Fareh, 2006:20). It became apparent when attempting to back-translate the participants' Arabic translations into English that this cross-language DM mismatch is particularly problematic in the case of the elusive, heavily-context-dependent marker 'fa'. Therefore, in the interest of accuracy, 'fa' was not translated into English. Instead, it was kept as 'fa', along with a clarification of its function in each of its occurrences, as defined in Saeed & Fareh (2006) (see section 2.4.6.2).

The second DM that will be presented without translation is the sentence-initial connector 'enna'. While 'fa' can sometimes prove difficult to translate into English, 'enna' is even more problematic to approximate in terms of its function (see section 2.4.6.3). As in the case of 'fa' above, in the interest of accuracy, 'enna' will be preserved as 'enna' wherever it appears in the data.
4.2.1.4 The sample extract

As indicated earlier (see section 4.2.1.1), due to space constraints, the analysis will only focus on the sequence of sentences reproduced below:

1)
   a) But it is Mr. Miliband who is failing to be serious.
   b) The fact is that UK carbon dioxide emissions have been rising, not falling.
   c) The Government's strategy is not working.

There are two instances of unsignalled discourse relations to investigate in (1): the implicit discourse relation holding between (1b) and (1a), and that between (1c) and (1b). Based on the rhetorical structure analysis carried out earlier (see section 4.1.2), (1b) is presented as evidence for the statement made in (1a), while (1c) is to be taken as a result that follows from (1b).

It is important to clarify that the rhetorical structure analysis carried out on the text is meant for descriptive purposes only. No claim is made at this point to the effect that the rhetorical relations proposed to hold between the different parts of the text either reflect a psychological reality in the writer's mind, or that their conscious recognition as such on the part of the reader strictly constitutes an element of their comprehension process. The analysis is simply viewed as a clear, straightforward manner of representing what is going on in the text in terms of discourse relations, in order to facilitate comparison with participants' translations. As Mann and Thompson (1987) point out, Rhetorical Structure Theory looks at texts primarily from the analyst's point of view, and is intended to provide 'a linguistically useful method for describing natural text' (Mann & Thompson, 1987: 1).

We now proceed to analyse the participants' translation performance as reflected in their verbal protocol and retrospective interview transcripts. We begin the analysis with the 'Intermediate & Non-Exposed' category.
4.2.2 Analysis of the 'Intermediate & Non-Exposed' category

This group consists of English-Arabic translation trainees who, at the time of the experiment had achieved an IELTS score ranging between 5.5 and 6.5, and had had no exposure to text analysis as part of their postgraduate translation course. Five participants were grouped under this category according to their profiles. The participants will be identified as P1, P2, P3, P4 and P5.

The translations produced by the five participants of the sequence of sentences in (1) (see section 4.2.1.4) are listed below:

2) [But Mr. Miliband was not serious at all] (causal) the fact is that UK carbon dioxide emissions have risen in recent years and not fallen as he pointed out in his policy. Therefore the government's policy is not working.] (P1)

3) [But Mr Miliband failed at being serious] (causal) the fact is that carbon dioxide emissions have risen in recent years in the UK] (explanatory) the government's current strategy has not worked.] (P2)

4) [But it is Mr Miliband who lacks seriousness] (causal) the fact is that in recent years UK carbon dioxide emissions have risen and not fallen and the government's current policy has not worked.] (P3)

5) [But Mr Miliband was not serious. The fact is that UK carbon dioxide emissions have been at an increase and not the opposite.] (P4)
But Mr Miliband at the same time lacks seriousness. In reality Britain's production of carbon dioxide has increased in the current years and will not fall. The government's current strategy has not worked.] (P5)

The examples above reveal some similarities in the participants' translations as regards the evidence relation in (1b). With the exception of P4 and P5 who chose to leave this relation unsignalled, P1, P2 and P3 decided to signal it through the use of 'fa'.

The treatment of the result relation in (1c), by contrast, varies significantly from one participant to another. While P1 chose to signal this relation with an explicit 'therefore', P2 decided to signal it with 'fa'. P3, by contrast, linked (1c) to (1b) with 'and', while P4 and P5 appear to have reproduced the structure of the English source text, without introducing any DMs.

Besides comparing the translations, it is interesting to observe how the five participants arrived at them, and whether the similarities and differences in their target texts reflect similarities and differences in their think-aloud protocols.

4.2.2.1 Participant 1

The first translation performance to look at is that of P1. He produced the following concurrent verbalisation:

7) 'The fact is that in recent years. This is a new sentence. We can't leave it as a new sentence. Fa the fact is. For example the fact is. Yes, fa the fact is. […]

The government's policy is not working. If we leave it as it is the meaning won't be conveyed. Therefore! Therefore the government's policy is not working' (P1)

The protocol transcript clearly shows that P1 is aware of the requirement to provide DMs in Arabic, hence his comment 'if we leave it as it is the meaning won't be conveyed'. The above verbalisation suggests that he recognised the unsignalled
discourse relations implied in (1b) and (1c) and incorporated them in his translation in the form of DMs 'fa' and 'therefore' respectively.

Interestingly – and conveniently for the purposes of the research - before revising his translation P1 explicitly states that he needs to check whether it is 'cohesively and coherently OK'. When asked to clarify in the retrospective interview, he explains:

8) 'It depends on sentence length and complexity. Sometimes you put 'and' in Arabic and when you read it a second time you replace 'and' with 'despite', 'accordingly' or 'as a result'. If the sentences are difficult you spend a long time thinking about the words when you are producing the first draft. When you produce the second draft, you can take into consideration the context and the text as whole, and you try to make your sentences suitable to that' (P1)

He adds that, generally, a translator tends to connect sentences automatically, especially if one is translating into his native language, but he stresses the prerequisite to 'really understand' the text, in order to be able to make the correct choice of what he calls 'link word':

9) 'In Arabic we tend to link sentences automatically. Link words come out naturally, but when you really understand a sentence you can use link words that are more eloquent. Things like 'and' and 'fa' come out naturally' (P1)

When asked if he thought that adding DMs has any effect on the reader's comprehension of the text, he exclaims:

10) 'Of course! If you leave sentences as they are the reader will not understand the text properly' (P1)

What is interesting is that, although P1’s signaling of discourse relations achieves an adequate degree of interpreting resemblance with the source text, he quite clearly fails to do that for the rest of the translation. First, he translates (1a) as 'But Mr. Miliband was not serious at all', which constitutes a misinterpretation of the writer's communicative intention as it suggests that the environment secretary did not really mean his statement: 'No one seriously believes binding annual targets are a serious way
forward'. This translation inadequacy may be due to the participant's insufficient English proficiency and unfamiliarity with either cleft sentences or the difference between 'being serious' as in 'not joking' and being serious as in 'giving something the importance it deserves'. However, also at play here is the implicit assumption conveyed by the sentence 'But it is Mr. Miliband who is failing to be serious', this being:

11) 'and not those who think that binding annual targets are a serious way forward'

The recognition of the implicature (11) is necessary for the retrieval of contextual effects which would make (1a) optimally relevant. It is possible that it is P1's failure to do so is what prevents him from conveying the writer's communicative intention in his translation of this sentence. Similarly, his translation of (1b) also fails to convey an adequate interpretive resemblance, as he adds the phrase 'as he pointed out in his policy', which is nowhere in the source text and factually wrong.

It would appear that, in his attempt to make the reader 'understand the text properly', he bypasses linguistically encoded information and draws on his own contextual assumptions to conclude that the environment secretary had previously indicated that UK carbon dioxide emissions were falling. In making explicit this mistaken assumption in his translation, P1 causes the reader to derive the erroneous contextual effect that Mr. Miliband is deliberately misleading the public. While the writer is clearly critical of the secretary's policy, his criticism does not amount to calling him a liar.

Even though the above observations do not pertain directly to the issue of DMs, they do nonetheless offer a glimpse into the participant's inferential processes involved in the deduction of implicatures in general, and, as such, cannot be ignored. P1's protocol transcripts reveal a heavy reliance on contextual assumptions, to the point of overriding linguistically encoded information. This is reflected in his translation as a clear tendency to explicate which, although it lets him down in his translation of (1b), must have helped in the identification of unsignalled discourse relations, judging by this participant's high discourse marker score of 9.

Given that P1 belongs to the 'Intermediate & Non-Exposed' category, it could be said that the ability to employ inferential processes to comprehend implicatures in general, and unsignalled discourse relations in particular, is independent of language proficiency.
and exposure to text analysis. But, from a look at his profile, it emerges that he has worked as a translator at two separate companies for a period of fourteen months, mostly translating correspondence. Although the statistical analysis showed that professional translation experience has no significant effect on DM scores overall, it would appear that, in the case of P1, professional experience as a translator may have had a role to play. Having been directly involved and responsible for ensuring successful communication in a company may be why he puts such emphasis on the requirement for the reader to 'understand the text properly'. It is conceivable that his awareness of the reader may have sensitised him to the importance of providing DMs in the translation in order to facilitate comprehension.

In relevance-theoretic terms it could be said that P1 perceives the explication of unsignalled discourse relations as a necessary adjustment to the cognitive environment of the text receiver, in order to give him access to whatever parts of contextual information are needed for consistency with the principle of relevance. In the same vein, his awareness of the necessity to 'take into consideration the context and the text as whole' in choosing the correct DM, shows that he is conscious of the role played by inferential processing in the recovery of the writer's communicative intentions with regard to implied discourse relations. This is manifested in his transcripts, which demonstrate a clear reliance on the notion of interpretive resemblance, consistent throughout the translation task.

4.2.2.2 Participant 2

Similarly to P1, P2 chose to signal (1b) with 'fa'. As opposed to (P1), however, P2 used 'fa' again to signal (1c). She produced the following verbal protocol:

12) '[…] fa the fact is that in recent years UK […] enna the fact is that carbon dioxide emissions have risen in recent years. Maybe there's no need for 'not falling' […] enna the government's strategy has not worked (5 seconds) fa the government's strategy has not worked. Good' (P2)

The transcript shows that, in deciding which connector to use in both (1b) and (1c), P2 tries out the two Arabic connectors 'fa' and 'enna'. She quickly settles for 'fa' in the first instance but, when it comes to the implicit discourse relation in (1c), she appears to be
slightly more hesitant. First she sounds out 'enna' but, after a five-second pause she decides to go for 'fa'.

Although P2 commends her choice of connector as 'good', by introducing 'fa' to (1c) she instructs the reader to construe 'the government's strategy has not worked' as further evidence to strengthen the proposition in (1a), i.e., that Mr. Miliband is failing to be serious. Saying that the government's strategy 'has not worked' instead of 'is not working' lends further credence to this assumption as it lacks the immediacy conveyed by the source text sentence 'the government's strategy is not working', thus potentially contributing to a mistaken interpretation by the reader of (1c) as further evidence for (1a). In the source text, by contrast, (1c) is presented as a conclusion to the proposition in (1a) along with its evidence in (1b).

Within the framework of Relevance Theory, it could be said that by introducing the DM 'fa' in her translation of (1b) and (1c), P2 restricts the various ways in which these two propositions could have been related to the reader's contextual assumptions, therefore imposing a constraint on their relevance. In the first instance, the use of 'fa' is in line with the communicative intentions of the writer. Its use in (1c), however, is not as it fails to convey an adequate degree of interpretive resemblance with the source text.

Also inadequate is her translation of 'failing to be serious' as 'failing at being serious', which suggests a mix-up between the meaning of 'failing at' as 'not succeeding at something' and 'failing to' as simply 'not doing something'. The resulting expression in Arabic is as awkward as it is incorrect. However, she does not seem to take notice of this. Moreover, she omits 'not falling' in her translation of the sentence (1b), which takes some of the emphasis away, and consequently falls short of recovering all the communicative clues conveyed by the sentence. Her protocol transcript reveals that this was a deliberate choice on her part but she does not give any further details as to her reasons for so doing.

Although her concurrent verbalisation hints at an awareness of the requirement to connect sentences in Arabic, during the retrospective phase of the experiment, P2 does not comment explicitly on this issue.
13) 'I didn't translate literally. I used free translation. Some things I omitted, others I paraphrased. [...] I tried to be as faithful to the source text as possible. I mean I tried to convey the ideas, not necessarily word-for-word, just the ideas' (P2)

Her remark 'I tried to convey the ideas, not necessarily word-for-word, just the ideas' could, however, be taken as indicative of some degree of inferential processing having taken place in order to enable her not to 'translate literally'. Interestingly, at the end of her interview, she mentions having read extensively on the topic of global warming as a matter of personal interest. This, she says, is why she found the text 'fun to read' and 'not difficult'. Being informed should facilitate ready access in her cognitive environment to the contextual information necessary for a successful recovery of implicatures, including unsigned discourse relations. Despite this, she achieves a fairly poor discourse marker score of 5. Furthermore, several other non-DM-related inadequacies were observed in her translation, suggesting a wider comprehension problem that goes beyond the issue of unsignalled discourse relations. As observed earlier, her protocol transcript does offer evidence of a certain degree of awareness of the necessity to provide DMs. However, it is not clear whether she is equally aware of the effect that using different kinds of connectors can have in terms of the communicability of the resulting translation. It could be that her decision to provide DMs does not extend beyond her concern to produce a stylistically appropriate Arabic text. In the absence of further evidence form either her verbal protocol or retrospective interview transcripts, it is not possible to ascertain whether this was indeed the case or not. Based on available evidence though, and, since her profile places her in the 'Intermediate & Non-Exposed' group, it could be suggested that her comparatively low English proficiency, coupled with a lack of access to a text-analytical approach to translation, may be hindering her comprehension of the English text. Similarly to P1, this participant also appears to have had previous experience as a translator. She mentions having worked as an assistant in a well-known translation agency back in her country of origin, where she dealt mostly with what she refers to as 'technical' texts. Contrary to P1, however, she does not appear to have benefited from her professional translation experience, at least as far as her treatment of unsignalled discourse relations is concerned. The fact that translation experience was found to have no apparent effect on the performance of this participant coincides with the general findings of the statistical analysis, which attach no significance to this variable.
4.2.2.3 Participant 3

As far as P3 is concerned, this participant chose to use 'fa' for (1b) and 'and' for (1c). Her choice of 'fa' is in line with the connector decisions made by the previous two participants. She does, however, differ from them in her choice of 'and' for (1c).

It should be noted that P3 initially misunderstood the requirement to translate while thinking aloud. Her understanding was that she was being asked to perform an on-sight translation, without producing a written text. Assuming that this was how she normally translated, the researcher did not interrupt until the participant announced that she had finished, not having written a word. This called for an exception to be made in her case, and the experiment had to be repeated. However, the data obtained from the initial verbalisation was not discarded but was transcribed and analysed along with that obtained from her second try. Surprisingly enough, although P3 was the only participant for whom the experiment instructions were not sufficiently clear and who, as a consequence, had to repeat the experiment twice, she was the quickest of all eighteen participants as she completed the translation in a record time of 45 minutes.

With regard to the text extract under scrutiny, in her first attempt P3 limits herself to linking practically all sentences with 'and', to the exclusion of any other connector, in a way that suggests that she is merely complying with Arabic style conventions by preserving the continuity or flow of the text. It is not until she sets out to write the translation that she starts to introduce some variation in her choice of DMs. This is illustrated in the verbalisation reproduced in (14), which belongs to P3's second attempt:

14) 'and the fact is that in recent years carbon dioxide emissions have been rising 

   and the government's strategy has not worked [...]. Fa in recent years UK 

   carbon dioxide emissions have risen and the Government's policy has not 

   worked' (P3)

From the protocol transcript it can be observed that she first tests the sound of 'and' for both (1b) and (1c), after which she settles for 'fa' and 'and' respectively. As verbalised in (14) and similarly to what was observed in (12) in the case of P2, this participant appears to be aware of the necessity to provide a DM in the Arabic text, but it is not clear whether this is anything more than a response to the connecting constraint that
Arabic style imposes. In other words, the verbal protocols belonging to P2 and P3 do not give any indication as to whether the provision of DMs by either of these two participants is motivated by, say, a concern for the reader to understand the text, as was the case of P1's protocol transcript in (7).

Nevertheless, and indeed predictably, the choice of DMs is not without its consequences in terms of the reader's understanding of the translation. While using 'fa' in the first instance is in keeping with the communicative clues intended, i.e.: that (1b) is to be interpreted as evidence to support the proposition in (1a), the same cannot be said of the use of 'and' in (1c). By introducing 'and' she puts (1c) on a par with (1b) which causes (1c) to be taken by the Arabic reader as a second piece of evidence for (1a), rather than a conclusion, as intended by the writer. A weak interpretive resemblance with the source text emerges as a result.

The assumption that P3 is supplying DMs purely to produce a stylistically appropriate Arabic text is partly confirmed by her retrospective interview remarks. During the interview she mentions in passing that she is doing her MA research project on 'The Seven Standards of Textuality' (de Beaugrande & Dressler, 1981). This presents the researcher with an opportunity to ask her whether she had kept those in mind when translating the text, in the hope that she would bring up DMs in her response. She does, which allows for further questions. However, in answering these, she does not give any explanation as to why she had decided to connect sentences beyond the statement 'I had to connect'. Upon further insistent questioning as to the reasons behind this obligation to connect, she gets impatient at what she clearly perceives as the researcher's ignorance of a plainly self-evident fact and exclaims: 'Because Arabic is different!'. However, just a few moments later she appears to lose confidence in her translation as she says with hesitation:

15) 'Actually, this is just the way I translated it. I don't know necessarily why but (5 seconds) it just seems more connected, more organized. That's just what I did.' (P3)

As in the case of P2, P3's similarly low DM score of 4 could be taken as a manifestation of her insufficient mastery of the English language, in addition to her lack of exposure to text analysis. Unlike P2 however, apart from the many inadequacies in the
representation of unsignalled discourse relations, her target text includes almost no examples of major mistranslations. This suggests that her problem may not reside so much in the comprehension of implied discourse relations as much as in giving expression to these in the form of an explicit DM. It could be that, in her concern to comply with Arabic style conventions she focuses her attention exclusively on composing a stylistically acceptable, 'more connected, more organised' Arabic text, to the detriment of ensuring interpretive resemblance with the source text. Unlike both P1 and P2, this participant has had no previous translation experience.

4.2.2.4 Participant 4

As far as P4 is concerned, this participant's translation of (1b) presents us with the first case so far of an unsignalled discourse relation kept exactly as it is. He does, however, use 'enna' in (1c), which, although it does not contribute so much to connectivity, it plays a significant role in conveying communicative intentions, as will be explained.

P4's corresponding protocol transcript is reproduced below:

16) 'But Mr. Miliband did not really care but Mr. Miliband was not serious […]. In reality UK carbon dioxide emissions have been at an increase and not the opposite. This sentence looks prettier this way in Arabic. 'not the opposite' is a clear indication to the fact that it was not a decrease, but an increase. […] Enna the government's strategy is not working' (P4)

As can be seen from a look at the protocol, P4 offers no explanation as to why he leaves (1b) unsignalled, or indeed as to whether this constitutes a conscious choice on his part or not. The same applies to his choice of 'enna' for (1c). His remark 'this sentence looks prettier this way' is more likely to be referring to his decision to replace 'and not falling' with 'and not the opposite'. This is a departure from the source text which he does justify as being an equally 'clear' reference to the source text meaning. As in the case of P1, he mistranslates 'But it is Mr. Miliband who is failing to be serious' as 'But Mr. Miliband was not serious'.

Reading this participant's translation, what becomes evident at first glance is the disjointed effect in Arabic of leaving (1b) unsignalled. Writing style conventions aside, viewed from a Relevance-Theory perspective, P4's decision not to provide a DM here leaves the reader with no explicit guidance as to the inferential route he is to take in
order to arrive at the writer's intended interpretation, that is, of (1b) as evidence for (1a). To say this is by no means to suggest that without a DM at this junction the reader would be at a complete loss to recover the writer-intended interpretation. Indeed, as postulated in Relevance Theory, implicatures vary in the degree of strength with which they are communicated (see section 2.2.5). In other words, the more essential a particular assumption is to establishing the optimal relevance of an utterance, the more strongly that particular assumption is communicated or implicated. This means that, assuming, for the sake of argument, that (1a) was adequately translated, the absence of a DM in (1b) may not have presented a comprehension problem as such. The reader may have been perfectly able to derive the implicated contextual assumption that (1b) constitutes evidence to support (1a), though at a higher cost of processing. By contrast, the use of 'fa' in (1b) - as in the case of the previous three participants – not only complies with the stylistic requirement to connect sentences in Arabic, but also considerably reduces the cost of processing necessary to derive said implicature, thereby facilitating the recovery of the writer's intended message.

On the other hand, the choice of 'enna' for (1c) could be seen as more in line with the writer's communicative intentions. As explained earlier (see section 2.4.6.3), 'enna' is a rhetorical devise which signals the commitment of the text producer to the proposition it prefaces by affirming its truth value, and hence is generally used with the intent to convince. As such, although it does not facilitate the derivation of a contextual implication to the same extent as the use of 'therefore' by P1 does, it still gives (1c) the degree of emphasis it requires as one of the main points that the writer is trying to get across in the text. At the same time, 'enna' does not impede the reader from going down the inferential route necessary to construe (1c) as an implication; it just does not explicitly instruct him to do so. Nonetheless, though prefaced with 'enna', (1c) does not flow smoothly from (1b) but rather sounds like the beginning of a new paragraph. This is because 'enna' does not act as a sentence connector by itself. Like in the case of (1b) above, (P4)'s decision to use 'enna' in (1c) contributes to the general sense of disjointedness that characterises this participant's translation.

As regards the retrospective phase of the experiment, although most of the interview questions are open-ended questions designed to encourage the participant to talk, P4’s comments were brief and of a very general nature. Indeed, compared to the previous three participants, P4 was a lot less willing to discuss his translation. Despite several
prompts his answers remained steadfastly monosyllabic. In fact, P4 was visibly tense and ill at ease throughout the whole experiment, and this is one of the few aspects that he does actually comment on during the interview:

17) 'To be honest with you, if this hadn't been my first experience with the think-aloud protocol, it would have been easier. [...] but I got better at thinking aloud once I got used to it' (P4)

Despite the fact that every care has been taken to ensure that participants feel relaxed and comfortable during the experiment, it is inevitable that some participants will still find the experience stressful. This is largely to do with the participant's personality (see section 3.3.1.2) and it has obvious consequences in terms of the quality of both the translation and the think-aloud protocol. It is not possible to determine whether (P4) would have achieved a higher DM score than that of 3, had he performed the translation without the requirement to think aloud. He does point out that his translation is 'just a draft' but, when asked about the kinds of changes he would need to make in the final version, he only mentions having to replace vocabulary items with more 'accurate' ones. This suggests that he sees no problem in either the disjointedness of his Arabic text or the incorrect representation in it of the source text's discourse relations, and is merely concerned about providing more precise terminology. As we saw in the case of P3, P4's translation does not contain any outstanding examples of meaning distortion with the exception of an omitted sentence halfway through the text, which is most probably an oversight. This suggests that his low DM score may be a reflection of a difficulty to express implied discourse relations by means of a DM, rather than a more general comprehension problem. Unlike P3, however, this participant does not seem to be concerned about, or indeed even aware of, the requirement to link sentences in Arabic. In the light of his comments regarding his uneasiness during the experiment, it could be proposed that thinking aloud may have interfered with his translation performance by shifting his attention away from producing a stylistically appropriate Arabic text. However, even after having had the opportunity to revise the translation in silence, P4 fails to notice that the Arabic text he has produced lacks connectivity. This participant does not report having had any previous translation experience.
4.2.2.5 Participant 5

The last remaining participant in the 'Intermediate & Non-Exposed' group is P5. This participant leaves both (1b) and (1c), and indeed all discourse relations in the text except for one, unsignalled. As is the case for most of P4's translation, the effect is a stylistically awkward, disjointed Arabic text. Below is the verbal protocol produced by this participant:

18) '[…] fa the government's plan has not worked […] let's say and the government's strategy has not worked. The government's strategy or the government's current strategy has not worked' (P5)

P5's protocol transcript reveals that leaving (1c) unsignalled by a DM is a seemingly conscious decision on his part. As he goes through his translation options, he initially gives 'fa' a try, then he tries 'and'. In the end, he does not settle for either of them and leaves (1c) without a DM altogether. He does not produce a concurrent verbalisation to explain why he did the same with (1b).

As indicated earlier, P5's translation immediately stands out as a gapped, awkward-to-read Arabic text, reminiscent of some Internet translations into Arabic of foreign language articles, which are clearly unedited and rushed-through in order to meet a deadline. If we look past that for a moment, and consider the text and its corresponding verbalisation from a Relevance Theory viewpoint, P5's inability to retrieve the communicative clues, at least as far as (1c) is concerned, becomes evident. This is because neither of the two DMs that he briefly considers reflects a correct reading of the writer-intended interpretation of (1c) as an implication. As in P4's rendering of (1c), this participant's translation does not hinder the inferential process necessary for the reader to construe (1c) as an implication. However, the absence of a DM does deprive the reader of an important cue that would have made it easier to arrive at the intended cognitive effects without expending any gratuitous processing effort. This same applies to P5's translation of (1b), as well as to the rest of his Arabic target text. Unlike P4 though, P5's translation contains several instances of incorrect translation which, in some cases, go as far as meaning inversion. This points to a wider comprehension problem which extends beyond the difficulty to correctly interpret implied discourse
relations. Nevertheless, when asked if he had understood all the ideas presented in the English text he replied:

19) 'Oh yeah, it's easy' (P5)

Furthermore, even after having revised his translation in silence P5 does not seem to pay attention to the fact that the Arabic text he produced does not flow but rather sounds like a sequence of titles. He does say that he is not entirely happy with his translation but, when asked what he would change about it, his answer does not remotely hint at the issue of connectivity. When he mentions having to 'add or omit things', it is unlikely that he is referring to DMs but rather to pieces of contextual information that have to be either added or omitted in order to ensure interpretive resemblance with the source text. In his words:

20) 'If I had longer I would have left the translation to come back to it later and make some changes. [...] I would have checked the Internet to make sure that when I add or omit things I'm not going off topic. This is more or less a literal translation' (P5)

Interestingly, P5 offers the following seemingly Relevance-inspired comment:

21) 'Unfortunately, the translator only has one brain to think with. He should have two or three: one for him, one for the writer and one for the reader' (P5)

P5's metaphor of a translator with three brains demonstrates that he is aware of the requirement for the translator to bear in mind that there may be differences between the cognitive environment of the text producer, that of the text receiver, and his own; and of the role of inferential processing in establishing and bridging these. Given his previous remarks regarding adding or omitting things, it is clear that P5 is conscious of the fact that sometimes it is necessary to make adjustments to the cognitive environment of the text receiver, in order to give him access to whatever parts of contextual information are needed for consistency with the principle of relevance. However, P5's three-brain image does not appear to apply to the provision of DMs as he leaves nearly all discourse relations in the text unsignalled, thus achieving an exceptionally low discourse marker score of just 1.
Contrary to P4, P5 appeared to be comfortable and relaxed throughout the experiment. However his retrospective interview comments suggest otherwise:

22) '[I felt] pressure. It was like an exam. Sentences should be re-expressed' (P5)

It is conceivable that the exam-like pressure P5 felt under may have interfered with his translation process, perhaps even to a greater extent than the very nature of the experiment may have affected everybody else. However, the purpose of asking each participant to revise their translation in silence is precisely to draw their attention to whatever may have eluded them during the think-aloud phase of the experiment. As can be gathered from his retrospective remarks, P5 does not suggest that thinking aloud has interfered with his ability to comprehend the text in general, hence his comment 'it's easy'. Similarly, he does not seem to take note of what is a strikingly disjointed Arabic text beyond calling it a 'literal translation'. Rather than the requirement to think aloud, it seems more likely that the pressure he is talking about is that of time. Even though the experiment instructions do not set any time limits, some participants tend to think that they are taking longer to translate the text than they expect is normal, and so set their own time limits. Others quite simply have other engagements to get to and want to finish quickly.

Given P5's profile as a participant of intermediate English proficiency who has had no training in text analysis and, in the light of the data gathered from his protocol and retrospective interview transcripts, it could be proposed that one or both of these variables may have had an effect on his translation. Insufficient English proficiency is clearly behind his general comprehension problem. On the other hand, lack of access to a text-analysis approach to translation may be why, despite being aware, in theory, of the requirement to ensure interpretive resemblance with the source text, he does not apply this to implied discourse relations.

4.2.2.6 Summary of the group's performance

As we can see, the translation-process analysis carried out on this group points to different approaches in the participants' treatment of unsignalled discourse relations. At
the same time, many similarities have also been observed, from which a processing pattern can be said to emerge.

It is possible to draw parallels between aspects of the performance of the members of this group and the characteristics posited in the literature as associated with non-professional translators (see section 3.2). First, the protocol transcripts obtained from this group reveal a form-oriented approach to translation (Lörscher, 2005) characterised by one-to-one word-level relationships (Lee-Jahneke, 2005), with most reported problems being related to issues of lexical transfer. This applies in varying degrees to all the members in this group, with the notable exception of P1, whose translation process is in many ways indicative of a fair amount of translation expertise and is, as such, distinctly uncharacteristic of the group he belongs to.

P1's attention to cohesion, and to the well-formedness of the target text as whole is undoubtedly professional-like (Jääskeläinen and Tirkkonen-Condit, 2005). Similarly, his protocol reveals frequent monitoring of the emerging target text over the course of the translation (Lörscher, 1991; 2005). Self-monitoring is an important aspect associated with translation expertise, and one which was not observed in the case of the remaining four participants in this category. Their protocols, by contrast, reveal very infrequent target-text checkups, except with regard to the areas found to be particularly problematic, and even in these cases, monitoring was restricted to ensuring lexical equivalence. As a result, their translations contain several instances of awkward expression that they fail to notice, even though it is their mother tongue they are translating into.

The size of the units of translation which the participants divide the source text into is another important indicator of the degree of translation expertise (Lörscher, 2005; Gerloff, 1988; Séguinot, 1989). Here, P1's performance converges with that of the rest of the group. The units of translation managed by this group were generally found to be rather on the small side, i.e., the participants worked with one clause, phrase, or even word at a time, which conforms to what one would expect to find in the case of non-professional translators. Even in the case of P1, although he was concerned with the text as a whole, he lingered significantly on the meaning of individual words and phrases, which is perhaps why his think-aloud protocol lasted a comparatively long hour-and-forty-six minutes.
Moreover, the use to which this group put the glossary provided for them is reminiscent of the use of dictionaries by the novice translators in Gerloff's (1988) and Tirkkonen-Condit's (2005) studies. Without exception, the protocols belonging to the participants in this group revealed an overreliance on the glossary, which they resorted to, and clung to for answers, as soon as they were faced with a vocabulary item they did not comprehend, instead of trying to deduce the meaning from the context (Tirkkonen-Condit's, 2005).

As far as the treatment of implied discourse relations is concerned, a fairly obvious processing pattern can be observed across all participants in this category. The exception, again, is P1. Excluding P1, the protocol and retrospective interview transcripts collected from this group appear to point to a general awareness of the *stylistic* requirement to provide explicit sentence connectors in their native Arabic. However, this awareness does not extend beyond what seems to be a blind, mechanical compliance with a connecting requirement, an attitude best represented by P3’s remark ‘I *had* to connect (...) because Arabic is different!’. In varying measures, DMs are added in, but the protocols are noticeably lacking in any consistent indications of an awareness of the effect of DM choice on the *communicability* of the translation. P4 and P5 are at the extreme end of this trend, as they appear to be oblivious even to the stylistic connecting requirement.

The resulting awkward, slightly disjointed, and, in some cases, stylistically unacceptable Arabic texts produced by the majority in this group are largely ignored by the participants owing, perhaps, to what Lörscher (2005) describes as an inactive target text monitor. As explained earlier (see section 3.4.1.6), the experiment setup includes a revision phase, in which participants are free from the requirement to think aloud, so that they are able to concentrate and assess their translation product as a text. Nevertheless, the vast majority do not pick up on the disturbed flow in their Arabic texts, caused by the underuse, or absence, of DMs.

The same cannot be said of P1, whose protocol transcript stands in marked contrast to those produced by the remaining four participants in this category. This participant does display an awareness of both the stylistic constraint to connect, and of the major role played by DMs in communicating the source text message. Unlike the rest of the group,
P1 constantly monitors his target text, precisely to make sure it is 'cohesively and coherently OK'.

It is interesting to note that almost all five participants hint at an awareness, not only of the importance of conveying the communicative intention of the source text writer, but also, more importantly, of the impediments to achieving this, given the differences between the cognitive environment of the target text, and that of the source text, receivers (Gutt, 2000; 2005; 2008). Examples include comments such as 'If you leave sentences as they are the reader will not understand the text properly' (P1), 'I tried to convey the ideas, not necessarily word for word' (P2), and 'Unfortunately, the translator only has one brain to think with. He should have two or three: one for him, one for the writer and one for the reader' (P5). Nevertheless, for the most part, the attitudes expressed in these comments do not appear to inform the participants' decisions regarding the explication of implied discourse relations.

Because the translations produced by three out of the five participants grouped under this category did not contain any instances of striking, non-DM-related, translation errors which could be indicative of a general comprehension problem, it was tentatively assumed that the overall low DM scores obtained could be the result of a deficient ability to interpret implicit discourse relations. However, the largely-inadequate translations produced by both P2 and P5, which in some cases amount to meaning inversion, make manifest a more widespread comprehension issue.

It is also important to remember that two out of the five participants, P4 and P5, reported feelings of pressure and uneasiness, brought on by the demands of thinking aloud. While it is entirely expected that the nature of the experiment employed may affect the performance of participants, it is also recognised that this effect can be greater on some people, due to individual differences in aspects such as predisposition to stress (see section 3.3.1.2). Accordingly, it is conceivable that P4 and P5's translation performance was hindered by the data collection method, to a greater extent than the rest of the participants. However, as indicated earlier, their retrospective comments are devoid of the remotest reference to any issues related to discourse relations, even as regards their answers to the question: 'What would you change in your target text if you had the opportunity to go over it again?'.

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In light of the data gathered from their protocol and retrospective interview transcripts, and given their profile as participants of intermediate English proficiency who have had no training in text analysis, it could be proposed that one or both of these variables could have had an effect on the translation performance of the members of this group. The transcripts indicate that insufficient mastery of the English language could be behind the comprehension problem observed in the case of most participants, with regard to the interpretation of implied discourse relations. On the other hand, lack of access to a text-analysis approach to translation may be why, despite being aware, in theory, of the requirement to ensure interpretive resemblance with the source text, they do not appear to apply this understanding to the explication of implied discourse relations. In fact, most of the translations produced by this group bring to mind Jensen & Jakobsen's (2000) image of subjugation to the 'tyranny' of the source text, evident mainly in aspects related to text structure.

4.2.3 Analysis of the 'Intermediate & Exposed' category

This group consists of English-Arabic translation trainees who share with the previous group an IELTS score ranging between 5.5 and 6.5. Contrary to the previous 'Intermediate & Non-Exposed' group, the translation trainees in this category had been exposed to a text-analysis approach to translation, as part of their postgraduate translation course. Four participants were grouped as 'intermediate & exposed' according to their profiles. The participants will be identified as P6, P7, P8 and P9.

Listed below are the translations by the four participants of the text extract under scrutiny (see section 4.2.1.4):

1. And enna the government's strategy has proven to be not effective. [But Mr. Miliband himself lacks seriousness. And in reality carbon emissions have risen and not fallen in the last few years. And enna the government's strategy has proven to be not effective.] (P6)

2. And enna the government's strategy has proven to be not effective. [But Mr. Miliband himself lacks seriousness. And in reality carbon emissions have risen and not fallen in the last few years. And enna the government's strategy has proven to be not effective.] (P6)
[But the one who really seems not serious is Mr. Miliband given that during recent years UK carbon dioxide emissions were rising and not falling. And if we refer to the government's strategy we find that it is not working as it should.] (P7)

[But it would seem that the environment secretary himself is unable to take this matter seriously. And the evidence for this is that carbon emissions in the UK lately are at an increase and not at a decrease. Fa (resultative) the result is that the government's current strategy is not successful.] (P8)

[But is it possible for such remarks to come from Mr. Miliband who lacks seriousness? Fa (causal) the truth is that the UK has witnessed in the last years an increase in carbon dioxide emissions rather than a decrease. Enna the current method followed by the government is not effective.] (P9)

As opposed to what we saw in the pervious group, the examples belonging to this group reveal striking differences among the four participants' translations of the text extract in (1) (see section 4.2.1.4). With regard to the evidence relation in (1b), while the previous group's DM choices were largely homogenous, each participant in this group went for a different DM. They chose 'enna', 'given that', 'and the evidence for this is' and 'fa' respectively. The same applies to the treatment of the result relation in (1c), with the choices being 'and enna', 'and if we refer to', 'fa the result is' and 'enna'.

Having compared the translations, it is now necessary to consider how the four participants arrived at them, and whether the differences in their target texts reflect differences in the translation processes that gave rise to them, as reflected in their think-aloud protocol transcripts.
4.2.3.1 Participant 6

We begin with P6, who produced the following verbalisation:

5) 'But it is Mr. Miliband who is failing to be serious. 'but'? Why 'but'? […] and in reality carbon emissions have risen […] The government's strategy is not working. Oh. (3 seconds) Aha! We're criticising the strategy. And enna the government's strategy has proven to be not effective' (P6)

From a look at his protocol transcript, it becomes clear that P6 finds (1a) problematic, hence his question 'why 'but'?' He then proceeds to add 'and' and 'and enna' in (1b) and (1c) respectively, without giving any indication to the thought processes that led to this choice of DM. What the protocol does reveal quite clearly, and this is through the exclamation 'Aha! We're criticising the strategy' is that, up until this point in the text, P6 was not entirely sure about the writer's position as regards the government's tackling of the climate change issue. His confusion earlier regarding (1a) and the idea of Mr. Miliband failing to be serious is at the root of his comprehension problem since understanding (1a) is crucial to understanding the writer's position.

Based on this, from a Relevance-Theory perspective, it is possible to say that P6 fails to recognise the implicit discourse relation in both (1b) and (1c), and consequently, fails to convey the communicative intention of the source text writer in his translation. This is corroborated in his retrospective interview, where he explicitly states that the English text has ‘no good connections’, which clearly shows that his inferential processing fell short of recovering them:

6) 'I found some areas in the English text where there were no good connections between sentences such as 'but it is Mr. Miliband who is failing to be serious'. Is 'but' here referring to the previous paragraph or just to the last sentence in the previous paragraph? Is it referring to the next paragraph? I expected to find a comma followed by an explanation as to why he is failing to be serious. Instead I found a full-stop followed by a new sentence, which was completely different from the previous one' (P6)
Listening to P6's protocol recording suggests that the DMs he added in (1b) and (1c) were the product of a conscious decision on his part because in both instances he pronounces the DM emphatically as he writes it down. In fact, 'and' seems to be P6's DM of choice for most of his translation. However, as the retrospective interview reveals, this is a choice he is not entirely happy with:

7) 'There is a series of sentences all beginning with 'and' (chuckles) I don't like 'and'. I think I have to replace the connector ‘and’ with other connectors […] It sounds boring, repetitive' (P6)

Aside from having produced an Arabic text, which, by his own admission is 'boring' and 'repetitive', P6's insistence on using 'and' to link sentences to the exclusion of other DMs fails to convey interpretive resemblance with the source text. In the case of (1b), rather than instructing the reader to go down an inferential route that would allow the recovery of an implied evidence relation, prefacing (1b) with 'and' seems to encourage the reader to construe (1b) as an additional piece of information, unessential to establishing the relevance of (1a).

Similarly, the use of 'and' in (1c) weakens the clout 'enna' alone would have lent to the proposition expressed in this sentence. As explained earlier (see section 2.4.6.3), 'enna' is a rhetorical device which emphasises the truth value of the sentence it introduces and is generally used with the intent to convince. Adding 'and' to 'enna', however, ties (1c) to (1b) as a second piece of additional information, and therefore, constitutes a move away from the writer's communicative intention for the reader to interpret (1c) as a contextual implication. Although his translation largely fails to comply with the requirement of interpretive resemblance with the source text, P6 affirms that this was precisely his intention:

8) 'When I was translating the target reader was on my mind […] Is [the text] acceptable to them? Do I need to modify the sentence? More explanation? Do I need to omit or add some words [to make sure the text is] understandable and digestible for the reader? […] I think of the lay person. Not the intellectual reader or Arabic linguist' (P6)
At first glance, it would seem that he is merely obeying the connecting constraint that Arabic imposes, solely as a matter of stylistic appropriateness. However, when he is asked in his interview whether he believes that adding DMs such as 'and' has any bearing on the reader's comprehension of the text, he says he does, and that he therefore 'cannot just end a sentence with a full stop and just carry on'.

As a member of the 'Intermediate & Exposed' category, although P6 seems aware of the importance of 'good connections' in a text, what this analysis shows us is that the effect of exposure to text analysis appears to be restricted to improving awareness of the role of connectors in making the text 'digestible' for the Arabic reader. In this particular instance, however, this awareness does not appear to influence his translation.

It should be borne in mind that P6 was critical of his translation and that he clearly stated that he would need to replace some of his 'and's with alternative DMs. It remains a possibility that, had he had the opportunity to go over it again in his own time, the communicability of his translation may have been significantly improved. However, a look at the remainder of his protocol transcript reveals that the text presented P6 with various comprehension problems. These may be due to insufficient English proficiency, coupled with poor background knowledge on the topic of climate change, two factors which, predictably, were bound to continue to affect his treatment of unsignalled discourse relations, even if he had the extra time.

4.2.3.2 Participant 7

As regards P7, this participant chose to represent the unsignalled evidence relation in (1b) with the addition of 'since', and the result relation in (1c) with that of the phrase 'if we refer to'. P7's corresponding protocol transcript is reproduced below:

9) 'But the one who really seems not serious is Mr. Miliband. Why? The fact is that UK carbon dioxide emissions have been rising not falling. OK then, let's say, instead of 'the fact is', we say 'since' or 'given that' […]. We can't start with 'the government's strategy'. OK, let's not translate literally and say 'if we refer to the strategy'. Let's paraphrase a little […]. Let's be a bit more talkative. If we refer to the strategy we find that it is not working as it should. Alright, it's not really there in the text but hey, it's an addition' (P7)
It should be noted that P7 was one of the most relaxed participants, who seemed completely at home with the idea of thinking aloud while she translated. Compared to other more reserved, rigid protocols, P7's verbalisation sounds rather like care-free chitchat. Indeed, when asked whether she had found the experiment awkward, she replied that it was not particularly difficult for her to translate and think aloud at the same time because this is what she normally does when she 'really gets into it' and 'loses herself' in the translation. Nonetheless, she said, trying to verbalise each and every thought might have taken away some of her concentration.

From the protocol transcript it can be observed that once she reads (1a) she asks herself the question 'why?', key to determining the rhetorical place of (1b) in the text, as evidence to support the proposition in (1a). It is the realisation that (1b) is an answer to this question that prompts her to consider 'given that' and 'since' as possible discourse markers for it, and finally settle for 'since'. When it comes to (1c), she does not give us as clear an indication as to the thought processes that led to adding the rather verbose 'if we refer to' beyond saying 'we can't start with 'the government's strategy'. This can be interpreted as an awareness on her part that she cannot just launch into sentences but that there is a stylistic requirement to connect them to each other in written Arabic. This is confirmed in the following comment from her retrospective interview:

10) 'In Arabic we have connectors such as 'enna', 'since', 'fa', 'given that'; which I don't think have equivalents in English. When it comes to Arabic we can't help using them [...] If we don't, the Arabic text will read as a translation' (P7)

Beyond style conventions, her announcement 'let's paraphrase a little' could be taken as hinting at a realisation on her part that (1c) is not clear enough as it stands and that it requires modification, otherwise there would be no need to paraphrase. On the other hand, 'let's be a bit more talkative' and 'It's not there in the text but, hey, it's an addition' reflect a laidback attitude on her part towards introducing changes in the target version if these are believed to be necessary. This, she justifies with her conviction that:

11) 'Translation is not about matching words for words; it's about matching sense for sense' (P7)
Viewed from a Relevance-Theory perspective, it could be said that P7 perceives the explication of unsignalled discourse relations as a necessary adjustment to the cognitive environment of the text receiver, in order to give him access to certain parts of contextual information that would otherwise escape him, but which are essential for consistency with the principle of relevance. In her interview she describes taking the reader by the hand as it were, guiding him through the 'mysteries' of the text:

12) 'I was leading the reader, showing him or her what relation there is between sentences, [a relation that] may be mysterious without using these connectors' (P7)

While her choice of 'since' for (1b) is consistent with the writer's communicative intention, as it explicitly guides the reader to interpret (1b) as evidence to support (1a), the same cannot be said of her addition of the lengthy phrase 'if we refer to' to introduce the proposition in (1c). Far from facilitating the recovery of a contextual implication, this latter choice on the part of P7 cues the reader to construe (1c) as an additional, ancillary, piece of information, so much so that the resulting translation into Arabic sounds almost like 'Oh, and talking of the government's strategy, it is not working'.

A detailed look at the rest of P7's translation reveals a clear tendency to explicate. This is also reflected in her protocol transcripts and her interview remarks which also demonstrate an awareness of the role of inferential processing in the recovery of the writer's communicative intentions with regard to implied discourse relations:

13) '[...] we guess from the context that there is a relation [between one sentence and another]' (P7)

Although P7 achieves a fairly low DM score of 5, her protocol transcript shows a clear reliance on the notion of interpretive resemblance, consistent throughout the translation task. However, judging from her translation of (1c) for example, this is a rather loose notion of interpretive resemblance. It would seem that her concern to 'lead' the reader drives her to rely to a large extent on her contextual assumptions, sometimes to the point of neglecting more explicitly encoded information. Aside from a major mistranslation at the beginning of the text, which the protocol clarifies is merely a lapse of attention, P7's translation is largely adequate. Compared to P6, her choice of DMs is
significantly more varied, which makes for a more stylistically appropriate Arabic text. However, in some instances, she appears to sacrifice the requirement of interpretive resemblance for stylistic beauty, leaving out of her Arabic text whatever seems to interrupt the flow. This could be a possible alternative explanation for why, despite the fact that the patterns of inferential processing hinted at in her protocol and retrospective interview transcripts predict a high DM score, her target text falls short of achieving that.

4.2.3.3 Participant 8

Similarly to P7, P8 chose rather lengthy phrases to represent unsignalled discourse relations. As opposed to P7, however, his choice of DM for both (1b) and (1c), though overly explicit, reflects an adequate reading of the writer's communicative intentions. He produced the following concurrent verbalisation:

14) 'But it is Mr. Miliband who is failing to be serious. I see. We have something different here. This is the writer's opinion. [...] The fact is that carbon dioxide emissions have been rising. 'the fact is' means 'the evidence for this is' [...] The government's strategy is not working. Fa (3 seconds) I see. This is a result. Erm, So the government's strategy is not. So? Enna? So the government's current strategy? Fa the result is that the government's current strategy is not successful. OK' (P8)

P8's protocol transcript provides a good glimpse into his thought processes, which reveals that part of his comprehension of a text is based on making a distinction between what is news reporting and what is the writer's opinion with regard to the piece of news. Interestingly, after his realisation that 'this is the writer's opinion' his DMs become progressively more explicit, suggesting that getting across the writer's argument is perceived by P8 as warranting more involvement on his part with regard to the clarification of discourse relations. The above verbalisation demonstrates that he successfully recognised the unsignalled discourse relations implied in (1b) and (1c) and incorporated them in his translation in the form of DMs 'the evidence for this is' and 'fa the result is' respectively.
While the introduction of 'the evidence for this is' in (1b) is seemingly a straightforward decision, adding 'fa the result is' in (1c) appears to require more reflection. However, his assertion 'this is a result' suggests that the purpose of the extra consideration is not so much to determine what the discourse relation is but rather to decide which DM is best for representing it. As he points out in his retrospective interview, establishing - and clearly naming - the type of discourse relation before giving expression to it through the use of a DM is a feature of P8's general approach to translation:

15) 'I try to link sentences. For example, If a sentence offers an explanation or a justification for a previous sentence, then I make that clear' (P8)

In Relevance-Theory terms, it could be said that by introducing the DMs 'the evidence for this is' and 'fa the result is' in his translation of (1b) and (1c) respectively, P8 quite explicitly restricts the various ways in which these two propositions could have been related to the reader's contextual assumptions, therefore imposing a rather strict constraint on their relevance.

In the first instance, the addition of the phrase 'the evidence for this is' is an overt instruction for the reader to construe the proposition in (1b) as evidence to strengthen the proposition expressed in (1a). Introducing (1c) with 'fa the result is' is a similarly obvious instruction as it literally announces to the reader that what is coming is a result.

In addition to complying with the stylistic requirement to connect sentences in Arabic, P8's representation of unsignalled discourse relations through the introduction of, sometimes very explicit, DMs, heavily reduces the cost of inferential processing necessary to derive such implied relations, thereby facilitating the recovery on the part of the reader of the writer's intended message. In fact, P8's degree of explicitness leaves very little work for the reader's inferential processes, an explicitness he affirms is indispensable because without it:

16) 'No, no, no, [the connection] won't be clear. It'll just look like fragmented sentences, that are unrelated to each other […]. It'll look like I'm going in a certain direction and then suddenly I turn around and go the opposite way with no explanation' (P8)
He goes on to say that, sometimes, what he refers to as the 'connection' between two sentences is not sufficiently clear at first read. So, whenever he is faced with an unclear discourse relation he puts a question mark where the DM should go and waits until he has read the whole text one more time. It is not until he is certain that he has correctly identified a discourse relation that he ventures to add in a DM.

As a member of the 'Intermediate & Exposed' group, P8 seems acutely aware of the necessity to provide DMs, an awareness which he affirms, he always had. However, having been recently introduced to text-analysis as part of his postgraduate translation course, his approach to translation has changed. Previously, he explains, his focus was solely on producing an 'honest' translation, in the sense of 'faithful', whereas now his priority is to produce a 'communicative' translation. The use to which he puts DMs has also changed accordingly, in order to serve the communicability of his translation. The importance he now ascribes to the communicative quality of translation is obviously behind his general tendency to explicate. This tendency, combined with a largely successful recovery of the source text's communicative clues through inferential processing, has guaranteed P9 a significantly high DM score of 9.

4.2.3.4 Participant 9

The last translation performance to analyse within the 'Intermediate & Exposed' category is that of P9. This participant opted for 'fa' to represent the discourse relation in (1b), and added 'enna' to his translation of (1c). His corresponding verbal protocol was as follows:

17) 'But it is Mr. Miliband who is failing to be serious. But is it possible for such remarks to come from Mr. Miliband who lacks seriousness? […] The fact is. It's better to change this sentence […] Fa the reality is that the UK has witnessed an increase in carbon emissions […] Enna the method followed by the government is not effective. It's fine like this' (P9)

The above verbalisation suggests that P9 recognised the unsignalled discourse relation implied in (1b) and incorporated it in his translation in the form of DM 'fa'. It is unclear whether the 'change' that he refers to in his remark 'It's better to change this sentence' actually refers to the addition of 'fa', since the rest of the protocol reveals that he
considers several alternative word-order options in his translation of (1b). As regards the introduction of 'enna' in (1c), P9's verbalisation does not offer any clues as to his motives for doing so, but his comment 'It's fine like this' suggests that he is reasonably happy with his translation.

As we saw in the translations of many of the members of the previous group, 'fa' is a fairly popular choice for (1b), and one that adequately represents the writer's communicative intention at this point in the text. In P9's translation, the use of 'fa' guides the reader to construe (1b) as evidence for (1a), thus placing a constraint on its relevance, by restricting the various ways in which it could have been interpreted. The use of 'enna' in (1c), on the other hand, does not go all the way in conveying interpretive resemblance with the source text. Again, as seen in the case of other participants who made a similar choice - notably P6 from this group - 'enna' does not precisely facilitate the interpretation of (1c) as a contextual implication. While it is true that persuasive 'enna' makes an emphatic point out of (1c), it still leaves it largely up to the reader to derive the now weakened implicature of (1c) being a contextual implication. Moreover, what 'enna' certainly does not contribute to is the connectivity of the Arabic text. In the absence of a more connection-oriented DM, (1c) sounds less like a result of what was mentioned before it, and more like a new idea that should have its own separate paragraph.

While P9's treatment of unsignalled relations in the text extract we are looking at is, to an extent, conducive to recovering the writer's communicative intentions, his translation of (1a) is plainly not. P9's translation of 'But it is Mr. Miliband who is failing to be serious' as 'But is it possible for such remarks to come from Mr. Miliband who lacks seriousness?' constitutes a stark, unwarranted departure from the source text. This may have stemmed from a difficulty to render into Arabic the structure of an English cleft sentence, which, as we have seen, other participants with insufficient English proficiency have also found to be problematic. Given his subsequent comment 'It's better to change this sentence', it seems reasonable to speculate that P9 felt equally compelled to change (1a) into what he may have perceived as a more eloquent Arabic expression. The result is a translation that is far removed from the meaning of the source text and self-contradictory, because what it is effectively saying is: 'How could Mr. Miliband say such a thing when he lacks seriousness?'.
The previous mistranslation is one of several other non-DM-related inadequacies observed in P9's translation, which seem to point to a wider comprehension problem, possibly a manifestation of his insufficient mastery of the English language. When asked if he had found any parts of the text particularly difficult to understand he replied:

18) ‘I understood all of it’ (P9)

What he does mention having had difficulty with is the experiment itself. He explains that, because this was his first experience with a think-aloud protocol, he was a little overwhelmed by it and found it slightly challenging to translate and think aloud at the same time. When asked if he thought his translation performance was affected as a result, he said that having to think aloud made it more difficult to translate because he ended up concentrating more on verbalising his thoughts than on the translation task.

In response to the retrospective interview question about whether he was happy with his translation, P9 was keen to point out that his target text was only the first of many drafts he would produce, as a matter of course, before settling on a much-improved final version. When asked in what aspects this final version would differ from the present draft, he replied that it would contain more 'links' such as 'fa' or 'and' to mark the 'progression of ideas'. These, he had only been able to supply in some parts of the text because 'they need to be given a lot of thought'. Nonetheless, he did not seem to think that their absence from the rest of the text would affect a reader's understanding of it, although the reader might be critical of the lack of 'links' between sentences.

It is not possible to determine whether P9's average DM score of 6 would have been higher had he performed the translation without the requirement to think aloud. As gleaned from his retrospective interview, providing more indicators of the progression of ideas appears to be at the top of his list of changes to make in his draft translation. It therefore remains a possibility that, had he had the opportunity to calmly go over his translation as many times as he wished to, the communicability of the latter may have been significantly improved.

As in the case of P6, although P9 has studied text analysis as part of his postgraduate translation course, he still appears to struggle with a difficulty to express implied
discourse relations by means of a DM, which, as indicated earlier, may be rooted in a
deficient English language ability.

4.2.3.5 Summary of the group's performance

Contrary to what we saw in the case of the previous group, who coincided in their
choice of a rather limited repertoire of DMs, the members of the 'intermediate &
exposed' group employed a wider, more varied, range of DMs in their translations.
Where they did coincide with each other, to a large extent, is in their approach to the
source text, which reflects a considerable number of shared features.

The performance analysis carried out on this group exemplifies many of the
observations made by translation-process analysts, with regard to indicators of
professional translation performance (see section 3.2). For example, the data from the
think-aloud protocols clearly shows that the participants in this group have a propensity
to paraphrase (Lee-Jahnke, 2005; Jensen & Jakobsen, 2000), which allows for an
autonomy of expression in the target text largely lacking in the translations of the
previous group. In fact, this group appear to have no reservations about introducing
significant changes to the target text, if they believe them to be necessary.

The use of comprehension aids is another area where this group's performance differs
considerably from that observed in the case of the previous group. Rather than rely on
the glossary entries, the participants in this group tended to use the glossary mainly as
source of inspiration, to refine, rather than strictly dictate, their translation decisions,
suggesting a more confident attitude (Fraser, 1996b). Their glossary use corresponds to
a general sense-oriented approach (Lörscher, 2005), dominated by deductive, inferential
processing.

Another important aspect in which the performance of this group diverges from the
general processing pattern noticed in the previous group is the extent to which they
monitor the target text during the course of the translation to ascertain that it is
stylistically appropriate (Lörscher, 1991; 2005). Also high, in comparison with the
previous group, is the number of evaluative comments contained in their think-aloud
transcripts, with regard to the quality of their target text (Tirkkonen-Condit, 2005).
As tends to be the case, there is a participant to whom the overall trend does not apply in equal measure. Although his treatment of discourse relations is different, P9's translation performance exhibits, in some respects, the non-professional-like qualities observed in the transcripts of the previous group. For example, although he is clearly alert to stylistic inadequacies in his target text, he cannot be said to follow a sense-oriented approach in his translation, as individual words appear to take up much of his attention.

As regards the treatment of implied discourse relations, again, many differences set the performance of this group apart from that of the previous group, and appear to form a distinct processing pattern. In considering the think-aloud protocol and retrospective interview transcripts produced by this group, it becomes evident that its members are aware, not only of the stylistic requirement to connect sentences in Arabic, but also of the major role played by DMs in communicating the source text message. Although their DM choices are not always conducive to enhancing the communicability of their translations, they are invariably the outcome of a deliberate, conscious decision. This aspect of the group's performance is in clear contrast with the almost involuntary obedience to a stylistic connecting constraint observed in the previous group.

Also contrasting with the 'intermediate and non-exposed' group is an analytical approach to the source text noticed in this group's protocol transcripts, as regards the rhetorical purpose or intention of its various parts. It is this type of analysis that appears to inform the participants' DM choices, an approach exemplified in statements such as 'I try to link sentences. For example, if a sentence offers an explanation or a justification for a previous sentence, then I make that clear' (P8).

In fact, P8's performance provides a clear illustration as to how central this analytical approach is to the comprehension, and expression, of implied discourse relations. His retrospective remarks reveal that he does not introduce a DM until he has clearly established the discourse relation he intends to make explicit. Moreover, this participant makes a point of distinguishing the text parts that constitute unbiased news reporting, from the statements that feature the writer's personal opinion. He clearly views the latter as demanding more involvement on his part, in the form of explicit DMs which unequivocally signal the writer's standpoint.
A further distinction that can be made concerns the constant attention given by the participants in this group to the appropriateness of the target text. Their protocol transcripts contain a significant number of references to the issue of implied discourse relations requiring explication, which suggests that they are attuned to this aspect of the translation. For example, P7 justifies her addition of DMs with the explanation: 'I was leading the reader, showing him or her what relation there is between sentences'. However, awareness of this issue does not always guarantee successful management of implied discourse relations, as illustrated in P6's complaint that the source text was difficult to understand because it had 'no good connections between sentences'.

At the centre of their treatment of implied discourse relations is a concern for the reader reported by all the members of this group, who concur as regards to the need to introduce certain modifications in the target text to adapt it to the requirements of its potential readership. This attitude manifests itself in a tendency to explicate, which, in some cases, leads to unwarranted departures from the source text. P7 provides clear examples of this, including her breezy remark: 'It's not there in the text but, hey, it's an addition'.

It is worth mentioning that P9 described having felt uncomfortable during the experiment, as a result of his unfamiliarity with the think-aloud method, a factor he believes to have affected his performance. However, unlike the two participants in the previous group who reported similar feelings, P9 does mention a more extensive use of DMs as one of the changes he would make to his translation, if given the chance. The same applies to P6, who criticises his translation as 'boring', 'repetitive' and badly in need of alternative DMs. The transcripts belonging to both of these participants provide evidence of a general comprehension problem that extends beyond the issue of implied discourse relations.

All things considered, it can be safely concluded that the text-analysis approach to translation that this group has been exposed to as part of their postgraduate course appears to confer an advantage in terms of raising awareness of the DM issue. The transcripts make evident a recognition on the part of all four participants of the requirement to introduce explicit DMs as a necessary adjustment to the Arabic reader's cognitive environment. However, while exposure to text analysis may have sensitised
the members of this group to the idea of DMs, it cannot be said to have had an equally palpable effect on all of them when it came to putting it into practice.

Despite their training, P6 and P9 still struggle with a difficulty to express implied discourse relations. Given that these two participants appear to have encountered several other non-DM-related comprehension problems, it seems reasonable to assume that, as in the case of the previous group, their comprehension issues may be rooted in a deficient English language ability. As opposed to the previous group, however, P6 and P9 seem to possess a higher level of metapragmatic awareness (Kasper, 1997), evident, for example, in their consciousness of the existence of communicative intentions beyond the printed words on a page. They also appear to have a clear idea of what constitutes an 'ideal' translation and, in this regard, they can be said to be equipped with a 'sense of correctness' (Hansen, 2003) that allows them to give feedback to themselves.

4.2.4 Analysis of the 'Advanced & Non-Exposed' category

The third group consists of three translation trainees whose postgraduate courses did not include a text-analysis component. Contrary to the two groups we have looked at so far, the participants classified in this category had achieved an above-average IELTS score ranging between seven and eight. Below are the translations produced by the members of this group, who will be referred to as P10, P11 and P12.

1. ولكن السيد ميليباند هو، على ما يبدو، تستنفر الجهود بسبب الحقيقة الثابتة بأن نسبة انبعاث غاز ثاني أكسيد الكربون أخذت بالازدياد وليس بالنقصان وخاصة في السنوات الأخيرة في بريطانيا. فالاستراتيجية الحالية للحكومة لم تعد تتفع.

[But Mr. Miliband, it would seem, lacks seriousness because of the established fact that carbon dioxide emissions have been rising and not falling, particularly in the last few years in Britain. Fa (explanatory) the government's current strategy is no longer effective.] (P10)

2. لكن عدم الجدية تأتي من السيد ميليباند. و في الواقع فإن نسبة انبعاث غاز ثاني أكسيد الكربون في بريطانيا قد ارتفعت في السنوات الأخيرة ولم تهبط. إن الاستراتيجية الحالية للحكومة ليست ناجحة.

[But the lack of seriousness comes from Mr. Miliband. And in reality carbon dioxide emissions in Britain have risen in the last years and not fallen. Enna the government's current strategy is not successful.] (P11)
But what seems to be a major failure for Mr. Miliband is that the UK currently witnesses an increase in carbon dioxide emissions and not a decrease as he mentioned. \textit{Fa (explanatory) the government's current strategy is not working.} [P12]

A quick glance at the examples belonging to the present group reveals a fairly similar inclination towards introducing changes in the target text to what we saw in the case of the previous group. The first example taken from (P10)'s translation presents us with the first use of 'because of' to represent the evidence relation in (1b). By contrast, (P11) chose to link (1b) to (1a) with 'and', while (P12) decided to rearrange and merge (1a) and (1b) into one misinterpreted idea. With regard to (1c), the DM choices were not dissimilar to those of the other groups, with (P10) choosing 'enna' and (P11) and (P12) both going for 'fa'.

4.2.4.1 Participant 10

The first participant in the 'Advanced & Non-Exposed' category is P10. At nearly two hours, P10's stands as one of the longest think-aloud protocols produced by any participant, comparable only to that of P1. However, her protocol was characterised by frequent, prolonged pauses, which called for intervention on numerous occasions on the part of the researcher. The verbalisation presented below is an example of one such occasion, where the participant fell silent for two minutes, prompting the researcher to interrupt:

4) 'But it is Mr. Miliband who is failing to be serious. What? Is he joking then?'

(She munches on biscuits in silence for two minutes)

Researcher: 'Can you explain what you're thinking about now?'

(P10): 'I'm thinking about how to put this in Arabic. The established fact is that carbon dioxide is rising and not falling so, is the secretary joking then?'

(P10)

Initially, as can be observed in the above transcription, (1a) appears to pose a comprehension problem for P10, as she seems to confuse 'being serious' as in 'not
joking' and being serious as in 'giving something the importance it deserves'. As this participant appeared to be struggling with this particular part of the text and becoming more and more frustrated with herself at not finding an appropriate way to express it in Arabic, the researcher pointed out jokingly that that the experiment was not 'a matter of life or death' and that she should not take it so seriously. Eventually, after a second pause, she resolved the mix-up and delivered a translation of (1a) largely consistent with the writer's communicative intention, though not entirely idiomatic in Arabic. Her translation was accompanied by the following concurrent verbalisation:

5) 'because of the established fact that carbon dioxide emissions have been rising and not falling, particularly in the last few years in Britain [...]. The government's strategy is not working. But the government's strategy is not working. Fa enna the government's strategy is not working. Fa the government's strategy is not working' (P10)

As can be observed in (5) above, P10's protocol transcript does not clarify her reasons for choosing 'because of' in the first instance, resulting in a slightly awkward translation of (1b), in which 'because of' suggests a relationship of causality between the fact that carbon emissions are rising and Mr. Miliband's lack of seriousness. It is not clear whether this choice on the part of P10 necessarily constitutes a misinterpretation of the writer's communicative intention. It could also be that her inadequate choice of 'because of' is the result of a difficulty to express a discourse relation. Either way, rather than facilitate access to the intended contextual effect of (1b) being a piece of evidence to support (1a), 'because of' imposes unnecessary additional processing effort on the reader before he is able to establish the relevance of (1b). In other words, the writer's communicative intention is still recoverable, but at higher processing cost.

By contrast, the same transcript in (5) unmistakably points to a misconstruction on the part of P10 of the writer's communicative intention in (1c). In deciding which DM to use here, P10 briefly considers 'but', which suggests that she initially inferred a contradiction between the propositions expressed in (1b) and (1c). She then tries out 'fa enna', and finally settles for 'fa', two choices that essentially denote a discourse relation of evidence. None of the alternatives considered by P10 can be seen as reflecting an adequate degree of interpretive resemblance with the source text, suggesting a failure by this participant to recognise the implied discourse relation at this point in the text.
In attempting to explain this comprehension problem, P10's remarks from her retrospective interview appear to throw some light on what may have caused the difficulty for her:

6) 'At the beginning when I read the text I didn't understand anything [...] It was simple, like, there was not a lot of very difficult or technical words. The topic I know because I've read a lot about global warming but, erm, maybe the style in which it was written? [...] I understand words. Words are not the problem, but how it's all connected, the whole idea' (P10)

P10 is one of few participants who explicitly state implied discourse relations as a source of comprehension difficulties, and perhaps the only one to admit that she 'didn't understand anything' on first read. The above retrospective remarks can be interpreted as an awareness on her part of the necessity to look beyond the words and employ inferential processes in order to work out 'how it's all connected'. She is also aware that communicative intentions or, the 'sense' of the text, can sometimes prove 'elusive':

7) 'You translate on many levels. You have to know what the logic behind [the text] is, what they are trying to say [...] The sense is sometimes more elusive. It's difficult to catch, like a fish' (P10)

When asked to clarify what the different levels that she translates at are, she explains that she first scan-reads the text to get a general idea of what it is about. This is followed by a more scrutinised second read in which she focuses on individual sentences and tries to understand the writer's 'attitude' towards what he is saying. It is this particular 'level' of translation that she appears to have had difficulty with, as can be gathered from her DM choices in the text extract we have looked at, and the processes that gave rise to them as reflected in her corresponding think-aloud protocol. It is conceivable that P10's difficulty to comprehend implied discourse relations may have been exacerbated by the fact that she had had no lunch before taking part in the experiment. This is a factor which should be taken into consideration as it may indeed have had an effect on her ability to concentrate:
8) 'I was hungry! I had no fuel! (laughs). You need energy to engage with the text on all these levels, to understand the words but also what the text wants to communicate' (P10)

Echoing the remarks of other participants, P10 also appears to have found it slightly awkward to think aloud:

9) 'It was difficult thinking aloud. [...]. I'm not sure [if I expressed every thought] but I tried my best. You know, thoughts are quicker than our senses. The ability to express them is much slower than the actual thinking process' (P10)

Her concern over what is essentially a given fact of think-aloud protocols, i.e., that it is virtually impossible to verbalise each and every thought, suggests that she may have dedicated her attention to producing a perfect, thorough, think-aloud protocol, at the expense of the translation. However, the recurrence of long, silent pauses in her protocol reveal that this was not the case.

Despite the difficulties she reports with regard to the comprehension of discourse relations in general, and the low degree of interpretive resemblance conveyed in her translation of the above text extract in particular, P10 goes on to achieve a fairly high DM score of 8.

4.2.4.2 Participant 11

As far as P11 is concerned, his DM choices were 'and' and 'enna' for (1b) and (1c) respectively, and were accompanied by the following verbal protocol:

10) 'But it is Mr. Miliband who is failing to be serious. Let's change this sentence a little. It's a case of foregrounding and backgrounding. But who is failing to be serious is Mr. Miliband. [...] But the lack of seriousness comes from Mr. Miliband [...] and in reality carbon dioxide emissions have risen [...] enna the government's strategy is not successful' (P11)

'Let's change this sentence a little' is as far as the above protocol goes in reflecting the thought processes that led to P11's translation. However, it is unlikely that this comment
could be referring to the participant's DM choices but rather to his decision to restructure (1a) through 'foregrounding and backgrounding'. As opposed to what we saw in the case of previous participants who had made similar DM choices - such as (P6) for example - listening to P11's protocol recording does not give us any further clues as to whether 'and' and 'enna' were the result of a conscious decision on his part or not.

From a Relevance-Theory perspective, P11's use of 'and' in (1b) fails to convey an adequate degree of interpretive resemblance with the source text. Rather than instruct the reader to go down an inferential route that would allow the recovery of an implied evidence relation, introducing (1b) with 'and' is more likely to encourage the reader to construe (1b) as an additional piece of information, unessential to establishing the relevance of (1a).

Not dissimilar is the effect of using 'enna' in (1c), which also falls short of conveying interpretive resemblance with the source text. As seen in the case of other participants who opted for 'enna' here, this DM does not facilitate the recovery of the writer's communicative intention at this point in the text. Although prefacing (1c) with 'enna' gives it a certain degree of emphasis, congruent to an extent with the source text's communicative clues, it still leaves it largely up to the reader to derive the intended interpretation of (1c) as a contextual implication. Moreover, 'enna' interrupts the flow of the text, thus contributing to a general sense of disjointedness that pervades P11's translation. In the absence of a more connection-oriented DM, (1c) sounds less like a result of what was mentioned before it, and more like it a new idea that should have its own separate paragraph.

Based on this, from a Relevance-Theory perspective, one could say that the reason P11 failed to adequately represent the implicit discourse relations in both (1b) and (1c) is because he was unable to correctly identify them in the source text. This explanation, however, does not correspond to P11's profile. Contrary to the rest of the participants, whose stay in the UK ranged between a minimum of one month and a maximum two years, P11 lived in the UK for an extended period of eight years, aged seven to fifteen, during which time he attended a mainstream British school. P11's education background predicts an individual equipped with reading skills typical of a native speaker. However, P11's low DM score of 5 is not what his near-native command of the English language would lead us to expect.
A detailed look at this participant's target text reveals a general compliance with the requirement of interpretive resemblance with the source text, with the notable exception of discourse relations. Indeed, P11's inadequate representation of unsignalled discourse relations stands out in an otherwise near impeccable translation. Also conspicuous is the absence from his retrospective interview answers of even the remotest reference to discourse relations, text connectivity or coherence. However, in response to the question of whether he had found any parts of the text difficult to understand, P11 mentions having stopped at one sentence which he had found 'ambiguous'. Although he does not call it by its name, the ambiguity he refers to is precisely the result of an unsignalled discourse relation. Interestingly, because he 'didn't want to make a mistake', he made a point of retaining the perceived ambiguity in his translation.

As opposed to other participants who were more willing to take a risk, P11 appears to be more cautious when it comes to making explicit his contextual assumptions, notably with regard to explicating implicit discourse relations. This points to an awareness on his part of the consequences of imposing his own interpretation, or, in Relevance-Theory terms, of the potential of modifying the cognitive environment of the target reader, allowing the derivation of a contextual effect unintended by the source text producer. Generally speaking, although his protocol transcript demonstrates that P11 is willing to introduce changes in his translation, he largely follows the source text structure almost verbatim. This does not necessarily tamper with interpretive resemblance in his case, but it does, at points, produce slightly awkward expressions in Arabic.

Given P11's profile, it seems reasonable to suggest that his DM deficiency does not stem from a comprehension problem but rather from a failure to recognise the role that DMs could play in improving - or undermining - interpretive resemblance with the source text, a requirement his transcripts reveal he is sufficiently aware of. In other words, the inadequate representation of discourse relations in P11's translation is indicative of a difficulty, not in understanding these relations, but in expressing them with the help of an explicit DM. In the light of P11's target text, protocol and retrospective interview, it could be proposed that language proficiency appears to play no role in this participant's translation performance with regard to the provision of DMs as a means of enhancing interpretive resemblance with the source text.
4.2.4.3 Participant 12

In contrast to P11, P12 appears to have no qualms about imposing his own interpretation of the source text on the translation. As can be observed in (3), he completely alters the structure of (1a), which he then merges into one sentence with (1b). In translating (1c) he decides to add the DM 'fa'. His concurrent verbalisation was as follows:

11) 'But it is Mr. Miliband who is failing to be serious. Huh? The fact is that in recent years UK carbon emissions have been rising, not falling. I see. But what seems to be a major failure for Mr. Miliband - and now we link the two sentences and we're done - (inaudible) is that is that the UK [...] currently witnesses an increase in carbon dioxide emissions, erm, and not a decrease as he mentioned, even though this is not in the text. I don't know where it came from [...] fa the government's strategy is not working' (P12)

The protocol transcript above suggests that P12 is initially confused by (1a), but he soon clears up the confusion upon reading (1b), judging by his subsequent remark 'I see'. He then proceeds, rather inexplicably, to join (1a) and (1b) into one misconstrued proposition.

What is interesting is that, throughout the rest of his translation, P12's representation of discourse relations achieves a satisfactory degree of interpretive resemblance with the source text, earning him a fairly high DM score of 8. However, he plainly fails to convey interpretive resemblance in his translation of the text extract chosen for our in-depth analysis. First, his translation of 'But it is Mr. Miliband who is failing to be serious' as 'But what seems to be a major failure for Mr. Miliband [...]’ constitutes a misinterpretation of the writer's communicative intention, possibly resulting from a mix-up between the meaning of 'failing to do something' and 'failing at something'. It is tempting to blame this translation inadequacy on insufficient English proficiency, but such an explanation would not correspond with P12's profile. A more plausible account could be that he failed to recognise the implicit assumption conveyed by the sentence 'But it is Mr. Miliband who is failing to be serious', this being:
12) 'and not those who think that binding annual targets are a serious way forward'

The recognition of the implicature in (12) is necessary for the retrieval of the contextual effects which would make (1a) optimally relevant. It is possible that P12's failure to do so is the source of his confusion, and what ultimately prevents him from conveying the writer's communicative intention in his translation of this sentence.

Similarly, his translation of (1b) also fails to convey an adequate interpretive resemblance, as he adds the phrase 'as he mentioned', which, by his admission 'is not in the text'. His comment 'I don't know where it came from' suggests a relaxed attitude towards making explicit his own assumptions, which, in this case, are clearly incorrect.

P12's decision to preface (1c) with 'fa' does not do the writer's communicative intention any favors either. The addition of this DM guides the reader to interpret (1c) as the premise in the writer's argument rather than its conclusion; as an evidence rather than a result, which runs counter to the writer-intended interpretation.

In his retrospective interview P12 explains how he normally goes about translation. His primary concern, he stresses, is to make sure he has produced a 'faithful' translation. He then checks whether he needs to modify the wording of his Arabic text in order to convey the source text message in a way that conforms to the context of the target readership:

13) 'I have to read the minds of the Arabic readers. [...] we have to look at the cultural aspects, social aspects, mentality, background' (P12)

When asked to provide examples of any such modifications, he cites his translation of the text extract under scrutiny. He says that he 'had to' change the structure of the source text 'for the sake of the reader'. The following is a comment by P12 on another similar example in the text, where conveying the source text message entailed introducing the DM 'since':

14) 'Punctuation is a problem. If I put a full stop and then start a new sentence it will look like I have changed the subject. When I say 'since' it is as if I'm linking what was mentioned before to what is coming because what is coming justifies
what was mentioned before [...]. I never commit myself to the punctuation of the English text when I'm translating into Arabic' (P12)

In Relevance-Theoretic terms it could be said that P12 perceives the explication of unsignalled discourse relations as a necessary adjustment to the cognitive environment of the text receiver, in order to give him access to whatever parts of contextual information are needed for consistency with the principle of relevance. However, equally important in P12's opinion is for the target text to be stylistically appropriate so that 'it does not read like a translation', otherwise:

15) '[the readers] will say it was written by someone who didn't go to school' (P12)

P12's protocol and retrospective interview transcripts provide us with a glimpse into the inferential processes involved in his deduction of implicatures in general, and unsignalled discourse relations in particular. The data gathered on this participant's translation performance reveal a clear reliance on contextual assumptions, to the point of overriding linguistically encoded information. This is reflected in his translation as a tendency to explicate which, although it backfires in his translation of our sample extract, must have helped in the identification of unsignalled discourse relations, judging by this participant's fairly high DM score of 8.

4.2.4.4 Summary of the group's performance

Similar observations can be made in the case of this group to what we saw in the 'intermediate & exposed' category, regarding a varied use of DMs across participants. However, also varied are their individual approaches to the translation task, making it more difficult in this case to trace a uniform processing pattern.

With the notable exception of P11, the protocol transcripts collected from this group seem to point to many of the processing features attributed in the literature to professional translation (see section 3.2). For example, there is evidence to suggest a definite inclination to paraphrase (Lee-Jahnke, 2005; Jensen & Jakobsen, 2000), with the translations obtained from this group featuring a similar degree of autonomy of expression to that observed in the previous group. Not unrelated is a predominantly sense-oriented approach (Lörscher, 2005), in which the fascination with words gives
way to a wider focus on communicative intentions, evident in the concurrent verbalisations as well as retrospective comments of this group's participants.

Another noticeable aspect related to the performance of this group is their tendency to work with rather large units of translation, comprising more than one sentence, or even whole paragraphs in some instances. This is a further aspect typically associated with a fair amount of translation expertise, as it suggests prioritisation of the global, text-level expression of meaning (Lörscher, 2005; Gerloff, 1988; Séguinot, 1989). A general tendency to monitor the target text for stylistic appropriateness is equally manifest in this group's protocol transcripts, partly represented in their recurrent references to the readability of the Arabic text, including the strict requirement that it 'does not read like a translation (…) written by someone who didn't go to school' (P12).

The exception to this trend is P11 who, despite his near-native command of English, demonstrates a slight affinity in his processing pattern to the participants in the 'intermediate & non-exposed' group. For example, despite his retrospective statements to the contrary, his protocol transcript reveals a largely form-oriented approach to translation (Lörscher, 2005). This can be seen in a reluctance, uncharacteristic of the members of his group, to deviate from the structure of the source text, which leads to a rather rigid, slightly awkward Arabic text. While P11 does monitor his target text frequently enough, he does not appear to take notice of its stylistic inadequacy. As opposed to the rest of the group, P11 focused mostly on small units of translation (Lörscher, 2005; Gerloff, 1988; Séguinot, 1989), with individual words dominating a significant portion of his processing over the course of the translation.

The group's handling of implied discourse relations reveals similar inconsistencies, as P11, again, proves the exception. The performances of P10 and P12 also display several noteworthy differences. As we saw earlier, P10 is one of few participants, and the only one in her category, to openly admit that she had found the source text challenging, precisely with regard to 'how it's all connected'. Her remarks expose a clear difficulty to comprehend implied discourse relations. However, at the same time, her ability to pinpoint the source of her comprehension problem also demonstrates an awareness of this aspect of translation, an awareness she shares with P12. P11, by contrast, does not indicate anywhere in either his protocol transcript or his retrospective comments
whether or not he is aware of the issue of implied discourse relations, or of the target text adjustments it entails for the Arabic translator.

A feature that does seem to apply more or less to all three participants in this category is a realisation of the importance of conveying the source text writer's communicative intentions, and ensuring an adequate transfer of 'what they are trying to say' (P10). To this end, both P10 and P12 are prepared to introduce modifications in their target versions, if these are called for in order to conform to the 'cultural aspects, social aspects, mentality, background' (P12) of the target readership. Explicating discourse relations is one such crucial modification, which constitutes common practice for P12 who declares: 'I never commit myself to the punctuation of the English text when I'm translating into Arabic'. P11, on the other hand, while he does state that he follows a sense-oriented approach, is comparatively less willing to alter the structure of the target text, such as by introducing a DM.

Given that the participants in this category are classed as 'advanced' in terms of their English proficiency, this factor was initially expected to have a significant bearing on their treatment of implied discourse relations. While this assumption was not entirely without basis, it was not found to hold for all three members of this group. As we have seen, P10 explicitly states that, although neither the vocabulary nor the topic posed an issue for her, she found the interpretation of implied discourse relations to be particularly problematic. P11, though considerably less explicit, provides sufficient evidence in his protocol and retrospective interview transcripts to suggest that he does not, at least on a conscious level, attend to the structural discrepancies between Arabic and English as regards the expression of discourse relations. Although it cannot be ascertained whether or not his rather poor DM score of 5 is indeed indicative of a difficulty to comprehend implied discourse relations, it is amply clear that he does not perceive the necessity to make these relations explicit, in accordance with the stylistic requirements of his native Arabic. No similar difficulties to comprehend, or express, implied discourse relations were identified in the case of P12.

As regards metapragmatic awareness (see section 2.1.3), this aspect does appear to be present in the case of this group, to a similar degree to what we found in the previous group. All three members of this category bring up communicative intentions, which they variously refer to as 'the sense', 'the attitude' or 'the logic' behind the text. However,
as pointed out earlier, in the case of P11, awareness of the requirement to convey communicative intentions does not materialise into explicit Arabic DMs. Moreover, while P10 and P12 appear to have a fairly clear idea of what an 'ideal' translation should look like, and can therefore be said to possess the kind of 'sense of correctness' (Hansen, 2003) we observed in the previous group, P11’s transcripts do not give the same impression. His apparent failure to notice the stylistic weaknesses, as well as communicative deficiencies, of his translation provide evidence to the contrary.

4.2.5 Analysis of the 'Advanced & Exposed' category

The fourth and final group includes six translation trainees of above-average English proficiency who, contrary to the members of the previous group, were exposed to a text-analysis approach to translation as part of their postgraduate courses. They produced the following target versions of (1) (see section 4.2.1.4):

1. أعتقد أن الذي تنقصه الجدية هنا هو السيد ميليباند نفسه حيث أن اتبعات غاز ثاني أكسيد الكربون في المملكة المتحدة أخذة في الارتفاع وليس في الانخفاض وهو ما يشير إلى أن استراتيجيّة الحكومة في مكافحة التغيّر المناخي غير فعالة.

[I think that the one who lack seriousness here is Mr. Miliband himself since carbon dioxide emissions in the UK are rising and not falling and this is what points to the fact that the government's strategy in combating climate change is not effective.] (P13)

2. ولكن السيد ميليباند هو من تنقصه الجدية فالفحقيّة هي أنه في السنوات القليلة الماضية كانت اتبعات المملكة المتحدة من غاز ثاني أكسيد الكربون في ازداد وليس في انخفاض. إن الاستراتيجيّة الحالية للحكومة ليست فعالة.

[But Mr. Miliband is the one who lacks seriousness fa (causal) the fact is that in the last few years UK carbon dioxide emissions have been rising and not falling. Enna the government's strategy is not effective.] (P14)

3. بيد أن ديفيد ميليباند نفسه تنقصه الجدية. فالحقيقة أن مستوى اتبعات غاز ثاني أكسيد الكربون في المملكة المتحدة خلال السنوات الأخيرة ما زال في الارتفاع وليس انخفاض إذ أن استراتيجيّة المملكة الحالية غير فعالة.

[But David Miliband himself lacks seriousness. Fa (causal) the fact is that the level of UK carbon dioxide emissions of the last years is still rising and
not falling *since* the government's current strategy is not effective.] (P15)

[But the one who lacks seriousness is Mr. Miliband himself. *Fa* (causal) the reality is that carbon dioxide emissions in the UK have increased continuously over the last years instead of falling. *Fa* (explanatory) the strategies followed by the government have not achieved any success.] (P16)

[But the reality is that the problem resides in that Mr. Miliband is failing to take a serious stance. *And* the truth is that in the last years carbon dioxide emissions in the UK are rising instead of falling. *Enna* the government's current strategy is not effective.] (P17)

From a quick glance at the present group's translations, it can be observed that there are as many similarities as there are differences in the participants' DM choices. As seen in previous groups 'fa' was the preferred DM to represent the discourse relation in (1b), chosen here by P14, P15, P16 and P18. The remaining translations of (1b) were prefaced by 'and' and 'since', namely those of P13 and P17. As far as the translation of (1c) is concerned, DM choices here were slightly more varied. Both P14 and P17 went for 'enna', two close variants of 'and this points to the fact that' were added by P13 and P18, while P15 and P16 opted for 'since' and 'fa' respectively.
4.2.5.1 Participant 13

The first translation performance to analyse within the 'Advanced & Exposed' group is that of P13. As his translation indicates, this participant's DM choices were 'since' for (1b), and a rather lengthy 'and this is what points to the fact that' to represent the discourse relation in (1c). P13's choice of DM for both (1b) and (1c) reflects an adequate reading of the writer's communicative intentions, as will be corroborated in his protocol and retrospective interview transcripts presented below. The following was his concurrent verbalisation:

7) 'The fact is that UK carbon emissions. Since, since the fact is? Not good. Erm. I wonder if this 'since' is the right connector here or not [...]. In English connectors are understood even if they're not there but in Arabic they're necessary [...]. The government's strategy is not working. Oh, and this points to or is evidence for the fact that [...] the government's strategy is not effective' (P13)

P13’s protocol transcript provides a good glimpse into his thought processes, which reveals that choosing appropriate DMs to represent the text's implicit discourse relations is clearly a priority for him. Judging by his rather lecture-like remark 'In English connectors are understood even if they're not there but in Arabic they're necessary', providing DMs is deemed 'necessary' not merely as a stylistic requirement but as a prerequisite for discourse relations to be 'understood' by the reader. The above verbalisation demonstrates that P13 successfully recognised the unsignalled discourse relations implied in (1b) and (1c) and incorporated them in his translation in the form of DMs 'since' and 'and this is what points to the fact that' respectively. While the decision to add 'since' in the first instance is preceded by some hesitation on his part, the degree of explicitness of the phrase 'and this is what points to the fact that' alone suggests that P13 is fairly convinced that this is the appropriate DM to add.

From a Relevance-Theory viewpoint, P13’s representation of implied discourse relations through the introduction of said DMs reduces, to a great extent, the cost of inferential processing necessary to derive such implied relations, by imposing a strict constraint on their relevance. In the first instance, the addition of 'since' clearly indicates to the reader that (1b) is to be interpreted as a premise, or evidence, intended to strengthen the
proposition expressed in (1a). Similarly the phrase 'and this is what points to the fact that' is an unequivocal instruction for the reader to construe the proposition in (1c) as a contextual implication. As P13's retrospective interview reveals, providing unequivocal instructions for the reader is precisely what he had in mind when adding any discourse markers:

8) 'You've got to, you know, always lead the reader […]. It makes the reader's task easier, to follow the ideas, to know whether what's coming is contradictory to what came before, it's a kind of addition, it's a substantiation […]' (P13)

Although his protocol transcript does not elucidate his decision making process as regards the motivation behind choosing the DMs he does choose, his retrospective remarks more than make up for this as P13 dedicates his interview almost exclusively to the discussion of what he refers to as 'connectors'. The following extract from the interview illustrates P13's analytical approach to the source text:

9) 'Within the argument itself there are two kinds of arguments. It is clear from the beginning that the writer is against the reluctance of the government in taking measures […]. Sometimes he changes the style, like, he speaks on behalf of the ministers then he counters their opinion then he substantiates […]. He usually does this: the minister says this but it can't be true because of this and here are some examples for substantiation' (P13)

From a look at the above comments by P13, it becomes apparent that backing up his translation decisions is a meticulous analysis of the source text with regard to the type of argument it presents and its various constituents such as opinion expressing, opinion countering, exemplification, etc. As he points out in subsequent remarks, establishing the type of discourse relation before giving expression to it through the use of a DM is a feature of P13's general approach to translation. However, this is an approach that he developed only recently:

'In the past I used to [add connectors] but I didn't know why. I used to do it automatically […]. I realised when I learnt about [the types of argument] that I had been wrong in translating without first trying to understand what type of argument it was, whether a through or a counter-argument' (P13)
He then describes being given English newspaper articles to translate in the past and remembers being confused at why the writer would start his piece by 'praising something' only to turn around and 'criticise it later'. He now realises that his confusion stemmed from his inability to distinguish between a 'through-argument' and a 'counter-argument' (see section 3.4.2.2), a vital distinction that he believes should be made explicit if the Arabic readership is to be 'convinced':

10) 'In Arabic we don't use counter-argumentation. If an Arabic reader reads a counter argument translated as it is, he'll say that it doesn't make any sense, that [the writer] doesn't know what he's talking about, that he says something and then he says the opposite. So you've got to understand the counter-argument and put it in a style that the Arabic reader will understand […], otherwise you'll end up making a mistake and the reader will not be convinced' (P13)

Asked if he usually turns a 'counter-argument' into a 'through-argument' for the benefit of Arabic readers who are more familiar with the latter, he replies:

'I don't turn it 100% into a through-argument. I try to keep the style there but add some modifications like 'as we know' or 'while we acknowledge that'. […] these little things will not change it into a through argument but it won't be 100% a counter-argument either so something in between' (P13)

As a member of the 'Advanced & Exposed' group, P13 seems highly aware of the necessity to provide DMs as explicit indicators of the type of argument presented in the source text. This is evident in his general tendency to explicate, in accordance with an analytical approach to the source text acquired during his postgraduate translation course. He wraps up the interview rather aptly with the affirmation:

11) 'You've got to be more explicit' (P13)

This attitude, combined with an exceptionally successful recovery of the source text's communicative clues through inferential processing, has guaranteed P13 a DM score of 10, the highest of all eighteen participants.
Next in the 'Advanced & Exposed' category is P14. This participant opted for 'fa' to represent the discourse relation in (1b), and added 'enna' to her translation of (1c), while producing the following verbal protocol:

12) 'But it is Mr. Miliband who is failing to be serious. So, here begins the counter-argument [...]. The fact is that in recent years UK carbon emissions have been rising. OK so this is probably substantiation. Since the previous sentence starts with 'but' then the next sentence should be giving us an example of why Mr. Miliband is failing to be serious [...]. Fa the fact is that in recent years UK carbon emissions have been rising [...]. Enna the government's current strategy is not effective' (P14)

P14's verbalisation reflects a pattern of text analysis akin to that of P13. Like P13, P14's reasoning is governed by argument-type considerations. Similarly to what we saw in the case of P13, it is the identification of the different components of an argument, such as substantiation or exemplification, that ultimately dictates this participant's DM choices. This is evident in her addition of 'fa' in (1b), closely following her realisation that (1b) is intended as 'substantiation' and that it therefore should be 'giving us an example' to support the proposition in (1a), i.e., that Mr. Miliband is failing to be serious. Her choice of 'enna' for (1c), on the other hand, is not accompanied with similar text-analytical remarks. However, she does bring it up during her retrospective interview, where she explains that her decision to add 'enna' here was because she 'felt that they were making a statement'. This explanation clarifies P14's choice of rhetorical device 'enna' which she may have seen as appropriate in order to relay the communicative force of a statement.

P14 is the fourth participant so far to have chosen 'fa' to represent the discourse relation in (1b). As we saw in the translations of the other three participants who thought along similar lines, 'fa' constitutes an adequate rendering of the writer's communicative intention at this point in the text. Here too, the use of 'fa' guides the reader to construe (1b) as evidence for (1a), thus placing a constraint on its relevance, by restricting the various ways in which it could have been interpreted. The use of 'enna' in (1c) - another seemingly popular choice with many participants - does not convey interpretive
resemblance with the source text to the same extent. While it is true that this DM is generally used in arguments as a persuasive device (see section 2.4.6.3) - and therefore gives (1c) the degree of emphasis communicated in the source text – it does not exactly facilitate the intended interpretation of (1c) as a contextual implication. Moreover, at this junction, 'enna' does not play any role in enhancing the connectivity of the Arabic text but rather interrupts the sense of continuity maintained so far in P14's target text.

In response to the first retrospective interview question about whether she is happy with the translation she produced, P14 says: 'I still feel that I need to supply different connectors', thus setting the tone for an entire interview in which little else is touched upon. Asked to elaborate, she expresses doubt about her DM choices at various points in the text, where she is not entirely certain of having correctly identified the intended discourse relation. She also provides some additional retrospective comments on the thought processes that led to her translation of the extract discussed above:

13) 'The whole paragraph begins with 'but' so you feel that this is where the counter-argument begins. Everything in this paragraph will relate to the original thesis and the writer will try to prove the opposite. In other words, [it is as if the writer is saying] what they are doing is not right and here is what we should be doing' (P14)

Echoing P13's remarks, P14 points out that her translation decisions are entirely founded on her analytical approach to translation, which includes making the distinction between what is a 'through-argument' and what is a 'counter-argument' (see section 3.4.2.2). Like P13, P14's inferential processes are employed in the recovery of implied discourse relations, which she then explicates accordingly, taking into consideration the rhetorical purpose behind them:

14) 'I look at the text analytically […]. I pay attention to how sentences are connected to each other and what the purpose behind arranging them in this or that particular way is. Then I try to convey this in the translated text' (P14)

Yet another parallel can be drawn with P13 in considering P14's comments concerning the effect that her postgraduate training had on her translation performance. Asked
whether the translation approach she outlines was how she had always viewed translation she replies:

15) 'Before, my focus was on producing a coherent text that makes sense […]. Before, I used to add 'fa for this reason', 'and for this reason', 'therefore', 'based on this', etc; without there really being a need for them, purely to link one sentence to another. Now I try to put them in their correct places, not only to produce a connected text but so that their use actually fulfills a purpose in the text' (P14)

With the exception of her sporadic, free-lance translation work experience, P14 coincides with P13 in almost every other aspect of her profile. Nonetheless, although they sat in the same translation class, P14 achieves a significantly lower DM score of 7. As there is nothing in her recording to suggest that she felt uncomfortable at any point during the experiment, it seems justified in her case to discard the relatively disproportionate influence that thinking aloud was thought to have had on previous participants' translation performance.

This leaves us with the opening remark from her retrospective interview reported above, in which she disapproves of a number of her DM choices. As illustrated in the protocol extract presented above, her protocol transcript demonstrates a largely successful recovery of the source text communicative intentions, particularly in aspects relating to the representation of discourse relations. This suggests that it is not in comprehending but in explicating these discourse relations by means of an appropriate DM where her difficulty lies. It is therefore plausible that, had she had the possibility to slowly go over her translation several times, and reconsider the DM choices she was not convinced by, P14 may have been able to convey a higher degree of interpretive resemblance with the source text.

4.2.5.3 Participant 15

Similarly to P14, P15 chose to express the implied discourse relation in (1b) with the addition of the DM 'fa'. Rather than 'enna', however, P15 opted for 'since' to represent the discourse relation in (1c). She produced the following, relatively brief, verbalisation:
16) But it is Mr. Miliband himself who lacks seriousness. The fact is that in recent years UK carbon emissions [...] Fa the fact is. OK [...] fa the UK's current strategy is not effective' (P15)

As the protocol indicates, P15's initial decision was to go for 'fa' in her translation of (1c) as well as (1b). It is not until she revises the translation at the end, and rethinks a few of her DM choices, that she decides to change her second 'fa' into 'since'. Following the protocol instructions, P15 continues to verbalise her thoughts during her silent revision of the translation, whenever she comes upon any potential changes. These were the thoughts that led to her modification of (1c):

17) 'Fa the UK's strategy is not effective. It doesn't look good. Enna the UK's strategy is not effective [...] How do we connect these to each other? [...] This should be since. Since the government's strategy is not effective' (P15)

As can be seen above, in pondering how to 'connect these to each other', P15 considers 'enna' before finally settling on 'since', but the closest P15's protocol gets us to uncovering her reasons for changing 'fa' into 'since' in her translation of (1c) is that, introduced with 'fa', (1c) 'doesn't look good'. So far, this participant's protocol transcript does not hint at text-analysis considerations of the kind observed in the translations of P14 and P15. Her retrospective interview, on the other hand, shares a number of features with those of the previous two participants, notably the focus on DMs right from the start:

18) 'This won't be my last version [...] I would go through it again after typing it, compare paragraphs and sentences and links [...] and the style, I'd work on the style [...] I would choose other connectors' (P15)

Her remark kicked off a discussion in which P15 continued to reassess some of her DM decisions, during which she made the following additional comment regarding her translation of (1c):

19) Because the fact is that carbon dioxide emissions are rising not falling and the reason for that is that the government's strategy is not effective. This is why I chose 'since'. This is my interpretation. I'm not sure if it is right or not' (P15)
In terms of fact, P15’s interpretation of the logical link between (1c) and (1b) is not incorrect. However, rhetorically speaking, it is not exactly the interpretation intended by the source text writer. While the writer clearly does blame the increase in carbon emissions on the government’s ineffective strategy, making explicit this relationship of causality is not how he builds his argument at this point in the text. In other words, the rhetorical effect the writer intends to convey here is not so much that (1c) causes (1b), but rather that (1b) implies (1c).

From a Relevance Theory perspective, P15's evident misinterpretation of the writer's communicative intention in (1c) results in a translation that impedes access to the intended contextual effect of (1c) as an implication. The use of 'since' to link (1c) to (1b) relegates, so to speak, the statement made in (1c) from the status of a conclusion to that of a premise in an argument, thus weakening the rhetorical force of this proposition as it is conveyed in the source text.

The use of 'fa' in (1b), by contrast, constitutes a more appropriate reading of the source text's communicative intentions. In line with the writer-intended contextual effects, 'fa' guides the reader to an interpretation of (1b) as evidence to support the proposition in (1a). This reduces the processing effort necessary to recover said implied discourse relation, and, at the same time, complies with the Arabic language requirement to connect sentences, a requirement P15 is only too well aware of:

20) 'You can't have separate sentences in Arabic. For me you have to link everything together. It's better. It explains it more' (P15)

She explains that regardless of whether it is called for or not, presumably as an aid to comprehension of the target text, she prefers to 'link everything together' because 'it just sounds better':

21) 'Sometimes there is no need but for me, I like to link everything together. I don't know why. Because of the language or because of trying to make it easier to understand. I don’t know. It just sounds better.' (P15)
In response to the question of whether she had always been conscious of this necessity to link sentences or whether this was an effect of her recent postgraduate training, P15 gives a similar answer to those of P13 and P14:

22) 'Of course not. I wasn't that aware but now I'm thinking about it. Maybe I used to do it without thinking [...] Now I'm really aware of it. That's why I'm struggling more! (laughs) [...] Definitely, I used to do this but not with this level of, you know, awareness like you said' (P15)

A notable difference that emerges between P15's translation performance and that of P13 and P14 is that, as mentioned earlier, her translation decisions do not appear to be bound by text-level, argument-type criteria. At the same time, however, it is evident that this participant's provision of DMs is dependent on the outcome of her inferential processes, as regards the source text's implied discourse relations. As gathered from her remarks, she is clearly aware of the role that DMs play, beyond their linking function, in facilitating the readers' recovery of the writer's communicative intentions. As in the case of the previous two members of this group, her postgraduate training has played an important part in drawing her attention to this communicative function of DMs. Although she jokingly points out it has made her 'struggle more' because she has become more demanding with herself, this heightened awareness has earned P15 an equally high DM score of 9. It is important to point out that P15 reported having worked as translator for four years, before undertaking her postgraduate studies in translation. Accordingly, the potential role that her translation work experience may have played in developing her approach to translation cannot be ruled out.

4.2.5.4 Participant 16

In a comparable interpretation of the source text to that of P15, P16 chose 'fa' to represent the discourse relations in both (1b) and (1c). Like P15, P16 was not entirely happy with her addition of 'fa' in (1c), as can be gathered from her concurrent verbalisation:

23) 'The fact is that [...] This gives the impression that it's introducing something marginal. The fact is that blah blah blah. No, no [...] fa [emphasis] the fact is that in recent years UK carbon emissions. Yes, I'd better write it down before I
forget [...]. The government's strategy is not working. Fa? I need something new to link this in Arabic [...]. Should I use fa again? No. Enna? No. […] I'll leave it as fa and if I don't like it I can change it later' (P16)

It should be noted that P16's is one of the longest, and most thorough think-aloud protocols produced by all eighteen participants. As the above protocol extract illustrates, she rarely makes a translation decision without voicing the thought processes that go along with it, to an even greater extent than what was observed in the case of participants P13 and P14.

P16's verbalisation indicates that, while her addition of 'fa' in her translation of (1b) is a decision she is fairly confident about, she is rather hesitant about adding the same DM in (1c), and plans to reconsider her choice later. In the first instance, the addition of 'fa' appears to be motivated by P16's perception that, without it, (1b) sounds like 'it's introducing something marginal', unessential to the argument developed by the writer so far. In the second instance, P16 is unsure of whether she should repeat 'fa', so she briefly considers 'enna', and finally decides to add a provisional 'fa' until she can think of something better.

The following extract contains her remarks immediately preceding her translation of the text extract under scrutiny, and offers an insight into her comprehension process. As will be observed, a similar pattern emerges to that found in the protocol transcripts of P13 and P14 - and to a lesser extent, that of P15 - characterised by a reliance on argument-type considerations. Here too, any translation decisions are governed by the realisation that (1a) marks the start of the 'counter-argument' (see section 3.4.2.2):

24) ’Mmm, I don’t understand the context to begin with. Does this mean that Miliband agrees with the speech or is he against it? […]. Ok, the Queen’s speech is bad.[…]. It’s bad because it doesn’t commit the government to annual targets. I’ll carry on: But it is Mr. Miliband who is failing to be serious. The fact is that in recent years UK carbon dioxide emissions have been rising not falling. I think this is a counter-argument. The author is against Mr. Miliband. First he quotes him, then he judges him, so to speak' (P16)
Like her verbal protocol, her retrospective interview comments are also very informative. Asked whether she had found any parts of the text particularly difficult to understand, P16 states the 'organisation of ideas' as a source of difficulty for her, and one that she imagines other native Arabic speakers would also have had trouble understanding:

25) 'I had to read the text more than once to figure out the organisation of ideas. I understood it but let's put it this way: I can imagine other native Arabic speakers having problems understanding the structure. When I’m translating I need to know what you’re doing, why you’re telling me this. I think it’s the basis of any translation […]. I imagine myself as the reader. And the texts and lectures that I hate the most are the ones that don’t have a structure, where I have to ask myself: ‘Why are you telling me this?’ . I always have to make the structure clear' (P16)

In Relevance-Theory terms it could be said that P16 perceives the explication of unsignalled discourse relations as a necessary adjustment to the cognitive environment of the text receiver, so that she does not have to ask herself 'Why are you telling me this?'. In other words, in order to give her access to whatever parts of contextual information are needed for consistency with the principle of relevance. Similarly, her having to 'read the text more than once to figure out the organisation of ideas' before choosing the correct DM, shows that she is conscious of the role played by inferential processing in the recovery of the writer's communicative intentions with regard to implied discourse relations. As her protocol transcript demonstrates, these inferential processes are guided by text-analysis criteria, which crucially include an awareness of the type of argument presented in the text.

Asked whether she has always based her translation on text analysis, P16's response diverges from the answers given so far by the three previous members of this category, despite her having received the exact same postgraduate training as them. Rather than seeing it as a product of her recent translation course, P16 attributes her text-analysis approach to translation to her school education:

26) 'I went to a German school, and we had this analytical, critical approach, like, in the exam of German language it was like 'Analyse this article or short story', and
the same applied to Arabic language exams. To me, ‘analyse’ means ‘know the structure’, and this, I think, is projected into my translation, so [it doesn’t come from] my translation training as such. My translation studies only gave me the linguistic tools to do this but actually I think it’s an attitude' (P16)

It is possible, then, that P16's text-analysis-oriented language classes may have shaped her 'attitude' towards translation, including sensitising her early on to the importance of providing DMs in her translation into Arabic in order to facilitate comprehension, and for the reader to 'know the structure'. However, P16 has had previous work experience as a translator, a factor that she believes has been more influential than her translation training:

27) 'I think it's experience. You translate so many texts and you think: 'Oh, I've had a similar problem before so maybe I could use that. The more I translate the more I know. I feel I didn't learn a lot from my translation classes' (P16)

As we saw in one of her retrospective remarks, P16 reported having had difficulty working out the organisation of ideas in the source text. While she does not blame the nature of the experiment for this, she does say that she felt under pressure, and would have preferred to have had a break, or for the text to have been shorter:

28) 'I don't know but this whole situation made me feel like this was an exam and I was under pressure […]. Maybe I needed some breaks in between […]. If I thought too much, I'd tell myself: 'Don't waste your time! Go on! […]]. Maybe if the text was shorter' (P16)

It is conceivable that had she had the opportunity to translate without the requirement to think aloud, P16 may have produced a translation more in line with her expectations. It is not possible to determine whether this would have been the case or not, but, pressure and all, P16 achieved a rather high DM score of 8.
As far as P17 is concerned, his interpretation of the implicit discourse relations in (1b) and (1c) resulted in his addition of 'and' and 'enna' respectively. His concurrent verbal protocol was as follows:

29) 'But it is Mr. Miliband who is failing to be serious […] but the reality is (five seconds) the problem is that Mr. Miliband is failing to take a serious stance […]. The fact is that in recent years carbon emissions in the UK have been rising rather than falling […]. Enna the government's current strategy is ineffective'

(P17)

The above protocol reveals that P17 initially preserved the structure of the source text and left the discourse relation in (1b) similarly unsignalled. Upon revising the translation at the end, he decided to link (1b) to (1a) with 'and', without providing any hints as to his reasons for doing so. Likewise, in his translation of (1c), he chose to add 'enna', without giving any indication in his protocol as to the thought processes that gave rise to this decision.

From a Relevance-Theory perspective, P17's use of 'and' in (1b) fails to convey an adequate degree of interpretive resemblance with the source text. Rather than guide the reader to follow an inferential route that would allow the recovery of an evidence relation, linking (1b) to (1a) with 'and' encourages the reader to construe (1b) as an additional, perhaps even dispensable, piece of information.

By the same token, using 'enna' in (1c) also falls short of conveying interpretive resemblance with the source text. Although prefacing (1c) with 'enna' gives it the degree of emphasis conveyed by the source text's communicative clues, it does not facilitate the interpretation of (1c) as a contextual implication. Moreover, as P17 himself is aware, 'enna' interrupts the flow at this junction of the Arabic text since it does not act as a sentence connector.

For the most part, P17's translation performance was uncharacteristic of the group he belongs to, in that his think-aloud protocol does not contain as many explicit references to his approach to implied discourse relations. However, his retrospective interview
remarks demonstrate that any DMs he introduced in his translation were indeed the result of a conscious decision on his part. As has become the norm with the members of this group so far, P17 brings up, and discusses at length, the issue of discourse relations in his retrospective interview. He begins by saying that he is only 80% happy with the translation he produced and, in going over the aspects of the text that he had had problems with, he cites 'connecting sentences' as a major source of difficulty, which he has always struggled with:

30) 'I have some problems connecting sentences. I mean in Arabic you need connectors, more connectors, otherwise you'll always be starting with 'enna'. [...] I have to add something like 'since', 'in addition', 'on the other hand' but I have to make sure that this doesn't change the meaning [...] When I'm not sure I don't add anything' (P17)

His concern over adding a DM because this might 'change the meaning' explains why P17 appears to be more cautious about making explicit his contextual assumptions with regard to explicating implicit discourse relations. This points to an awareness on his part of the consequences of imposing his own interpretation, or, in Relevance-Theory terms, of the potential of modifying the cognitive environment of the target reader, allowing the derivation of a contextual effect unintended by the source text producer.

Given P17's profile, it seemed reasonable to conclude - as we have in the case of other participants with advanced English proficiency - that the problems he faces in providing DMs are more likely to stem from a difficulty to express discourse relations, rather than a difficulty to comprehend them. However, somewhat surprisingly, P17's comments regarding his understanding of the source text revealed that the opposite was, in fact, the case. During his retrospective discussion of the areas of difficulty in the source text, P17 states that there are still some sentences he 'couldn't understand the relation between'. Asked to clarify, he mentions being confused at what he perceived as a contradiction in the writer's position:

31) 'At one point the writer criticises targets and says they are wrong then he says it's time for annual targets and that they're the only way to control emissions' (P17)
As can be appreciated from a quick read through the source text, at no point does the writer 'say' that targets are wrong. However, he does quote government ministers as saying so, without making it explicit that the sentence 'In other words, targets are wrong because they would be difficult to meet' is a reference to the government's attitude, not his.

Although it is not what his profile would lead us to expect, there is no doubt that P17's difficulty in 'connecting sentences' is indeed symptomatic of a difficulty to comprehend implied discourse relations in the source text. It is possible that P17's translation performance may have been affected by the nature of the think-aloud experiment. However, asked whether he believed that this was the case he replied that it had not been particularly difficult for him to translate and think aloud at the same time because this is how he normally translates. He added that he deliberately did not attempt to report every single thought because he was conscious of the effect that doing so would have had on his translation.

Despite his major comprehension issues, a look at this participant's target text reveals a general compliance with the requirement of interpretive resemblance with the source text, with a few notable DM-related exceptions, mostly resulting from his unwillingness to explicate discourse relations he is unsure of. It should be pointed out that P17 missed many of his translation classes during his postgraduate course, which perhaps explains the absence from his protocol and retrospective interview transcripts of any overt remarks that could be taken as indicative of a text-analysis background. He goes on to achieve a reasonably high DM score of 7.

4.2.5.6 Participant 18

The final translation performance to analyse is that of P18, who produced a similar translation to P13’s, opting for 'fa' and the phrase 'and this points to the fact that' to explicate the implied discourse relations in (1b) and (1c) respectively. His think-aloud protocol is also reminiscent of P13’s – and indeed also those of P14 and P16 - in that it is equally replete with references to text-analysis and argument-type considerations (see section 3.4.2.2). The following is the verbalisation corresponding to his translation:
32) 'But it is Mr. Miliband who is failing to be serious. But the problem is that it is Mr. Miliband who lacks seriousness and not the plan [...]. Fa in the last few years. I don't know whether I need to say 'the fact is'. Since? We should really link the two sentences but let's leave it for now. [...] The government's strategy is not working. And this. I see. And this if anything points to the fact that the government's current strategy is not useful [...] Let's leave out if anything'.

And this points to the fact that the government's current strategy is not effective' (P18)

P18's protocol transcript offers a good glimpse into his thought processes, which, in keeping with the pattern that we have observed so far in this group, reveals that the careful selection of appropriate DMs to represent the text's implicit discourse relations is a prominent feature of this participant's translation performance. The above verbalisation demonstrates that P18 successfully recognised the unsignalled discourse relations implied in both (1b) and (1c). The decision to add 'fa' in the case of (1b) is followed by some hesitation on his part, as he is unsure about whether he should replace it with 'since' or not. As for (1c), he initially tries out the slightly exaggerated 'and this, if anything, points to the fact that', which he then downgrades to 'and this points to the fact that'.

From a Relevance-Theory viewpoint, the addition of 'fa' clearly indicates to the reader that (1b) is to be interpreted as evidence intended to support the proposition expressed in (1a). In the same vein, P18 could not have made it clearer to the reader that (1c) is a contextual implication than by prefacing it, as he did, with the phrase 'and this points to the fact that'. P18's representation of implied discourse relations through the introduction of the above DMs significantly reduces the cost of inferential processing necessary to derive these relations, by imposing an obvious constraint on their relevance. As P18's retrospective interview indicates, making sure the reader does not 'consume a lot of energy' was precisely his intention in adding DMs:

33) 'If I address you as an Arab reader and give you the information as it is in a culture that you don't know what the rules of presenting information in it are, you will not get it [...] If it doesn't sound Arabic it'll make your brain confused. You'll consume a lot of energy to understand it.' (P18)
When asked to clarify, P18 explains that what he means by 'rules of presenting information' is the variance in argumentation styles across languages (see section 3.4.2.2), which he attempts to bridge by adding, explaining or repositioning the wording of the source text:

34) 'Addition, explanation, repositioning, these are important tools for a translator […]. When I translate into my own language I feel more free to experiment with language' (P18)

From a look at the above comments by P18, it becomes apparent that it is partly his awareness of the lack of correspondence between the cognitive environment of the source text receiver and that of the target text's that informs his translation decisions. Like we saw in the case of P13, P14 and P16, P18 approaches the source text with a view to identifying the type of argument it presents and its various constituents. He then incorporates his understanding of the source text into a more explicit target version. As he points out in subsequent remarks, making explicit the source text's implied discourse relations is something which, until recently, he was 'afraid' of, but which has now become his favorite part of the job:

35) 'There are plenty of these [connectors] because this is the part that I enjoy when I'm translating […]. At the beginning of the year I felt that the source text was so important that if I did something to change it I'd be deceiving the author, betraying the text […]. I was afraid of rephrasing things […]. The source text was like a holy book to me' (P18)

Reflecting the comments of previous participants in this category, P18 explains that his introduction to text analysis has had a significant effect on the way he previously viewed translation. He no longer sees the source text as a 'holy book' that should be preserved intact, and realises that doing so would in fact be a disservice to the text, as it would impede the delivery of its communicative intentions:

36) 'If I start sentences the same way as in English the text won't go smoothly. Sometimes with argumentation it's difficult. You feel if you don't put it right it tends to lose its, I don't know, sense […]. It won't have the same impact in Arabic' (P18)
As the last member of the 'Advanced & Exposed' group, P18 is inarguably aware of the necessity to provide explicit DMs in order for the source text to 'have the same impact in Arabic', a requirement he largely complies with, as evidenced by his high DM score of 9.

4.2.5.7 Summary of the group's performance

The last remaining group performance to consider is that of the 'advanced & exposed' category. The higher number of participants included in this category makes it comparatively more straightforward to define a pattern as regards their overall translation performance. Indeed, the analysis of the transcripts obtained from this group appears to point to a substantial number of shared features, suggesting a roughly homogeneous approach to translation.

The similarities observed in the translation performance of the participants belonging to this group form a pattern of distinctive features, which is highly compatible with the processing pattern of professional translators as described in the literature (see section 3.2). First, the protocol transcripts obtained from this group reveal an unmistakable sense-oriented approach to translation (Lörscher, 2005), where literal translation is still used, but only as a preliminary rendering into the target language which is then modified for idiomatic appropriateness (Tirkkonen-Condit, 2005). A further indicator of the sense-oriented approach is that the problems verbalised by this group are rarely, if ever, related to lexical transfer. This shows a lack of concern for individual words, and reflects another aspect of professional performance, largely absent from the protocols of the three groups analysed so far. As opposed to the rest of the participants, the members of this group appear to invest their processing efforts strategically, i.e., they do not exert unnecessary effort in trying to solve localised problems such as an unfamiliar word or phrase, unless the translation of these is perceived to be influential in conveying the global message of the text (Tirkkonen-Condit, 2005). Such a strategic allocation of processing resources is also indicative of a 'tolerance of ambiguity or uncertainty' in the source text (Tirkkonen-Condit, 2000: 123), a must for professional translators in order to maximise efficiency by 'reconciling the optimal with what is feasible' (ibid).
Also suggestive of a fair amount of translation expertise is the frequency of self-critical remarks regarding the quality of their translation (Tirkkonen-Condit: 2005), which accompany the participants' regular monitoring of the target text (Lörscher, 1991; 2005), and prevent them from violating the stylistic norms of the target language.

As regards the use of the glossary, while the translation solutions it proposes were eventually adopted verbatim by most of the participants, their willingness to rely on their own encyclopedic knowledge to infer meaning suggests that they could have easily coped without one. This aspect of their performance is undoubtedly professional-like, judged on the basis of 'a highlighted proportion of knowledge inferred from the source text' (Tirkkonen-Condit, 2005: 406).

The size of the units of translation which the participants divide the source text into is, as we have seen, another important indicator of the degree of translation expertise (Lörscher, 2005; Gerloff, 1988; Séguinot, 1989). Here, the group's performance is likewise consonant with the features of expert translation, in that the units of translation managed by its participants comprised large chunks of the source text.

It is also important to note that the participants' constant point of reference was the text as a whole: its purpose, general tone and overall attitude, which they used as a framework that informed their lower-level decisions such as idiom appropriateness and grammatical constructions. This is another aspect associated with professional translation (Fraser, 1996b), and one which is closely tied to the participants' ability to correctly interpret and convey communicative intentions, including implied discourse relations.

The present group's treatment of implied discourse relations displays considerable consistency across its six participants. Like the similarities observed in their overall approach to the translation task, the group's interpretation of discourse relations can also be said to correspond to an identifiable pattern.

In examining the protocol and retrospective interview transcripts collected from this group's participants, it becomes evident that they all share a sense of awareness of the potential lack of correspondence between the cognitive environment of the source text receiver and that of the target text's receiver, and of the adjustments this calls for in order to narrow the gap. This awareness covers all aspects of their translation, but is
particularly manifest in their interpretation, and consequent explication, of implied discourse relations.

Without exception, all six participants grouped under this category are inarguably aware of the linguistic mismatch between Arabic and English as regards the representation of discourse relations, and of the corresponding requirement to explicate these relations in Arabic. Far from being an automatic response to a stylistic connecting constraint, their provision of DMs in Arabic is always preceded by careful consideration of the effects of such alterations on the target readers' ability to retrieve the source text's communicative intentions. Various comments by the participants provide testimony to this approach: 'If I start sentences the same way as in English, the text [...] won't have the same impact in Arabic' (P18), 'I imagine myself as the reader [...] I always have to make the structure clear' (P16) and 'You have to link everything together. It's better. It explains it more' (P15).

While certain aspects of the approach to discourse relations outlined above were recognised in the performance of participants belonging to other categories, what distinguishes this group is the particular reasoning that guides their DM choices. As gleaned from their protocol transcripts, the majority of the participants in this category follow an analytical route, which consists in identifying the particular rhetorical purpose behind a given discourse segment, before introducing its translation into Arabic with an appropriate DM. Accordingly, different types of rhetorical functions feature in the data with names such as 'substantiation', 'exemplification', 'addition', etc. A further component of their analysis involves the identification of the type of argument presented in the source text: i.e., whether it is a through-argument or a counter-argument (see section 3.4.2.2). Their understanding of the overall argument appears to frame their lower-level categorisation of rhetorical functions, which, in turn, dictates their DM decisions.

Although the majority of the protocols produced by this group provide unequivocal evidence of the analytical process outlined above, two out of the six participants are comparatively less forthcoming in this regard. No explicit indication was found in the transcripts of P15 and P17 to determine whether or not they follow a similar processing pattern to the rest of the participants. They do, however, converge with the rest of the group in terms of their awareness of the role that DMs play in facilitating the recovery
of communicative intentions. Moreover, their DM choices are similarly preceded by careful evaluation of the extent to which such linguistic devices can contribute to the requirement of ensuring interpretive resemblance with the source text.

Notably, P16 and P17 cite the interpretation of implied discourse relations as one of the problematic areas of the source text. P16 'had to read the text more than once to figure out the organisation of ideas' and assumes that other participants would find this aspect of the translation task equally challenging. Similar issues were voiced by two of the participants belonging to the 'intermediate & exposed' category, namely P6 and P9, in whose case it was tentatively assumed that their difficulty to interpret implied discourse relations may stem from a deficient English language ability. The same cannot, however, be said of P16 and P17, given their advanced English proficiency. If we consider that P10 and P11, from the 'advanced & non-exposed' group, also provided evidence in their protocols of having encountered the same kind of problems, this gives us a reasonable indication that the role played by English proficiency in the development of the pragmatic ability to correctly interpret implied discourse relations appears to be limited.

On the other hand, as concluded in the case of the 'intermediate & exposed' group, the text-analysis training (see section 3.4.2.2) that the present group have undergone as part of their postgraduate translation course does appear to confer a significant advantage in terms of raising awareness of the DM issue. The transcripts point to a definite recognition on the part of all six members of this group of the importance of introducing explicit DMs as a necessary adjustment to the Arabic reader's cognitive environment. Although their recognition of the issue in question does not always result in an appropriate DM choice to represent the source text's implied discourse relations, it is undeniable that these participants have more potential of ever achieving that, owing to their metapragmatic ability (Kasper, 1997 and section 2.1.3 of this thesis). As demonstrated in the data, such metapragmatic skills are at the heart of a translator's ability to reflect on their own performance, and judge the degree of interpretive resemblance their translation bears to the source text.

The extent to which a grounding in text-analysis can alter their approach to implied discourse relations does not escape the participants' notice. Their retrospective interview transcripts contain no shortage of remarks to the effect that having received training in
text analysis influenced their previous attitudes to translation. For example, P13 used to add DMs in Arabic but 'didn't know why', and P15 supplied them 'without thinking'. Having received training, P13 realised that he 'had been wrong in translating without first trying to understand what type of argument [the text] was' and P15 is now more consciously 'aware' of her DM choices. Similarly, P18 no longer regards the source text as 'a holy book' and is no longer 'afraid of rephrasing things'.

It is important to remember that both P15 and P16 had previously worked as translators for a considerable length of time. However, while P16 stresses the importance of translation work experience in developing her analytical approach to translation, P15 does not ascribe such a significant role to her four-year career as a professional translator. Echoing the remarks of the majority within this group, P15 credits her postgraduate training with drawing her attention to the communicative value of DMs, although she jokingly points out that she 'struggles more' as a result, because she now places more demands upon herself to make sure she correctly interprets implied discourse relations.

4.3 Conclusion

Following a preliminary statistical data analysis, this chapter examined the transcripts obtained from the participants' think-aloud protocols and retrospective interviews, so as to further elucidate their translation decisions. The following patterns of inferential processing related to the interpretation of discourse relations were identified:

1. For the most part, the translation performance of the participants in the 'intermediate & non-exposed' category exemplified the characteristics normally associated with non-professional translation, such as small translation units, overreliance on the glossary, and a generally form-oriented approach to translation. Similarly, the group's treatment of discourse relations did not amount to more than a mechanical compliance with a stylistic requirement to connect sentences in Arabic.

2. The participants in the 'intermediate & exposed' group, by contrast, exhibited many of the characteristics posited in the literature as indicators of professional translation, including a tendency to paraphrase, increased attention to the appropriateness of the target text, and reduced dependence on comprehension
aids. These characteristics became manifest in their treatment of discourse relations, which, as opposed to the previous group, was largely guided by Relevance-considerations.

3. The translation performance of the 'advanced & non-exposed' category proved more difficult to characterise in terms of a uniform processing pattern, given the largely dissimilar approaches followed by its three members. However, similar observations were made as regards professional translation indicators to what we saw in the 'intermediate & exposed' category. Also similar to the previous category was the group's approach to discourse relations which was, with one notable exception, dominated by an overall concern to convey the source text's communicative intentions.

4. As opposed to the previous category, the 'advanced & exposed' group displayed a largely homogenous approach to translation. In addition to unequivocally representing all the features associated with professional translation, their treatment of discourse relations was distinguished by an analytical approach of a very conscious nature, firmly based on the text-analysis notions learnt during their postgraduate course.

The aim of the next chapter is to examine the above patterns in light of the theoretical notions put forward in Chapter 2, in an attempt to answer the research questions posed at the outset of this study.
CHAPTER 5 - CONCLUDING DISCUSSION

This study investigated the pragmatic competence of eighteen Arabic-speaking trainee translators, as reflected in their inferential interpretation of implied discourse relations. The participants were asked to take part in an English-into-Arabic translation task while simultaneously thinking aloud, followed by a concluding retrospective interview. The translations produced by the participants were subjected to a quantitative analysis, designed as a preliminary exploration of the data. This was succeeded by a process-oriented qualitative analysis of the think-aloud and interview transcripts.

Following a comprehensive literature review in Chapter 2, and a thorough description of the data collection procedure in Chapter 3, the quantitative and qualitative analyses were reported in Chapter 4. The qualitative process-oriented analysis of the data was guided by the notion of interpretive resemblance, as employed in Gutt's Relevance-Theory account of translation. Different processing patterns were identified as corresponding to each of the proposed participant categories, which are described in detail in Sections 4.2.2.6, 4.2.3.5, 4.2.4.4 and 4.2.5.7.

The purpose of this final chapter is to situate the present study in the context of the theoretical notions put forward in Chapter 2, in an attempt to answer the research questions this study has set out to investigate. Section 5.4 will discuss the implications of the results and put forward suggestions for potentially fruitful avenues in future research.

5.1 Implied discourse relations: A comprehension problem?

One of the main objectives of this research was to investigate whether the issue of implied discourse relations posed a comprehension problem for native speakers of Arabic training as Arabic-English translators, regardless of their level of English proficiency.

As we have seen, the initial statistical analysis suggested that participants with an advanced English proficiency appear to achieve relatively higher DM scores (see section 4.1.4.5). This was seen as supporting the initial assumption that English proficiency may be a decisive factor in determining a participant's ability to interpret
implied discourse relations. However, this result was only partially corroborated in the subsequent process-oriented analysis, where even highly proficient participants were found to be challenged in this area.

As the experiment carried out in the present study puts to test the participants' inferential ability to interpret implied discourse relations, it can be considered a reflection on their pragmatic competence. In this regard, although the results do not point to a relationship between advanced English proficiency and a successful interpretation of discourse relations, they do appear to suggest that the higher a participant's IELTS score, the higher their level of metapragmatic awareness (see section 2.1.3).

The process-analysis carried out on the 'intermediate & non-exposed' category revealed that the majority of the participants belonging to this group failed to exhibit evidence of a level of metapragmatic awareness comparable to that observed in the other three groups. With six participants, this is one of the relatively larger groups, which strongly suggests that a low level of English proficiency does correlate with a deficient metapragmatic awareness. This hypothesis is confirmed in the process-analysis results of the two groups classed as advanced, who, irrespective of whether or not they have received text-analysis training, demonstrated a generally high level of metapragmatic awareness. However, this result should be interpreted with caution. Given that the 'advanced & non-exposed' category includes only three participants, compared to six in the 'advanced & exposed' category, it is not possible to dismiss the effect of training altogether. This is further confounded by the fact that the 'intermediate & exposed' group were found to possess parallel levels of metapragmatic awareness, despite their lower English proficiency. Therefore, due to the limitations outlined above, it is not possible to determine with certainty the role played by English proficiency per se in the successful interpretation of implied discourse relations.

All in all, the observations made during the data-analysis process lend some credence to the grammar-precedes-pragmatics hypothesis, which suggests that L2 learners do not always successfully transfer their stock of L1 pragmatic knowledge into an L2. In particular, the contention that L2 learners 'often tend towards literal interpretation, taking utterances at face value rather than inferring what is meant from what is said and underusing context information' (Kasper, 1997: 3 and section 2.1.2.2 of this thesis)
resonates with some of the findings of this study. Here, the Relevance-based analysis of the think-aloud transcripts was instrumental in elucidating the nature of the pragmatic deficiencies evidenced in the processing patterns of some of the participants.

The application of the notion of interpretive resemblance to account for the participants' translation decisions revealed that the comprehension problem may reside in a deficient ability to fully engage with the inferential process inherent in every instance of utterance interpretation. Indeed, some participants were so mesmerised by the surface code of the source text that they appeared to suppress their intuitive response to what is essentially an act of ostensive communication, i.e., to select a set of accessible contextual assumptions within which the interpretation of the communicated utterance will yield adequate cognitive effects at no unjustified cost of processing. Instead, they were completely absorbed in the attempt to decipher problematic words and expressions, which monopolised their attention to the point where they seemed to mistrust their own language abilities as L2 speakers, and take no heed of the modifications in their cognitive environment brought about by the interaction of new and old information.

A clear manifestation of such inhibited utterance interpretation processes is, as the data for this study show, the failure to correctly identify discourse relations unsignalled by a DM. However, essential as the initial phase of utterance comprehension is in any act of translation, it still only represents one side of the coin, and should not be considered in isolation from the subsequent re-expression phase. In other words, successfully inferring the intended interpretation from procedurally encoded information does not in itself guarantee a parallel representation of this interpretation in the target version. If the former occurs, it does not mean that the latter will necessarily follow. The translations produced by some participants, notably those in the 'exposed' categories, strongly suggest that the innate, subconscious, Relevance-constrained processes involved in utterance comprehension take on a more conscious form when it comes to rearranging the source text's intended contextual effects into a target version where these are equally derivable. It is during this second phase of translation that the role of metapragmatic awareness becomes particularly evident, represented in our data by a participant's ability to articulate the pragmatic considerations underpinning their translation decisions. Further discussion of this conscious aspect of the translation process as evidenced in the think-aloud protocols obtained in this study will be presented in section 5.3. The
following section is dedicated to investigating another one of the questions posed in this study: Is pragmatic competence, as represented in the ability to infer implied discourse relations, amenable to classroom instruction?

5.2 Can the ability to interpret implied discourse relations be taught?

As we have seen, research into the effect of teaching a wide range of pragmatic features to L2 learners of different proficiencies has largely demonstrated that most students who had received pragmatic instruction had a clear advantage over those who had not (Kasper, 2000; Jung, 2002; section 2.1.3 of this thesis). Moreover, students who had received explicit instruction were shown to benefit slightly more than those who were exposed to more implicit forms of teaching (ibid). These findings strongly support the view that the implementation of classroom teaching methods geared toward raising consciousness of pragmatic features can indeed contribute to the systematic development of pragmatic ability in L2.

The results of the present study point in the same direction. Although similar limitations apply in terms of the uneven distribution and small number of participants in two out of the four analysis categories, there is a fairly clear indication that pedagogical intervention proffers some advantage when it comes to the ability to inferentially interpret implied discourse relations, and express them in translation.

Generally speaking, mention of the pragmatic feature under investigation in the verbal protocols and retrospective interviews of participants was perceived to correlate, though not without a few exceptions, with better performance on the translation task. This immediately brings to mind Schmidt's (1990) noticing hypothesis, and suggests that it may indeed be the case that 'those who notice most learn most' (Schmidt, 1990: 144 and section 2.1.3 of this thesis). Although its absence does not necessarily imply failure to notice, the availability of a target feature for verbal report can be regarded as evidence to support the role of noticing in language learning (Schmidt, 1995: 261). Accordingly, it could be said that the recurrence of metapragmatic comments concerning the necessity to explicate implied discourse relations in Arabic by means of a DM demonstrates that a participant 'noticed' and 'understood', in Schmidt's sense, this feature of English-Arabic translation. This, in turn, can be taken as evidence for the facilitative
role of explicit teaching methods in raising awareness of the pragmatic feature in question.

It must be emphasised that, as pointed out in the analysis, a heightened sense of metapragmatic awareness does not always guarantee an equally high DM score. Nevertheless, it is argued that such metapragmatic skills are a manifestation of a developed pragmatic competence, itself an integral part of a translator's toolbox. Only the pragmatically competent among the participants in this study were able to view the source text, not as a series of unalterable, all-encompassing words, but as the often-inconclusive evidence of a series of implicit communicative intentions stretching well beyond the boundaries of what is linguistically expressed. Indeed, what distinguishes the translation performance of participants who have undergone text-analysis training is their ability to extricate themselves from the source text. Contrary to the general tendency observed in non-exposed groups who, for the most part, appeared to be trapped within the boundaries of the source text, the participants in the 'exposed' categories were generally more willing to step back a little, and trust, as it were, the outcome of their inferential processes.

The fact that many of these participants explicitly attribute their translation attitude to training is a further, unequivocal indication of the success of explicit pragmatic teaching methods. The general picture that emerges from their retrospective observations is that training did not introduce them to the issue of DMs per se, since the requirement to add these devices in Arabic is something they had always recognised, both in theory and in practice. However, while their inclusion of Arabic DMs was previously an automatic response, it has now become the result of a deliberate and conscious decision-making process, firmly based on the text-analysis notions assimilated while on the course. One participant, P8, hit the nail on the head when he explained that, although he had always been aware of the necessity to provide explicit DMs in Arabic, he had not been confident enough to implement this awareness in translation. Such remarks are clearly suggestive of the possibility that the text-analysis training offered to some of the participants in this study has been influential, not so much in introducing them to the issue of DMs, but in allowing them greater freedom to act upon their own intuitions about this aspect of English-Arabic translation. To borrow Kasper's (1997) quote regarding pragmatic instruction (see section 2.1.3), a grounding in text analysis could be said to make trainee translators 'aware of what they know already and encourage them
to use their universal or transferable L1 pragmatic knowledge in L2 contexts' (Kasper, 1997: 3). Therefore, in view of the facilitative effect of the text-analysis training undergone by the 'exposed' groups in this study, as regards the comprehension and re-expression of discourse relations, it is strongly recommended that translation courses, both postgraduate and undergraduate, consider incorporating a component of text-analysis as part of their general pedagogical approach (see section 3.4.2.2 for a description of the text-analysis teaching method).

Besides it being another reflection of the potential of pragmatic instruction, the distinctive, highly metapragmatic, analytical approach to translation observed in the transcripts of the 'advanced & exposed' group provides a clear glimpse into their processing patterns. This aspect is considered of utmost importance as it throws light on the nature of the inferential processes involved in the interpretation of implied discourse relations, and will be explored in detail in the next section.

5.3 Translating discourse relations: Relevance or Coherence?

As may be recalled, a key principle in Relevance Theory is that the responsibility for successful communication lies largely with the speaker. Much like a dance leader, whose responsibility is to lead his partner safely across the dance floor to prevent any collisions, a speaker has to do his best to prevent any communication breakdowns. It is therefore 'left to the communicator to make correct assumptions about the code and contextual information that the audience will have accessible and be likely to use in the comprehension process. (…) all the hearer has to do is go ahead and use whatever code and contextual information come most easily to hand' (Sperber & Wilson, 1995: 43).

From this perspective, we found that, as a communicator, the translator bears the responsibility of facilitating comprehension on the part of the reader (see section 2.3). This includes producing a translation that comprises all the information originally inferred by the translator upon reading the source text, and making sure that it can be equally inferable for the target reader. To achieve this, the translator has to make assumptions about his readership, and the extent of their access to the contextual assumptions required to reach the intended interpretation of the text. In this sense, reading for translation differs from reading for other purposes. As Baker (1992) puts it, the translator 'must attempt to perceive the meanings of words and utterances very
precisely in order to render them into another language. This forces us as translators to
go far beyond what the average reader has to do in order to reach an adequate
understanding of the text' (Baker, 1992: 17).

This statement brings to mind the distinction between Relevance-based and coherence-
based approaches to DMs discussed earlier. As we have seen, the approaches influenced
by Relevance Theory view text comprehension as the result of a continuous search for
relevance (see section 2.4.4). Coherence-based approaches, on the other hand,
emphasise the correct identification of discourse relations in a text as a prerequisite for
comprehension (see section 2.4.3). Although all reading requires inference in order to
recover implicit information, reading for translation is, as pointed out by Baker (1992),
distinguished by a closer attention to the precise meaning of the text, with a view to re-
expressing it in a parallel target version. While in both cases a certain amount of reading
between the lines is involved, perhaps when it comes to translation, reading between the
lines takes on a more conscious, alert nature, compared to the passive, sometimes
absent-minded way we approach a relatively uninteresting piece in a newspaper, for
example. Our observations in this regard are consistent with Alves & Gonçalves's
(2003) contention that 'besides the mastery of many other cognitive skills, translators
have to learn to manipulate more consciously conceptually and procedurally encoded
information so that they can identify the inferential constraints inherent to a given
statement' (Alves & Gonçalves, 2003: 8).

In this sense, it is felt that reading for translation may well incorporate elements of the
process of text comprehension described in coherence-based theories. In addition to the
intuitive search for relevance, the conscious identification of discourse relations may
also form part of a translator approach to the source text. In this case, it would be
subservient to the wider, Relevance-guided retrieval of the intended interpretation, at
the same time as a means to facilitate the delivery of said interpretation to the target text
receiver.

The above observation was made during our attempt to place the translations and
protocol transcripts of some of the participants within a Relevance Theory framework.
While considering the transcripts belonging to the two 'exposed' groups, it quickly
became apparent that underlying these participants' approach to the source text was a
comprehension process of a deliberate, conscious nature, which emerges as they
meticulously dissect every inch of the text's anatomy. Crucial to this process, the transcripts reveal, is the identification of discourse relations.

Here, Blakemore's (2002:169) contention, representative of the Relevance school of thought, that the successful interpretation of a discourse relation is a product of comprehension rather than a prerequisite for it, comes to mind. P8, from the 'intermediate & exposed' group, and P13, P14, P16 and P18 from the 'advanced & exposed' group, are all cases in point. Their verbal protocols demonstrate that it is not before they have properly assimilated the meaning of a given discourse segment that they are able to establish with certainty how it is related to the preceding discourse. The protocols also show that it is not before they have clearly identified a given discourse relation that they risk exposing their inferential interpretation of it by representing it with a DM. This appears to support Blakemore's argument in that, indeed, establishing the type of a discourse relation is a result, rather than a prerequisite for comprehension. Clearly, however, it is a prerequisite for successful translation.

The translation process evidenced in the protocol and interview transcripts of most of the participants in the 'exposed' categories can be described as an amalgamation of both the Relevance-based and coherence-based approaches to text comprehension and production. The insights that these participants' protocols provide into the process of interpretation of discourse relations, also allow us to further clarify the effect of pragmatic instruction. Based on the above observations, it is argued that metapragmatic awareness, which teaching is believed to improve, can supplement trainee translators' intuitive, Relevance-based comprehension mechanism with a more conscious, coherence-oriented, analytical processing ability. Together, the two approaches combine to improve a translator's comprehension of implied discourse relations, as well as their general inferential ability to retrieve and re-express a source text's communicative intentions.

5.4 Implications and future directions

Several conclusions have been reached in this research on the basis of the translations and verbal protocol transcripts produced by eighteen participants translating one source text. Although the sample size is perhaps on the small side as far as the statistical analysis is concerned, it is sufficiently satisfactory in relation to similar process-oriented
studies. Moreover, the fact that the source text used in the experiment was rather long, and that a combination of data collection methods was employed should contribute significantly to the general reliability and validity of the research (see Triangulation in Alves, 2003). At the same time, it is important to take into account a number of factors related to the research design, which could potentially affect the generalisability of the results.

In addition to the issues pointed out earlier concerning the uneven distribution of participants in the different categories devised for the data analysis, it must be mentioned that a strict experimental study of the effects of explicit instruction on the development of pragmatic competence would have required greater control of variables such as a participant's previous professional translation experience and their length of stay in the UK. While one crucial variable, English language proficiency, was controlled for, the same does not apply to the other two, conceivably influential, variables. Achieving this would have required a significantly larger number of participants, which, in this opportunity, it was not feasible to recruit. In this regard, the explorative nature of the present study must be emphasised.

The main objective of the data analysis was to identify constant features in the inferential processing patterns of each of the four groups, which would throw light on the differences observed in their respective translation performance. Despite the limitations outlined above, distinctive processing patterns were indeed identified, as discussed in Chapter 4. Moreover, the results obtained from the data analysis clearly demonstrate the explanatory potential of Relevance Theory, as well as the validity of the think-aloud method in general, and in translation-process research in particular.

By adopting a Relevance-oriented approach to translation, the present investigation further contributes to the debate regarding the adequacy of Relevance Theory as a theoretical framework for translation research. The data analysis procedure highlights the usefulness of this theory's key concepts, in particular the notion of interpretive resemblance, as analysis tools to help streamline the intricacies of the translation process, in order to facilitate its exploration. In accordance with our conviction that translation constitutes an act of communication, and, as such, involves a key element of inferential processing, the notion of interpretive resemblance was seen as an effective, insightful measure capable of accounting for the cognitive processes involved in the
interpretation of unsignalled discourse relations. As pointed out in sections 2.4.5 and 2.4.6, Arabic and English display considerable differences as regards the expression of discourse relations, which come to the fore when these two languages come into contact through translation. The successful application of the notion of interpretive resemblance to translation between two such genetically-diverse languages further emphasises the explanatory potential of the theoretical machinery of Relevance Theory. Given its focus on similarity of contextual effects rather than linguistic encoding, the criterion of interpretive resemblance has proved particularly useful when attempting to account for the linguistic discrepancies between source and target texts that arise when translators try to bridge these two rhetorically distant traditions, by explicating the implicit. Therefore, by building on the foundations first laid out by Gutt (1991/2000) for a Relevance-based account of translation, this study makes a specific contribution to the field by applying Gutt's approach to an aspect of English-Arabic translation, which, to our knowledge, has hitherto not been the subject of a cognitively-grounded investigation.

As a process-oriented study, the insights this study has uncovered cast a favorable light on the think-aloud protocol as a sound, robust data collection method, albeit not without its own set of limitations, a reality that is part and parcel of any data collection method. Despite the disadvantages often associated with the think-aloud protocol, mainly concerning the possibility that it may interfere with the very mental processes under investigation as a result of the cognitive load it imposes, the wealth of data it can offer on the processes involved in translation certainly compensates for the drawbacks. In the present study, the think-aloud protocols provided us with a glimpse into the inferential processes involved in the deduction of implicatures in general, and implied discourse relations in particular. The data obtained from the participants' protocol transcripts was especially helpful in determining the extent of a participant's reliance on contextual assumptions in her interpretation of the source text's communicative intentions. This, in turn, further clarified the decision-making process that led to the production of the resulting target text, such as by exposing a tendency to explicate, or a rigid adherence to the structure and wording of the source text. The identification of these overall tendencies, as evidenced in the participants' protocol and retrospective interview transcripts, was a determining factor in allowing us to develop an account for each participant's treatment of implied discourse relations. Through such insights into the participants' processing patterns, it was possible to establish, for example, whether those
who did display a tendency to explicate discourse relations by introducing a DM were motivated by Relevance considerations, or simply responding to a stylistic constraint. In other words, the data obtained from think-aloud protocols highlighted the differences between those who perceived the explicit signalling of discourse relations as a necessary adjustment to the cognitive environment of the target readership, and those who were blindly complying with a rhetorical requirement of Arabic to make logical connections explicit in writing.

It is our view that such a testable, cause-effect account of translation decisions would not have been possible by examining the translation product in isolation. At the same time, it must be stated that attempting to pin down someone's thought processes from the evidence provided for them in the form of a concurrent verbal protocol lends itself to the subjective influence of 'observer effects' (Hansen, 2003). However, it is believed that the variety of quantitative and qualitative data obtained from the combination of more than one data collection method (think-aloud protocol, retrospective interview, translation product) can help to mitigate the effects of subjectivity, and generally contribute to enhancing the validity of the research. As Hansen (2003) puts it, 'through increasingly accurate description and negotiation of observations from different sources of data, we can get closer, perhaps not to an "objective" result but to shared replicable experiences and results' (Hansen, 2003: 40). In this regard, the detailed, step-by-step description of the experimental design adopted in this study (see section 3.4) constitutes a valuable contribution in itself, which contrasts with considerably less informative TAP-studies (e.g. Tirkkonen-Condit, 2005; Whyatt, 2003). In particular, the extensive report on the pilot phase of the experiment (see section 3.4.1) provides a clear glimpse into the nature of this data elicitation procedure, including useful measures to adopt in order to improve the quality of the protocols, as well as potential pitfalls to avoid.

Naturally, further research is required in order to verify the generalisability of the results. Due to limitations concerning the sample size involved, this study was not able to determine with certainty the role played by English proficiency alone (i.e., excluding the effect of text-analysis training) in the successful interpretation of implied discourse relations. A future experiment could address these limitations by recruiting a larger number of Arabic L1/English L2 trainee translators with varying English proficiencies, who have not received any such training. Similarly, future research could attempt to
exercise stricter control over other independent variables such as a participant's previous translation work experience and their length of stay in the target language community.

With respect to the predictions made in this study regarding the success of the text-analysis teaching approach in improving translators' metapragmatic awareness, a possible direction for future research could be to further investigate the effects of this training method in a longitudinal study, involving one or more translation students at different stages of their training. Exploring the developments in a student's translation performance at various learning stages would add a valuable alternative perspective on the emergence of metapragmatic skills, in relation to the specific training received.

A further possible research avenue could be to experiment with the opposite language direction. A parallel experiment could be set up where participants are asked to translate an Arabic news text into English. The results should offer interesting insights as to whether the participants' translation processes reveal a reversal of the tendency to explicate the implicit, such as by removing Arabic discourse markers and rendering explicit discourse relations implicit, in accordance with a stylistic requirement of English.

Another potentially intriguing investigation could be to use a text that is more relevant to the particular sociopolitical context of the participants. As justified elsewhere (see section 3.3.1.5), the text employed in this study was the result of a deliberate decision to include a topic about which participants would lack ready-access background knowledge, hence the choice of the UK's environmental policies. More engaging topics could have included the Israeli occupation of Palestine, the invasion of Iraq, or the current demonisation of Islam, to mention a few examples. Such issues should guarantee more emotional involvement on the part of participants, and it would be interesting to examine the effect of their inevitable biases on their interaction with the text, to see whether or not these are reflected in their treatment of implied discourse relations.

5.5 Conclusion

In summary, this thesis set out to investigate the pragmatic competence of English-Arabic trainee translators, as represented by their inferential ability to interpret implied
discourse relations in an English source text. Drawing on research into Second Language Pragmatics Acquisition, as well as the Relevance-Theory approach to utterance comprehension, the study employed a think-aloud protocol to monitor the participants' translation process, in order to answer the following questions:

1. Do discourse relations unsignalled by a discourse marker pose a comprehension problem for Arabic L1/English L2 trainee translators, regardless of their English language proficiency?
2. Does a grounding in text-analysis improve Arabic L1/English L2 trainee translators' ability to comprehend discourse relations unsignalled by a discourse marker, regardless of their English proficiency?
3. What does the think-aloud protocol tell us about the translation process involved in the interpretation of discourse relations?

As discussed in the course of this chapter, the data analysis, which was principally guided by the Relevance-Theory notion of 'interpretive resemblance', as applied by Gutt (1991/2000) to the study of translation, led to the following observations:

1. Generally speaking, implied discourse relations do appear to pose a comprehension problem for Arabic L1/English L2 trainee translators, characterised in our data as a deficient metapragmatic awareness. Further research is required to establish the effect of English proficiency as the findings are inconclusive in this regard.
2. A grounding in text-analysis does appear to improve Arabic L1/English L2 trainee translators' ability to comprehend implied discourse relations. The analysis results clearly support the facilitative effect attributed to explicit pragmatic instruction in the development metapragmatic awareness, a crucial requirement in the interpretation of implied discourse relations. Both the 'intermediate' and 'advanced' categories were shown to benefit to a similar extent from exposure to the text-analysis teaching method.
3. The data obtained from the think-aloud protocols proved instrumental in the identification of processing patterns as regards the interpretation of implied discourse relations. One important finding that emerged through the analysis of the protocol transcripts was that the successful interpretation of implied discourse relations is often preceded by a comprehension process of a very
deliberate, conscious nature which guides the recovery and re-expression of the source text's communicative intentions.

In addition to its contribution to existing research in the fields of second language pragmatics acquisition, process-oriented translation studies, and translator training, the present study further illustrated the explanatory potential of Relevance Theory, as well as the validity of the think-aloud method, in providing a cognitively-based, cause-effect account of translation decisions. It is hoped that the methodology employed in this study can be replicated in future research in order to both address its limitations, and confirm or disconfirm its findings.
REFERENCES


